

## **Forecasting: A Mug's Game or a Productive Role for Economists?**

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**M**any economists earn their keep by forecasting economic data. Economic forecasters are generally employed by governments, who use forecasts to help policy formulation, or by market participants, who attempt to profit from superior knowledge of economic trends. In recent years, forecasters have been less than completely successful in forecasting the direction and pace of economic activity in the Australian economy. The reasons for this poor forecasting record include a lack of appreciation of the impact of financial deregulation, an underestimation of the importance of the world economy, and an excessive faith in the ability of domestic policy to influence domestic growth (White, 1992). As well, there are a number of practical difficulties that, at first sight, suggest that the whole enterprise has little social value.

Responding to a recent period of market turmoil, P. P. McGuinness (1994) has argued that 'nobody here, in the United States, or anywhere else has the slightest idea of what is happening to bond prices, interest rates, exchange rates or economic growth rates, and why'. He likened economic forecasters to priests who 'have perfected the technique of always sounding as if they know what is happening while explaining away what they got wrong the last time'. In a similar vein, David Clark (1994) has reminded his readers that official forecasters have difficulty in advising governments on the conduct of monetary policy. Because 'we know far too little about the key relationships between interest rates, budget deficits, the level of economic activity and inflation and inflationary expectations', he likened interest-rate forecasting to a 'tea leaf reading exercise', and compared monetary policy to 'trying to fix a computer in a blacked-out room using a jackhammer'.

In a more serious commentary on economic forecasting, Tom Valentine, a respected professor of economics with strong links to the finance sector, recently wrote that 'a correct job description for an economist should not include short-term forecasting' (Valentine, 1994). He was arguing from the propositions that the forecasting record of economists is abysmal and that successful forecasting is a necessary condition for successful speculation. He also noted the widespread assumption that markets are efficient and that, therefore, nobody should be able to make consistent profits from forecasting. I argue below that Tom Valentine's test for successful forecasting is too severe; forecasts do not have to be accurate in the commonly used

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sense to be profitable. Before that, however, it is worth asking why forecasting seems to be so complex as amount to a mug's game.

### The Complexity of Forecasting

One problems forecasters face is illustrated by data set out in the Table 1. The single most important measure of activity in the economy is growth in Gross Domestic Product (GDP). If governments aim to stabilise the growth rate of economic activity, then forecasting GDP is the key to policy formulation. Table 1 includes the initial budget forecast of GDP growth contained in each year's budget papers (in bold); the Australian Bureau of Statistics' first estimate of GDP growth for that year when the following June quarter national accounts are first released (in standard type); and then subsequent revised estimates issued by the ABS (in italics). For example, GDP growth for 1988/89 was forecast by Treasury to be 3.5 per cent in the Budget Papers published in August 1988. A year later, when the first ABS estimate for 1988/89 became available, growth was estimated to have been 3.3 per cent; but subsequent revisions have raised the official growth estimate to 4.7 per cent. What had been a good estimate turned out to have been a major underestimate. Should policy settings be the same at 3.5 per cent annual growth and 4.7 per cent growth?

Table 1

#### Annual percentage GDP growth at constant prices, 1985-94

	Year of forecast or estimate							
Reference year	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94
1985/86	3.7	4.5	4.6	4.3	3.9	4.0	4.4	4.1
1986/87	<b>2.25</b>	2.0	2.7	2.8	2.5	2.7	1.9	2.1
1987/88		<b>2.75</b>	3.6	4.3	4.8	4.8	4.7	4.9
1988/89			<b>3.5</b>	3.3	4.1	4.1	4.0	4.7
1989/90				<b>2.75</b>	3.3	3.6	3.6	3.3
1990/91					<b>2.0</b>	-0.9	-0.8	-0.8
1991/92						<b>1.5</b>	0.4	0.4
1992/93							<b>3.0</b>	2.5
1993/94								<b>2.75</b>

Numbers in bold are *Budget Papers* forecasts; non-bold are the ABS *Australian National Accounts* first estimates; and italics are subsequent ABS estimates. Data are for GDP(A) from 1992/93 and GDP(I) for previous years.

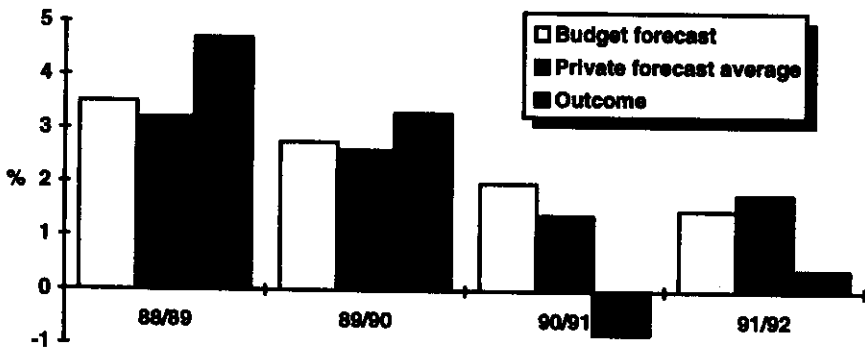
The example of GDP estimates for 1988/89 illustrates that even after several years the ABS continues to revise its estimates of economic activity. For almost all collections the ABS undertakes sample surveys (thereby introducing sampling er-

