Social networks and private spaces in economic forecasting

Robert Evans

Centre for the study of Knowledge Expertise Science (KES), School of Social Sciences, Cardiff University,
The Glamorgan Bldg, Cardiff CF10 3WT, UK

Abstract

The outputs of economic forecasting—predictions for national economic indicators such as GDP, unemployment rates and inflation—are all highly visible. The production of these forecasts is a much more private affair, however, typically being thought of as the work of individual forecasters or forecast teams using their economic model to produce a forecast that is then made public. This conception over-emphasises the individual and the technical whilst silencing the broader social context through which economic forecasters develop the expertise that is essential for the credibility of their predictions. In particular, economic forecasts are given meaning and fine-tuned through the social and institutional networks that give forecasters access to the expertise of a heterogeneous mix of academics, policy-makers and business people. Within these broader groups, individual forecasters often create private forecast ‘clubs’, where subscribers have privileged access to the expertise of the economist, but where the forecasters also have privileged access to their clients’ own expert knowledge. In examining these aspects of the forecasters’ work I show that the visible and audible activities of modelling and forecasting are made possible and plausible by virtue of the modeller’s invisible interaction with a wider network.

© 2007 Elsevier Ltd. All rights reserved.

Keywords: Expertise; Economic forecasting; Periodic table of expertise; Judgement

1. Introduction

Economics makes for an interesting case study of expertise. On the one hand, macroeconomic models and national economic forecasts are used in all manner of business and policy decisions. On the other hand, it is also known that predicting the future is difficult and that forecasts are quite likely to be wrong. Nevertheless, large forecasting industry exists and, despite the public availability of economic forecasts, many businesses and individuals continue to pay for private advice and consultancy. Whilst conventional explanations for this behaviour veer between the tautological (for example there must be a benefit otherwise they wouldn’t do it) and the delusional (for example there is no benefit but they do it because everyone else does), this paper takes a different tack. Drawing on the theory of expertise set out by Collins and Evans, the paper examines the expertise that economic forecasters draw on in order to make a forecast and asks whether, given this, the individuals who choose to support them can be seen to be acting in a reasonable way.¹

One reason why macroeconomic forecasts deserve sociological attention is that, despite their more or less unquestioned necessity for governments, their use poses significant challenges for both policy makers and Science and Technology Studies (STS). The policy problem is that forecasts...
can differ quite markedly between forecasting groups, who often use very different models of the economy. As a result, determining the correct interpretation of the current economic situation, and thus the appropriate policy response, depends on what model and forecast is used. This means that any decision about the ‘best’ policy is simultaneously a decision about the ‘best’ forecast, which in turn rests on a judgement about the ‘best’ model and forecaster. The STS problem is how to account for the value and importance of economic forecasts despite these variations and the fact that, if taken literally, they often appear to be wrong. In what follows I show how these difficulties are resolved in practice through the use of judgements that depend on combinations of experience, expertise and credibility. In effect, it is the judgements made by the forecaster that enable a plausible forecast to be made whilst it is judgements about forecasters that enable organisations or individuals to act on these forecasts. The key question thus becomes whether or not these judgements can be seen as reasonable responses to the uncertainties that both forecasters and their clients face.

The aims are then, first, to describe the hidden work and social networks that enable these judgements to be made and, second, to offer a critical reflection on these judgements. To anticipate the conclusions, the paper shows how economic forecasting requires a considerable range of expertise that includes not only high-level economic skills (that is, contributory expertise in economic modelling) but, equally importantly, the ability to interrogate a range of other related expertise (that is, interactional expertise in cognitive policy and business domains) and the ability to make judgements about the credibility of competing experts when novel forecasting problems arise. In a similar way, using economic forecasts relies not so much on an understanding of economics but rests rather more on judgements about which economists are to be trusted and why.

I now briefly summarise the existing STS literature and introduce the forecasting team that forms the basis of the case study. I then draw on the categorisation of expertise developed by Collins and Evans to describe and explain the different contributions of the team members and the users to the overall production of the forecast and to explore why business leaders with access to considerable ‘in-house’ resources still choose to invest time and money in supporting independent economic forecasting activities. Pulling these different threads together I conclude that it is membership of diverse-but-cognate communities that enables the forecasters and their clients to exercise and defend their different expert judgements.

2. Economics in science and technology studies

Macroeconomics has rarely been the object of sociological research. Instead, the sociological literature, particularly that in Science and Technology Studies (STS), in so far as it looks at economic activity, has tended to focus on social and intellectual organisation of financial markets. In the anthropological work of Clark and Beunza, for example, it is the social organisation of the trading floor that is the focus, while Millo, Preda, and Zaloom all examine how the operation and organisation of markets depends upon the careful co-ordination of bodies, technologies and information.

Such work reveals markets as social institutions constituted through social knowledge and networks as much as information technology and mathematical theories. For example, as Knorr-Cetina has shown, traders routinely communicate ‘informally’ with each other in order to make trades. A more subtle, but equally significant influence of the ‘social’ into the world of economic markets is the way in which the Black–Scholes formula is used following the collapse of the Long-Term Capital Management (LTCM), the company set up by the formula’s Nobel Prize winning creators. According to MacKenzie, whilst market prices did more or less approximate to the Black–Scholes price before the collapse of LTCM, it is now conventional for traders to be more risk averse than the formula would suggest. In effect, hedge funds are forgoing potential profits in order to act as ‘responsible’ traders.

