Golden gurus, black boxes and Treasury forecasts

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Some six years ago Christopher Huhne, then with the *Guardian*, introduced an annual Golden Guru award for the best economic forecast from the best-known econometric forecasting organisations. The latest results have been published in the Independent on Sunday[2] and a selection is given below.

	Growth %	*Inflation* %	*Unemployment* million	*Guru Index*[3]
City Univ	1.6	5.8	1.69	4.83
CBI	0.9	5.3	1.72	5.15
Kleinwort	0.8	7.2	1.81	2.74
LBS	1.9	5.6	1.7	5.67
Liverpool	1.6	5.5	1.6	5.07
Midland	-0.4	4.5	2.00	6.94
NIESR	1.6	5.2	1.65	5.82
OECD	2.0	5.00	-	-
Oxford	1.7	5.1	1.9	6.23
Treasury	1.25	5.75	1.75	5.06
Outturn	0.5	10.0	1.77	0.00

These assessments are made by calculating a 'Guru Index', the sum of the absolute errors in the final outturn of GDP percentage growth, percentage inflation and unemployment measured in millions compared to forecasts. So a 1% error in GDP growth, a 1% error in inflation and a 1 million error in unemployment gives a score of 3. Yet, while a 1% error in inflation would be regarded as spot on (none of the

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[2] *14 April 1991*
[3] *LBS is the London Business School; NIESR is the National Institute of Economic and Social Research*

forecasters managed it), a 1% error in growth is poor and a 1 million error in unemployment is disastrous. Nevertheless, a score of 3 would be regarded as a good forecast overall (only the winners of the award managed better). Huhne may well agree here, but may argue that such absurd results would not occur in practice. However, the inability of the index to distinguish between marginal differences in inflation and significant ones in growth will mean this admittedly arbitrary measure will not help very much at best, and could be particularly misleading.

This leads to a second, related, issue which may be called the black box syndrome - an affliction which sometimes reaches epidemic proportions. It consists of devising criteria or rules to assess particular outcomes which neither consider context nor objectives of the modelling or forecasting process. Data (sometimes computer generated) are thus run through an appropriate black box which tests the behaviour of the process in question compared to the automatic response from a particular modelling system. The winner receives the Black Box award for the best modelling/forecasting system. A set of academic studies along these lines can be found in *The Forecasting Accuracy of Major Time Series Methods*, S. Makridakis, et al. (1984) As poor as it might be this work regrettably has found itself as a point of reference for undergraduate and postgraduate courses.

Part of the problem is that a weaker variant of the theme is widely accepted - that forecasting consists of merely finding the appropriate model based on past data history and projecting. Consider the situation in which demand for a product is stable and then as a competitor enters the market, demand drops with a declining trend. If the process is modelled first as a steady state (no trend) and second as a trend which gets the turning point correct, which is the better forecast? According to the normal means of assessment (mean square error, mean absolute error, log-likelihood), the answer may well be the first although it is blind and shows no understanding of how events can and do change. In contrast to this muddle, an interested reader who wants to see how forecasting should be done needs to look, for example, at the many case studies done by Box-Jenkins[4] which illustrates the art beyond the mechanics, although I might add here, that I consider the Box-Jenkins approach at best theoretically limited. But their studies do at least fully appreciate the problem of mechanically applying The Model to a recalcitrant world.

To return to the Guru, there is a problem in presenting a comparative set of forecasts in the way that the Guru award does. The layperson, along with numerous political and economic commentators, may and frequently do conclude that forecasting systems are hopeless. Yet, the dilemma is that all major organisations need to

[4] *Jenkins, G. M. (1982) 'Some practical aspects of forecasting in organisations' in Journal of Forecasting, vol. 1, pp.3-21*

forecast in order to formulate rational policy. Moreover, it is interesting to look at the performance of those sceptics in the press over the last year. First there was optimism, then slower growth, then the blip, then a recession, then the situation was improving, then there was a slump, then there was light at the end of the tunnel and now 'industry seethes as slump spreads' (*Sunday Times*, 28/4/91). The sceptics appear rudderless, blown asunder by any whiff of economic wind. At least the forecasters are nailed down by a decisive, if inadequate, assessment.

They are, of course, correct to point to how poor the forecasts have been. The four publicly-funded independent organisations - City, London Business School (LBS), Liverpool and National Institute of Economic and Social Research (NIESR) - have produced remarkably similar forecasts given that they range from Thatcherite Liverpool to Keynesian NIESR. They are also all remarkably optimistic. There was, of course, once a fifth independent organisation at Cambridge which produced rather less optimistic forecasts which had its grant drastically cut and had to close down. These 'alternatives' then are even further from reality than the Treasury. However, if there is one feature which characterises the Treasury forecasts in the long-run, it is its optimism in contrast to its accuracy - growth is higher, inflation and unemployment lower than outturns and consistently so. Indeed, its accuracy has got worse over time. Optimistic or not, the most important feature of a forecasting system is that it gets the direction right - boom or slump - and this is really where confidence breaks down. None of these five managed to see either the boom of the 1980s, or the current slump.

In the case of the Treasury, getting it right is of vital importance - its dreadful forecast, it must be remembered, is the basis of social and economic policy. It is also the basis on which many companies base their investment plans and have found themselves on the road to ruin as a consequence. Why is it so bad? Huhne suggests two reasons. First, many experienced staff are lost to companies which offer better salaries. Second, as Huhne puts it "the forecasters' political masters may also have been more reluctant to accept the increasing amount of bad economic news". This second reason is particularly important since it helps explain why staff are attracted elsewhere beyond financial rewards. It is also important because - to the ignorance of those who want to turn economic into political forecasts, minor changes can mess up the whole system.

But, there is more to it than this. One has to take account of the way in which the quality of the statistics have deteriorated in terms of reliability and in terms of the fewer components which have been used to make up aggregates. In some cases the information is not there any more, nor for that matter is the necessary methodological research. These are a consequence of the severe Rayner cut-backs - it has taken time to sink in, but the Government now has a better idea of what their

notion of 'efficiency' means. Finally, there is also a deeper theoretical shortcoming of the way in which dubious economic assumptions have been used (such as certain self-adjustment processes in perfect market capitalist systems in an economic island merely interacting with the world economy) which have little to do with modern Britain. In forecasting practice, when conditions are fairly well-behaved there is little between forecasting systems. Given the similarity between forecasts here this might well provide something of an insight of why - myopia reigns.

It may be instructive here to make some predictions for the year ahead. The Treasury forecast for 1991 will turn out to be substantially worse than that for 1990. True, some organisations will even surpass the Treasury; for instance, the LBS initially predicted growth of 2.6% for this year - yes, a boom. At the time of writing, the jitters are running through the Treasury as it is attacked from all sides and this will get worse when the predicted mid-year recovery fails to arrive. The recession may not have been made in Downing Street but it will lay bare the myths of the 'achievements' of the 1980s; the world recession will show just how weak the British economy is as the worst peacetime recession since the 1930s unfolds.