rors) and, even where the full population is enumerated, data are obtained with less than perfect accuracy and over extended time periods. In addition, some data are not readily collectable and must be 'estimated' by the ABS. The National Accounts, in which GDP estimates are published, are based on a wide range of data of varying reliability and timeliness (see ABS, 1990). It is not surprising, therefore, that estimates of GDP for any particular year vary as different components of the data are revised. The problem for economists is that they are attempting to forecast something that is itself a moving target: it is particularly difficult to forecast the future if we are unsure of the past.

Economists not only forecast major time series such as GDP and the consumer price index but also a range of minor time series such as building approvals, housing finance, motor vehicle registrations, current-account deficits and the level of unemployment. These data are often issued and forecast monthly and suffer major fluctuations that can often have little to do with underlying trends. Typically, a market economist would be forecasting two to three economic series every week. Policy economists in Treasury or the Reserve Bank are often also called upon to forecast these data in order not only to understand what is happening in the economy, but to warn politicians about possible public and market reactions.

Figure 1

Australian GDP growth forecasts, 1988-92



Source: Adapted from Commonwealth of Australia (1992/93:2.10).

Another, more important, observation to be made about the data presented in Table 1 is that government economists have a very mixed record in forecasting economic activity one year ahead. But private-sector forecasters are no better. Figure 1 compares the forecasting efforts of an average of private sector economists to those of the government and the actual outcomes. The private-sector forecast in

each year is the average forecast published in the *Business Review Weekly* following release of the June quarter national accounts. The outcomes are the latest available from Table 1. Both official and private forecasters understated the boom and overstated growth during the recession. However, government forecasts are not only forecasts but may also represent an expression of the intent of policy and be a method of manipulating business confidence.

Among the items that a market economist is expected to forecast are the government's official forecasts, such as those set out in the annual budget. This requires not only the usual forecasting techniques of economics and statistics, but a knowledge of the models, approaches, motives and opinions of the key official forecasters. As already observed, government forecasts are partly expressions of what politicians and officials *want* to happen. It would be untenable for a government to forecast a recession, for example, since to do so could well be self-fulfilling, amount to political suicide, and imply (albeit correctly in some circumstances) that recession was beyond the control of government.

Government forecasts are often constructed to impart confidence to the economy (if growth is too low) or, less often, to dampen enthusiasm (if growth is judged to be too strong). Talking the economy up may well be a factor in the excessively positive forecasts for GDP growth in 1990/91 and 1991/92 as set out in Table 1. However, if governments are seen to be consistently inaccurate in their forecasts (for whatever reasons), their credibility will probably decline over time and their policy initiatives may thereby become less effective. How can a government make good policy decisions if it cannot demonstrate that it understands what is happening in the economy or is likely to happen in the immediate future?

### **Paradigm and Data**

A further complication for the forecaster is trying to link economic outcomes or announcements to market reaction. Imagine that a higher than expected current-account deficit is announced. Our economist is particularly concerned with the value of the Australian dollar. One model of exchange-rate determination would suggest that this should see a depreciation of the Australian dollar (the current-account balance model). However, the market might interpret the deficit as a sign of excessive growth in domestic demand (as it did in 1988) and anticipate an increase in official short-term interest rates as the Reserve Bank raised interest rates. Under an alternative paradigm (Mundell-Fleming), the exchange rate would be expected to appreciate in response to higher market interest rates (market interest rates would rise in anticipation of higher official rates).

The official paradigms also change over time. Treasurer John Willis made clear in an ABC radio interview on 2 February 1994 that a major shift has occurred in the way the government will react to higher current-account deficits. The emphasis will now be on fiscal policy rather than monetary policy. He said, 'what exactly happens to interest rates has some relationship to what happens to fiscal policy . . . if we don't do that then certainly there would be more pressure on interest

rates'. These views contrast with those of the government in 1989, when the then Treasurer Paul Keating, in a press conference on 19 June, said 'high interest rates are associated with our trade circumstances . . . this is the only policy prescription to get that demand under control and to get imports under control and it's only then we'll see any prospect of interest relief'. Subsequently, the then Deputy Governor of the Reserve Bank, John Phillips (1990) noted that 'monetary policy is not an effective weapon to fight a balance of payments problem'.

Canberra has clearly caught up with one of the great policy errors of the late 1980s: it will not again be using monetary policy to control the current-account deficit. The old framework, which worked through strong domestic demand to dampen excessive imports, with monetary policy the instrument to control domestic demand, seems to have been cast aside. Instead, the current-account deficit is now considered much more in a savings/investment framework (by definition, the current-account deficit must equal the difference between domestic savings and investment). Hence the recent focus on reducing the government's dissaving by reducing the budget deficit.