In contrast, most sociological analysis of events outside the trading room is located in the History of Economic Thought (HET). For example, Mary Morgan’s History of economic ideas, describes the introduction of statistical ideas into economics, whilst Roy Weintraub’s Stabilizing dynamics documents the rise of mathematical reasoning as the standard mode of representation in economics. More polemically, Phil Mirowski documents the development of economics through its interactions with, and borrowings from, sciences such as physics and Operations Research.

This relative neglect of economic modelling and forecasting in STS is all the more surprising given the attention paid to the problems of modelling and forecasting economic performance in the economics literature. Here, attempts to compare forecasting methods and make the uncertainty that

---

2 One notable exception is Pierre Bourdieu. See for example Bourdieu (2005).
3 For examples of this approach see Beunza & Stark (2004); MacKenzie & Millo (2003); Preda (2006); Zaloom (2006).
4 For more details see Knorr-Cetina & Bruegger (2002).
5 For a full account see MacKenzie (2006).
6 Yuval Yonay, who writes about economic ideas from an explicitly STS perspective, is an exception to this: see Yonay (1994).
7 For full discussions of these linkages see Mirowski (1989, 2001).
surrounds forecast numbers more visible, are well institutionalised. For example, the UK Treasury regularly publishes summaries of economic forecasts which clearly distinguish the range of forecasts that are available whilst the minutes of the UK’s Monetary Policy Committee explicitly discuss the different forecasts and predictions made by the various members. In the case of the Bank of England, these judgements and risk assessments are also represented formally through the use of ‘fan diagrams’ that indicate the range of forecasts consistent with the model rather than the spurious pseudo-precision of a single number.

From the sociological point of view, this activity and its acknowledged uncertainty, raises the obvious question of how users, who are not expert economists, can choose between forecasts that, taken together, predict that almost anything could happen. In the case of esoteric scientific research the potential regress of experiment and counter-experiment is generally resolved because tacit and social knowledge gained through participation in the relevant communities provides the ‘extra’ that allows participants to close the debate and decide who to trust. Most forecast users are not in this category, however, so the question of how they choose who to trust remains somewhat more problematic, just as it does in the case of other scientific and technological controversies that bear on public concerns.

3. The economic forecasters

The forecasting team described in this paper is the Liverpool Research Group in Macroeconomics, a well established UK economic research group specialising in macroeconomic modelling, theory and policy analysis. Founded by Professor Patrick Minford at Liverpool University in the early 1980s, they are now based in the Cardiff Business School and form part of the Julian Hodge Institute of Applied Macroeconomics. Over their twenty year history they have received support from ESRC and other funders, provided advice and analysis to a wide range of private sector organisations, and maintained close links with policy makers at national and international levels. Their work is generally regarded, even by their critics, as theoretically innovative and their forecasting performance is comparable with many of the other major forecasters.

In terms of personnel, the forecasting team is relatively small but perhaps not that different from that found in many other forecasting organisations. The core members of the team are the principal forecaster, two part-time researchers (typically graduate students or postdoctoral researchers in the Business School) and a computer programmer. The division of labour is that the principal forecaster generates the income, sets the research agenda, both theoretical and econometric, and takes responsibility for the final forecasts. The two researchers collect and input the data needed to update the model each month, produce the routine forecasts and prepare some of the text for the forecast report. The report is published as a monthly newsletter and Quarterly Economic Review. The computer specialist’s role is to maintain and develop the model so as to include new equations, new algorithms, or new ways of forecasting. For example, just before this research was carried out, the model had recently been re-estimated using new statistical algorithms that allowed calculation of parameters that had previous been imposed by the forecasters (that is, set manually). Finally, although not based in the same institution, the forecasting team has ‘associates’ or ‘affiliates’ in other countries such as India and Japan, who provide local insights on economic events in these regions, mainly in the form of brief summaries of economic developments but sometimes in more extended pieces.

The research reported in this paper is the outcome of a series of observations and interviews carried out at the Cardiff Business School. The fieldwork lasted for approximately three months and I was able to track the production of forecasts for several issues of the monthly newsletter. Interviews were also conducted with a number of forecast users, all of whom were members of the forecasting team’s private ‘club’. The research also draws upon background understanding of the ‘Liverpool’ forecasting team and its work gained during an earlier research project conducted by the author.

4. Economic forecasting as applied expertise

In examining the work of the economic forecasting team, the aim will be to show how the different members of the group contribute different kinds of expertise and...
skills that together make the economic forecasts plausible and worth using despite the obvious statistical uncertainties that bedevil them. In what follows, expertise is treated as real independently of its degree of recognition; expertise is treated as social in that it can be acquired only through participation in relevant social communities.

This conceptualisation of expertise as a ‘social fluency’ is central to the theory of expertise proposed by Collins and Evans and underpins their ‘Periodic Table of Expertise’. The Periodic Table identifies different kinds of substantive expertise, reflecting different degrees of immersion in a relevant community. In the case of economic forecasting, the most important kinds of substantive expertise are:

**Contributory expertise**: this is the expertise needed to make a contribution to the relevant field. In this paper, the domains in which different individuals might possess contributory expertise include business strategy and management, investment banking, stock market trading, national and European politics as well as economic theory, modelling and forecasting.

**Interactional expertise**: this is the expertise gained through interaction with contributory experts. The difference between contributory and interactional expertise is that it is only the former that enables contributions to the field to be made. For example, an economic forecaster may understand and be able to talk about the issues facing business leaders but this does not automatically mean they are able to run large organisations effectively. Conversely, whilst Chief Executives may have a good grasp of basic economics, they are unlikely to be sufficiently expert to create and run their own models.

**Primary source knowledge**: this is the expertise that can be gained by reading published papers without actually meeting or interacting with any of the experts in that domain. In the case of economic forecasting, this sort of knowledge can be important because the variety and range of influences on the economy means that others’ expressed opinion of new and unanticipated events often have to be quickly incorporated into the forecasts.

In addition to distinguishing between different levels of substantive expertise, the Periodic Table of Expertises also introduces meta-expertises, which are expertises needed to judge other expertises. Some meta-expertises enable non-experts to make judgements about experts. As with substantive expertises, there are different kinds of meta-expertise but the ones that seem most relevant for forecasters and their clients are:

**Ubiquitous discrimination**: there are some judgements about expert claims that non-experts can make based on their everyday experiences of living in a particular society. Where these experiences are widely distributed Collins and Evans call the corresponding meta-expertise ‘ubiquitous’. Examples of ubiquitous meta-expertise include the ability to detect inconsistencies in accounts and to spot the interests that bear on a scientific conclusion. The technical judgements that result from the application of ubiquitous meta-expertise do not depend on a technical understanding of the science or expertise involved. Instead, they rely on widely shared understandings of the way organisational cultures work; in effect social knowledge is ‘transmuted’ into a technical judgement. In the case of economic forecasts, ubiquitous discrimination is exercised by forecast users, in respect of forecasting organisations, and it is used by the forecasters themselves as they evaluate the competing claims made about areas in which they have limited expertise.

**Local discrimination**: a similar idea underpins the category of local discrimination which also involves the ‘transmutation’ of social knowledge into technical judgement. The difference here is that the person making judgements bases them on knowledge or past experiences of particular groups or individuals rather than on general knowledge of how organisations work. In the case of economic forecasting, the grounds of local discrimination often include the past performance of the particular individual or forecasting group.

**Internal meta-expertises**: internal meta expertises differ from both forms of discrimination in that they all require some socialisation within a relevant substantive domain of expertise. Connoisseurship refers to judgements based on criteria that are internal to the expert domain but can legitimately be made by non-practitioners. Whilst the idea applies most readily to the appreciation of art, the idea of recognising that something is done well according to the conventions of its own genre can be applied more widely. In contrast, the concept of referred expertise recognises that having expertise in one domain can assist in making judgements about a cognate or related domain. Finally, the idea of

---

12 For more on which experts you should trust, see Goldman (2001).

13 Transmuted refers to the way in which social judgements are used to make technical judgements. For a full discussion, see Collins & Evans (2007).

14 See Healey (2004) for more on the idea of the scientific connoisseur. There are also some similarities with Polanyi’s (1958) emphasis on connoisseurship, but the Collins and Evans usage differs in that it refers to the ability of non-practitioners to make judgements about the competence of contributory experts (for example wine connoisseurs making judgements about wine makers) whereas Polanyi uses the idea to emphasise the importance of examples and experience in developing a contributory expertise such as becoming a wine taster (see, for example, Polanyi, 1958, pp. 54–55).
downward discrimination signifies the ability to see, when working from a significantly higher level of expertise, that another person has made a mistake.

Applying this theoretical approach to the production and use of economic forecasting involves examining what the forecast team does and the combination of expertise needed in order to accomplish the various tasks. In each case it is shown that relatively high levels of expertise, typically interactional and/or contributory expertise, are needed in order to produce plausible economic forecasts.

4.1. Routine jobs that nevertheless require expertise

A core part of the job of forecasting is updating the data upon which the model depends. Because the investment newsletter is published monthly, with a more substantial Economic Bulletin published quarterly, amending the data is done on a monthly cycle. In principle, updating the data set of a well established model should be a fairly routine process, and to some extent this is true. As the person whose job it is suggests:

Data, presumably, anyone can collect. Truthfully speaking, as long as you know what the source is, then anyone can collect it.\(^{15}\)

In practice, however, things are more complicated. On the one hand, the data are not always published in the correct format and must be converted or transformed in order to meet the requirements of the model. This work is not especially difficult, and the forecasting team has developed a series of spreadsheet and other programs that perform many of the transformations automatically, but it would be wrong to say they require no expertise at all. For example, some training is needed to identify the most reliable sources of data and to spot when errors in data entry have produced implausible results. Nevertheless, it remains the case that primary source knowledge (that is, familiarity with the relevant literature) is probably all that is needed for this aspect of the data collection work.

The second complicating factor is more profound and highlights one of the limits of primary source knowledge even when it is only data rather than deep understanding that is in question: not all data are available on demand. Whilst stock market and similar price data may be available daily or weekly this is not true of other data, some of which is published monthly, some quarterly and some only annually. It is these latter cases that cause the problems as the data the forecasters need may not be available until after the forecasts have been made. In these circumstances, the researchers must find some way estimate the appropriate value to enter into the data set.