Changing policy approaches to the current account illustrate how the forecaster must be aware of the economic paradigms within which key players develop their views on the economy.

Similarly, there are strong theoretical arguments that changes in fiscal policy should have little impact on the level of Australian economic activity following the floating of the dollar (Sachs & Larrain, 1993:418-19). Many economists, however, treat the gross expansion of government spending as a boost to economic activity without allowing for the offsets through net exports or private investment. Hence there is a genuine ambiguity about how, in this case, the unanticipated announcement of increase in the budget deficit should affect forecasts of economic activity.

## **Policy and Data**

Changes in government policy create a further problem for forecasters. The issue is to anticipate how the key officials and politicians will react to changing information. Also, do their expectations of economic developments differ from the market in general or the views of particular private-sector economists? If a particular private-sector forecaster correctly believes that the key public-sector economists are too optimistic about growth and will therefore be disappointed by prospective economic information, a potential profit to be made from anticipating the resulting policy changes. Similarly, if a private sector economist thinks that the government has used the wrong paradigm to assess economic data, further opportunities for profit (or loss) become available.

This problem arises with monetary policy in particular. Monetary policy is implemented in Australia and most other advanced economies by targeting a particular level of short-term interest rates (the overnight cash rate in Australia and the Fed Funds rate in the United States). These interest rates and expectations about policy changes effectively anchor one end of each country's yield curve (the difference be-

tween the interest rates available from short-term and long-term investments) and have a strong influence on equity markets. So understanding the policymaking process and the reaction functions of the key decisionmakers is crucial for the forecasting of market movements. It is important to be able to forecast not only economic data, but also the reactions of policymakers to those data. This is why so much time is spent analysing the comments and speeches of Treasurers and senior public servants.

### **The Economic Value of Forecasting**

The preceding discussion could support the conclusion that forecasting economic events is very much a mug's game. We are all bombarded with economic noise and none of us is very sure what happened in the past, let alone what might happen in the future. In addition, there is confusion about the economic paradigms in which information should be assessed. Policymakers, whose decisions have a direct impact on markets, appear to be as confused as everyone else.

And yet, fortunately for economists, there is an economic return to forecasting. The key rationale of forecasting is that every piece of information contributes to the current perception of what is happening in the economy and therefore of what is likely to happen in asset and debt markets. These perceptions may be erroneous, but nevertheless they have an impact on policy makers and market participants.

It is a common mistake to assume that a forecast has to be near the actual outcome to be valuable to the economist's employer. Imagine that the bond market has valued bonds on the view that the annual rate of inflation is around 2.5 per cent and will remain so following release of the next quarter's Consumer Price Index (CPI) data. If the next CPI release puts the annual inflation rate at 2.2 per cent, the bond market could be expected to rally and provide capital gains to bond holders. If one economist had forecast that inflation would fall to 1.7 per cent, and her employer was long in bonds because of that forecast, a profit should result. However, the employer of another economist who had forecast 2.6 per cent would lose money if he was following his economist's advice and was short in bonds. Although the second economist was closer to the actual outcome than the first economist, he was on the wrong side of the market movement. It is important to distinguish between a *successful* forecast and a *profitable* forecast.

Although it is fundamentally important to be on the right 'side' of the market when forecasting economic events, it is also important to have some idea of the magnitude of expected divergence from market expectations. In general, the greater market expectations are expected to be wrong, the greater should be the alteration to portfolios in order to maximise profits. It is impossible to profitably forecast all economic series. But the economist with a better understanding of the underlying direction of economic activity should be able to profitably forecast more than 50 per cent of outcomes.

## **The Inevitability of Forecasting**

There is essentially no such thing as a neutral position in financial markets for any significant participant. Market participants, whether banks, fund managers, corporate treasurers or speculators, will have a net asset position. That position can be invested in a range of alternative investment products (for example, bonds, shares or cash). Shares can be in a range of alternative companies; bonds can have different maturity profiles (a range of positive, negative or neutral positions can be held along a yield curve), or be invested with organisations with different credit ratings. Debt markets and financial derivatives also allow participants to have negative exposures to almost all asset classes. Because each data release can matter for relative asset values across a range of dimensions in each financial market, a view must inevitably be developed on each data release and its impact on markets. Even cash is not riskless if market participants are concerned about the opportunity cost of not being invested in a better performing market segment.

Despite all the associated difficulties, there is no practical alternative but to forecast. To leave a particular asset/liability structure in place immediately prior to the release of any economic data carries with it the implicit forecast that the outcome will be in accord with market expectations and therefore leave the relative and absolute values of all asset classes unchanged.

If someone has to forecast, why not an economist? The fact that financial market participants and governments employ mainly economists to do their forecasts suggests that economists have a comparative advantage in forecasting economic developments and market reactions. Engineers, scientists or theologians are less well represented among forecasters of economic events (although a form of forecasting based on the shape of charts has a significant following in certain dealing rooms). Even if economists are abysmal forecasters by Professor Valentine's standards, an economist-free approach to market exposures seems unlikely to prevail.

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