When I am going to do the second quarter figure, I will be very lucky if I get the first quarter figure ... So we effectively have to depend on some consensus estimate. We will effectively be using somebody’s forecast as a starting value for our model to work. That is one way of doing it. Or, for example, we look at what other forecasters are forecasting. For example ... [our] world model is an annual model. And for a country like Italy, if I go and collect data for this year, I would get nothing ... [So] the best guess is that there will be all these big organisations all over the world, who have their own forecasts, and you can take that as an input.\(^{16}\)

This strategy works well when there is no reason to distrust the forecasts, but runs into trouble when these forecasts—which may have been produced six months earlier and are based on data that is even older—are no longer credible in the light of events that have occurred since they were published. In other words, the external forecasts that would normally be used are now believed to be incorrect. The problem is what to use instead:

Respondent: It is a judgement. But of course, in all this, Patrick [Minford, the principal forecaster] helps because when we have a problem with the data, I call up Patrick, or I send an email saying ‘This is the headache, and this is their forecast, which is unrealistic, so you will have to come up with some number’.

Interviewer: You know it [the number] is going to be less, but how much less?

Respondent: I don’t know how he comes up with those numbers, but it turns out to be accurate.\(^{17}\)

Using the language of expertise set out above, we can say that although the research assistant may have contributory expertise in some areas of economics, and he certainly has interactional expertise in relation to some aspects of economic forecasting, in the case of the global economy, their expertise is more accurately described as primary source expertise (in this case the term is taken to include secondary sources located in the technical literature). Thus, for example, even though the researcher is well aware of what has been published, and he understands the limitations of these sources, he is unable to develop the information to fit a new context.

In contrast, the principal forecaster has contributory expertise in forecasting, which includes both the expertise needed to create and maintain the model in the first place but also the expertise needed to make the judgements necessary to paper over the gaps in the data. If this is to be explained as something in addition to deference to someone at or near the top of the econometric hierarchy, then it must be possible to identify the source of the additional expertise that enables the principal forecaster to make these

---

\(^{15}\) Interview with ‘A’, 9 July 2001, quote at p. 4.

\(^{16}\) Ibid.

\(^{17}\) Ibid., p. 5.
judgements and, at least as far as his colleagues are concerned, make them with considerable accuracy.

4.2. Professional networks as sources of expertise

In fact, there are considerable differences in the networks and activities with which the principal forecaster and the assistant engage. Whilst both are academic economists and participate in the usual kinds of academic conferences and seminars, the principal forecaster’s work is characterised by extensive participation in a wide range of professional networks related to the analysis and forecasting of national economies. One way to make these networks visible is to look at where economic forecasters go and who they meet when they get there. In the case of the principal forecaster discussed here, in the 10 week period before the interview took place—which he described as dominated by teaching—he also took part in the events summarised in Table 1.

Running through the list it is possible to identify two different kinds of activity. First there are the meetings with non-economists, mainly in the context of local business clubs and the meetings of political parties. These provide the opportunity for the forecaster to disseminate information and maintain credibility outside the academy. The activity is particularly important in relation to the ‘Business Clubs’, as it is these organisations and their members who subscribe to the newsletters that help to fund the model and support the forecasting team. Although many of these meetings will include a presentation or talk by the forecaster, it would be wrong to think that information only flows from the forecaster to the audience. Many of the participants have expertise of their own and in discussion and through questions will challenge the forecaster by providing examples of how economic events are playing out in their own areas and markets. The potential for this two-way flow of information is recognised by the forecaster who acknowledges that:

They are useful, but in a way that I couldn’t really pin-point. I mean, [their views] on the situation, that is useful. How they feel about indicators and the state of their businesses and so forth, that is obviously a recurring point. Reactions on things like the euro are also quite interesting—How do they see the debate? Things like, what is happening in Europe, in terms of business reality. I have had various people, at various times, who have actually been in big businesses in Europe and they have told me about what has happened, how the culture works . . . and [that is] most interesting.\(^{18}\)

The Julian Hodge lunch is a meeting where they bring in half a dozen leading local businessmen, and that is very interesting. I don’t focus very heavily on Wales but obviously, in principle, I am interested and I pick up a certain amount.\(^{19}\)

The other kinds of meetings are those with fellow economists. In practice, given the nature of the economics profession, these meetings will often include economists working in policy, finance and banking sectors as well as those based in universities.\(^{20}\) In this case a different, but equally valuable, kind of knowledge is traded and shared amongst the participants:

[The] Milan conference was very useful because it gave me a real feel for what people like Stephen Roach, who was there, [are thinking] . . . he has become very bearish, and he was pushing very hard for the ‘US is going to fall out of the sky’ line. So, from the forecasting point of view, that conference was a very useful input.\(^{21}\)

Viewed in this way, the forecaster’s world can be seen as a complex meshing of different but overlapping communities. Through participation in these networks he gains access to information that enables him to make judgements that others are unable to make. It is important to realise that even though in principle, it might be possible for these problems to be solved formally by developing new models for each relevant economic market or area, and thus to render the novel routine, this is frequently impractical. For example, one reason why the forecasting group has not ‘upgraded’ their annual global model to a quarterly one is that they cannot spare the 10–20 ‘person-years’ they think it would take. In this context, the face-to-face interactions that meetings, seminars, dinners and conferences provide are important not just because they maintain the networks themselves, but because they provide the means through which the interactional expertise needed to make

---

18 Interview with PM, March 2001, quote at p. 23.
20 Unlike the American Sociological Association, for example, where almost all its members are academic sociologists, the professional body for economists draws about 40% of its membership from outside the university sector.
informed judgements about those areas in which the forecaster does not have contributory expertise can be gained.\(^{22}\)

Interactional expertise does not solve every problem, however. There are some forecasting problems that are so novel that the forecaster does not have any relevant interactional expertise upon which to draw. In the case of the UK, one recent example of this kind of novel economic shock was the epidemic of Foot and Mouth Disease (FMD) that occurred in the summer of 2001.\(^{23}\) The government response to this outbreak was to order the slaughter of all infected herds, ban the movement of animals and impose restrictions on access to the countryside. All these had important economic consequences. Most obviously, farmers were unable to sell their animals and many claimed to have suffered catastrophic loses, despite receiving compensation payments from the government. Less obvious was the impact on tourism which, in many rural areas, provides a significant source of income. The access restrictions meant that visitors stayed away, with the result that, during what should have been the peak season, revenue streams were close to zero. What is more, these businesses received no compensation payments.

Whilst the government was concerned with the debate about whether to introduce vaccinations against FMD or continue with the policy of slaughtering all infected herds, the economic forecasters were concerned with how to estimate the effect of the outbreak on the national economy. In this case, they had no ready expertise upon which to draw but nonetheless needed to make a judgement fairly quickly. In such circumstances, the internet became a valuable resource, enabling the forecaster to acquire primary source knowledge (along with some from secondary sources), very quickly.\(^{24}\) In this way they could introduce some estimate of the impact of the novel and unanticipated event. In the case of FMD, the crucial finding was a detailed economic analysis of the effects of FMD and the government’s policy of slaughtering infected herds produced by an academic of whom, prior the outbreak, he had no knowledge. As a result he came to disagree with the government’s policy.\(^{25}\)

We are rushing about trying to find information about all the various sorts of vaccinations and what you can do about tourism, how you can open areas without plaguing other areas, and so on and so forth . . . But this is where in the modelling business, it is a branch of applied economics obviously, you are forced to become an instant quasi-expert on all sorts of strange things. We have got the expertise in economics, but we need the scaffolding of facts and science, or whatever it is in the case of foot and mouth, to pile the economics on top. It makes us a breed that is both unpopular and intrepid, because we have to have a view about these things . . . I’m lucky, I have discovered this chap in Wales, Peter Midmore, Professor of Rural Studies. It is a classic example of what we were talking about. He has done the analysis from the agriculturalist perspective, he has actually massively underplayed the effects on tourism, but even with the effect he has written in on tourism, he has completely blown away all the schmeer about vaccinations costing the industry X zillion forever . . . So he has done all this work, which is great, and I have nabbed it, acknowledging him of course, and there it is. It is on the internet—www.sheepdrove.com—and he has done a wonderful job.\(^{26}\)

In this case, because the amount of expertise the forecasters can acquire in the time available is limited, they must rely on the expertise of others to plug the gaps. In the case of FMD there were also a range of documents published by the government and an even wider range of commentaries and criticisms of them published by others. As a result, the forecaster had to make a choice about which experts to trust. Under these circumstances the forecasters must take what they already know about the reputation and other characteristics of the various experts and the organisations they represent (local and ubiquitous discrimination) to make a judgement about who to believe. In this case, because the argument concerned the economic impact of policy choices, it is also possible that internal meta expertises (referred and/or downward discrimination) were also relevant. Combining these elements, it seems reasonable to suggest that the forecaster’s general sense of the importance of different sectors within the economy was influential in initiating his scepticism about the government’s refusal to vaccinate but that the detailed analysis provided by the Professor of Rural Studies enabled this ‘instinct’ to be anchored more securely and thus used in the forecast with more confidence.

\(^{22}\) See John Urry (2003) for a discussion of the idea of ‘meetingness’ and why face-to-face interaction remains important despite developments in IT and mobility more generally.

\(^{23}\) Information about the outbreak is available at http://footandmouth.csl.gov.uk/ (Department for Environment Food and Rural Affairs 2004).

\(^{24}\) Of course, an expert judgement about the quality of the primary source was also needed. Here local and ubiquitous discrimination are important in order to identify potentially credible sources and discount the ill-informed or inconsistent. It is also possible that other meta-expertises are used. For example, downward discrimination can be used to identify when others have made a mistake or referred expertise be used form a more holistic judgement.

\(^{25}\) The forecaster came to disagree with the policy of slaughtering infected herds because of the costs to the tourism industry. Whilst adopting a policy of vaccination would have had negative effects for the meat export trade, he believed that these were far less significant than the negative effect the access restrictions needed as part of the slaughtering policy were having on the tourist trade.

\(^{26}\) Interview with PM, March 2001, quote at pp. 10, 13.
4.3. Expert judgement in routine texts

It is possible to apply the same kind of analysis to other aspects of the forecasting work. For example, in much the same way that updating the data set used within the model combines more or less routine work with expert intervention, so the same division of labour can be seen in the production of the forecast numbers and the text that accompanies them.

In the case of the forecast numbers, the initial forecast is produced by one of the researchers, who simply runs the model forward. This forecast is sent to the principal forecaster who checks it and sends back an annotated copy indicating any changes that need to be made. The researcher then adjusts the residual error terms in the relevant equations until, through a process of trial and error, he arrives at the requested numbers. Whilst the potential for this kind of manipulation appears large in principle, in practice it is used relatively sparingly, with the published forecasts often incorporating only minor changes to the model-only forecasts. This is partly due the fact that, as the model has developed over time, various ‘smoothing’ algorithms have been developed so that these judgements about how quickly economic data can change have been partly automated.\(^\text{27}\) The text that accompanies the forecast is produced in a two-step manner. Both the Quarterly Economic Bulletin and the Newsletter contain a mixture of economic description and a selection of ‘Comment and Analysis’ pieces. The economic description functions mainly as a document of record in which new data and developments are listed and briefly described. The bulk of this text is prepared by the researcher who collects the data, although final editorial control rests with the principal forecaster who fine tunes the text and produces the final draft. The comment and analysis pieces are almost always written by the principal forecaster, though other members of the forecasting team may contribute some articles, based this time on their own research-based contributory expertise.

There are also other ways in which different kinds of expertise are used within the forecast group. These are most clearly visible in the monthly investment letter. In this case, the main text is produced by the principal forecaster with support from a professional stockbroker who supplies contributory expertise on equity, commodity and currency markets. In addition, the investment letter also includes sections on world markets, where data and interpretation is provided by a group of associates based in Japan and India who provide informed commentary—probably at the level of interactional rather than contributory expertise—about economic events and concerns in those parts of the world. In each case, different kinds of expertise derived from different communities of practice are being mobilised and co-ordinated to produce an informed account that, although clearly integrated and steered by the principal forecaster, draws on the expertise of others to include insights that would otherwise be missing.

4.4. Specialist econometric and technical expertise

Despite the importance of these interactions and networks it would be wrong to suggest that forecasting is nothing but the informed social judgements of the forecaster. A substantial amount of effort goes into developing the formal statistical models through which the forecasters’ understandings of different economic areas and activities are developed and refined. In the case of this forecasting team, the main model is a quarterly model of the UK national economy, but they also have several other economic models. Some of these have been developed through funded research projects but others arise because the forecasters see that they will need to make frequent and important judgements about some area of economic life and decide to invest time and effort in developing a model that will assist them. Thus, whilst there was no justification for estimating a specific model of the rural economy in the UK (it being of relatively little importance for most forecasts), the forecasting team have estimated more formal models of globalisation and the world economy.

The older of these models is the world economy model, which links annual models of the G7 economies together to forecast how changes in one economy will influence (and be influenced by) changes in the others. As the forecaster explains, the world model is:

> Basically a linking of seven UK models for each of the G7. Each country has a little annual UK model. And we did this a long time ago, because we could see that if we were going to be forecasting, we needed to have, for the long term, some sort of handle on these world systemic things. And it has paid off tremendously, because [during] things like the Asian Crisis, we were able to say ‘Look folks, this will blow over because there is flexibility to cut interest rates and it will bounce back’.\(^\text{28}\)

In other words, whilst interactional expertise in policy debates and business concerns is essential for resolving the day-to-day issues of forecasting, contributory expertise in economics and econometrics is fundamental to producing forecasts and policy analysis over the longer-term. The social judgements and expertise outlined in the previous sections can only be exercised in the context of these more formal models which provide the foundations upon which judgements can be overlaid when necessary.\(^\text{29}\)

---

\(^{27}\) To the extent that such judgements can be automated, then this only serves to emphasise the extent to which they rely on formal rather than tacit knowledge.

\(^{28}\) Interview with PM, March 2001, quote at p. 18.

\(^{29}\) For more on the way in which economic models provide a framework within which forecasters can integrate information, see Evans (1997).
Nevertheless, where it is clear that judgemental adjustments are going to be required on a regular basis then the preference is to move towards estimating a more formal model if it can be done:

If you had the time, you would do the model ... [In the case of] globalisation, pressure on the labour market, we actually did go off and build a model for globalisation ... We have really invested a lot in that, because of the European issue, which of course is a big research issue. How is Europe coping with globalisation? What is the impact of globalisation on Europe? ... So we got side tracked in a big way on to a big project on globalisation, and we built a [North–South] model of ... trade and comparative advantage. It is trying to address the question of, over the last three decades, what are the major forces affecting the position of unskilled workers and skilled workers ... And it paid off enormously, actually, that model, because now we really feel we have got a grip on why wages aren't taking off in the United States, even though the labour market is so tight, why unemployment in Europe is so terrible, and why they are not getting a grip on it. It is fundamentally all related to these world factors, which come out very clearly in that model. So it has been a tremendously valuable.  

Producing and estimating these models is thus the ‘normal science’ of econometrics and of economic forecasting. Another aspect of this ‘normal science’ is the improvement of the existing models. In the case of this particular forecasting team, their contribution to economics and econometrics has been to implement fully, and for the first time, the rational expectations approach.  

Since the first version of the model, there have been a series of improvements made. For example, the initial model used annual data but this was subsequently replaced by a model that uses quarterly data. Most recently, new algorithms for estimating the model parameters have been developed so that the model has become increasingly based on data and less on judgement. This latter change has come about because, when the early versions of the model were first specified, it was quite simply impossible to estimate all the parameters using the available computers. As a result, many of the main parameters had to be imposed (that is, set manually) by the economists so that the model was seen as ‘calibrated’ rather then ‘estimated’. Whilst this may sound like an easy option, it was not.

It [the model] is all very tightly simultaneous. So anything you change in it has the potential to blow the performance in a very extravagant way. So very early on we started to figure this out, that we had this beast, it was very simultaneous. I mean, it took us a year to solve the model, with ‘tame’ parameters ... and we haven’t touched them since. I mean we changed from an annual basis to a quarterly basis in the mid-to-late-80s but then, when we had fixed the quarterly model’s parameters, we left them.

Over time, however, work on econometrics and computing has continued so that the parameters that were, by necessity, originally imposed have now been estimated in a way that is satisfying both statistically and personally for the forecasters:

We have now developed a Full Information Maximum Likelihood (FIML), method of estimating the model as a whole ... And blow us down, if it doesn’t come up with our original parameters [laughs]. Absolutely astonishing! And the reason is, it seems to be reasonably clear, as you move away from those parameters the model goes barmy.  

In order to achieve this, the forecasting team requires substantial contributory expertise in both computer programming and econometrics. Estimating the model in this way involves developing a statistical algorithm that will test and change a wide variety of parameters before ultimately converging on the set that provide the best fit with the data. Whilst this idea is reasonably clear in principle, it is computationally very intensive, and making it work has taken the group many years:

You have to have a set of programmes that robustly solve the model for any set of parameters, but many of these programmes don’t work as you change the parameters. You say to it, now change the parameters and solve the model, they break down very easily ... [So what we do is take] the most powerful algorithms out of the libraries of these things and then we embed them in our trapping routines. This means that it is pretty robust; it will almost solve anything that you throw at it. We have been able to develop this estimation routine, which effectively is just a gigantic search engine, that just searches, trying parameters in a fairly structured way, until it finds the ones that do best.

As a result, it is now possible to estimate the model parameters on a fairly regular basis, although in practice this has not yet resulted in any significant change to the model itself. Instead, the model continues to provide a structure that is well understood and familiar to the forecasting team and through which events in the ‘real world’
can be simulated and understood. Nevertheless, in order to produce and maintain this level of understanding it is clear that substantial expertise and commitment over a long period of time is needed. In each of the three phases in the development of the model—an annual, quarterly and then estimated—described above, the time period from initial idea to actual implementation was measured in years. In this particular case, we can see contributory expertise in computer programming being combined with contributory expertise in econometrics and economic theory to produce an innovative model that both tests extant theory and makes possible new statistical techniques. This is, therefore, as clear an example of contributory expertise in a domain as one could wish to see.

5. Economic forecasting and forecasters meet their users

Describing the expertise of economic forecasters in this way illustrates that there is a great deal of work hidden behind the tables of numbers and the texts that accompany them. This work includes the routine work of collecting data, extraordinary efforts to develop new techniques, and complex judgements about what to do in the absence of either up to date information or a formal econometric model. In the remainder of the paper I consider how this work is interpreted and used by the people who subscribe to the investment letters and Quarterly Economic Bulletin. In particular, I focus on a small subset of these subscribers: the members of the forecaster’s private club. This distinction is quite common in forecasting organisations. There are ‘ordinary’ subscribers who receive regular copies of the formal publications (in this case the Newsletter and Quarterly Economic Bulletin) plus a more select group who get privileged access to the forecast and, in particular, the forecaster.34

In this case, the forecasting club was formed in the mid-1980s by a group of young Chief Executives from out of town, so to speak ... [and we] said, ‘Let’s set up a dining club where 3 or 4 times a year we can meet and chew the fat’. And we had the idea of getting Patrick to come and be our resident guru ... we thought of other names as well, [but] we felt that Patrick would be more fun.35

The idea was to combine business with pleasure. Although there was an emphasis, which still remains today, on the social networking aspects of the club—‘chewing the fat’—there was also a clear sense that there would be something intellectual going on. This is reflected in the name they gave the club—Chief Executives’ Economic Review (CHEER)—and in the ethos of the club more generally. For example, as part membership of the club, members receive the Newsletter, Quarterly Economic Bulletin plus regular clippings of articles and news that the forecasting team think are relevant. These provide the background to the meetings, which typically fall into two parts—an economic part and a more general business part.

In the economic part of the meeting, the discussion will focus on the forecast itself and, in particular, the main policy issues and the risks they pose to economic activities. In most cases the club members are interested in the big picture rather than the fine detail of the forecasts and focus on the direction and magnitude of changes rather than the specific numbers. One described how he reads the forecast by putting up or down arrows next to the numbers, whilst another described his interests as being in the analysis rather than the prediction:

I don’t read the numbers but I do read the argumentation, because I think it is all about the direction as opposed to the specific numbers ... I couldn’t care less what the actual numbers are. It’s whether we are actually coming out of the trough or should we be ready to go back in again.36

In other words, what the members of the club value is not so much the specific forecast numbers—which they can probably get elsewhere—but the narrative that surrounds them and the policy analysis that informs the narrative, all of which are provided by the forecaster rather than the forecast. Policy topics include many different issues, ranging from the role of the European Central Bank to the state of the US economy or the nature of globalisation. In each case, what matters is the interaction with the forecaster and the debate, which is often quite spirited, about whether or not his views are correct. The impression given is of a lively but critical discussion that cannot be obtained in other ways:

We are made to think hard about what’s going on and why. We get a sense of what the drivers are in economies generally and their inter-relationships. And that means that we can hold our own, give or take, with others who try and throw moondust at us, which is an occupational hazard for chairmen and chief executives.37

34 The general public is represented by those people who access the forecasts through sources such as the Treasury’s compilation of forecasts. Such users get the basic numbers but nothing else.
36 Ibid.
37 Ibid.
In this context, focussing on the forecast, or the model that underpins it, does not really explain why these individuals choose to remain members of the forecasting club. Clearly the overall past performance of the forecaster is a factor, but given the low weight given to specific numbers it is not the only factor. Instead, the perceived accuracy of the forecasts is considered alongside other factors, such as the forecaster’s charismatic personality, the long friendship he has sustained with some of the club members, and the belief that the analysis offered does explain the events they see in their own business life. In subscribing to the forecast club, therefore, these chief executives are not making a scientific judgement about the correct economic theory or modelling methodology—indeed, several said that they were not particularly interested in this aspect of the work—but a local discrimination about which economist to trust.

Having made this judgement, however, the face-to-face interactions of the meetings provide, as they do for the forecaster, the opportunity to gain a more contextual understanding of what is being forecast and why. In other words, just as the meetings and conferences attended by the forecaster enable more informed judgements to be made at a later stage, so too, the dining club provides the foundation for more informed and secure judgements in their own professional lives.

Looking at forecast users has revealed that they do not ‘use’ forecasts by simply reading the numbers. Rather, they focus on the analysis provided by the forecaster and believe that they benefit from the discussions the meetings foster. Whilst the Chief Executives do not develop contributory expertise in economic forecasting they all use discrimination to make judgements about who to believe (in this case the forecaster) and use this information to inform the business decisions. In this way, much as activities in the constitutive forum of science are partly resolved through encounters in the contingent forum, so too decisions in the constitutive forum of business—the boardroom—are influenced by events outside the formal arena.

6. Conclusions

The argument advanced here is that the expertise needed to make and use economic models comes from many different sources. Focusing on the production of a monthly investment newsletter, the hidden work and overlapping social and professional networks that support forecasting work have been highlighted. Even relatively routine tasks, such as collecting data, have been shown to require some economic judgement, whilst producing forecasts depends on the ability to make reasonable judgements about a wide range of issues. Doing this well requires the forecaster to be socially fluent in the discourses of the economic, business and policy communities to name but a few. Sustaining this engagement with relevant expert communities is what the professional life of economist provides. The economic forecast is the distillation of these interactions, formalised in and through the economic model, but utterly dependent on social interaction for its accomplishment.

For those who use forecasts a similar concern arises. Forecasts are many and varied, so choosing between them can be difficult. Whilst reputation is important, the specific numbers do not seem to be crucial to the forecast users described in this paper. Perhaps they appreciate the inherent uncertainty of forecasting but, for whatever reason, what matters to this group is the big picture rather than the fine detail. Whilst most of the subscribers believe that their forecaster generally gets the important things right, they also acknowledge that this evaluation is located within a network of broader social judgments and relations. Forecasters and their users depend crucially on each other for their credibility and, taken together, form a stable social relationship.

What is common to understanding both the producers and users of economic forecasters is the idea of expertise as located in and shared by social groups. Whilst the principal forecaster has contributory expertise in economics, the forecasts themselves are only possible and plausible because of his participation in the cognate social networks that allow reasonable judgements to be made. Significantly, however, participation in these networks also has another effect. It is through this work that the forecaster meets potential clients and forecast users who, for whatever reason, choose him to be their ‘guru’. In making this choice they subscribe to the forecast publications but, perhaps surprisingly, pay relatively little attention to the forecast numbers. Instead, what they value is the analysis and discussion that challenges their own ideas and provides a consistent framework through which they can interpret the wider world.

Reflecting on this practice from a more normative perspective reveals that there is value in taking expertise seriously as an analytic category. Whilst it would have been possible to tell the story set out above purely in terms of social networks and interests, such an account could only have been descriptive. It would not, for example, have allowed us to question whether the actions of any group made sense in anything other than their own terms. On the other hand, this analysis suggests that the activities of all involved are reasonable. Economic forecasters recognise the limits of the models and, whilst drawing on social networks and knowledge to bridge the gap between model and

---

38 This is not to say that there may not be others who do subscribe just to have a set of forecast numbers they can use. Such users are making a similar discrimination between different possible forecasters but forego the additional knowledge gained through interaction. In other words, whilst they have, at best, primary source knowledge they are unable to learn the internal tacit knowledge needed to develop interactional expertise.

39 As with science more generally, however, this informal knowledge is typically invisible in the more public accounts of their actions.
reality, they continue to strive towards better models. Forecast clients recognise the limits of the models, but understand they can still get value from the technical exercise by focussing on the bigger picture of policy choices and trends which informs it. It could even be that the main value of the immense technical effort expended in order to produce plausible economic forecasts is that making this effort requires the forecaster to pay close attention to these wider issues. It is certainly the case that the CHEER club members were very ready to hold their chosen guru to account for perceived errors in past forecasts. The dialogue between forecaster and client, then, seems to provide a reasonable way of informing decisions in which economic futures have to be considered.

This is not to say that only those forecast users who subscribe to this particular forecasting team are acting reasonably. Rather it is the decision to consult an experienced economic forecaster (as opposed to an astrologer or a cardiac surgeon) that must be judged. The interpretative flexibility of economic models, forecasts, and data means that even the most experienced economists differ about the best way to model the economy. It is no surprise, then, that non-economists choose to back different economic gurus. Nevertheless, to the extent that, within each cluster of forecaster and clients, similar relationships of expertise and dialogue are found, a normative analysis would have to conclude that such behaviour makes sense in terms of the knowledge it provides, uncertain though it may be. In particular, the members of forecasting clubs are not paying for the pseudo-precision of numerical predictions but for the maintenance of a social space within which the consequences of policy choices can be examined. In this context it is privileged information, based on shared experience and robustly tested, that matters rather than the differences of detail that distinguish individual forecast projections.

Acknowledgements

I am grateful to the members of the Liverpool Macroeconomic Modelling and the CHEER club for allowing me access to their work and making the research reported in this paper possible. I am also grateful to Harry Collins, Robert Crease and Jeff Shragar for helpful comments on earlier drafts of this paper.

References


