

ECONOMIC REVIEW

In this article, Ian Harrison comments on recent economic developments with reference to three key variables — real GDP growth, the CPI, and the Budget deficit. The discussion focusses on the interpretation of these variables in the context of other relevant indicators.

Over the last few months three key economic statistics were released, each of which seemed to present a picture of economic reality rather different from what most commentators were expecting. The first of these was the Budget forecast of the Table II balance which, in sharp contrast to the large and persistent deficits we have seen in recent years, actually showed a surplus — the first for 35 years. Second was the Consumer Price Index increase for the June quarter which, at 3.3 per cent, was well above most expectations. Third, the Statistics Department's real gross domestic product data showed that economic activity during 1986/87 increased by 2.4 per cent over the previous year's level — a result which compares reasonably favourably with New Zealand's average performance over the last decade. Again, this data does not seem to square with a widespread perception that (excluding GST expenditure 'blip') the economy had been going through a recession for at least the last year.

These 'surprises' we have experienced over the quarter have naturally raised a few questions about the reliability and usefulness of the statistics. Do they properly measure the economic reality that we are interested in? Are there any alternative measures which might do the job better? And more fundamentally, how do we tell exactly what the economy is doing? The purpose of this quarter's economic review article is to attempt to shed some light on these questions.

Consider first the 2.4 per cent real Gross Domestic Product (GDP) increase for the 1986/87 year. Apart from any intuitive feeling that this figure does not seem to capture what has been going on in New Zealand, there are more objective indicators which historically have tended to move in step with movements in overall activity, and which seem to point to a less buoyant current picture. First are two labour market statistics: the number of hours worked, as measured by the Labour Department's Quarterly Survey of Employment declined by 1.5 per cent in the year to February 1987 while the numbers of

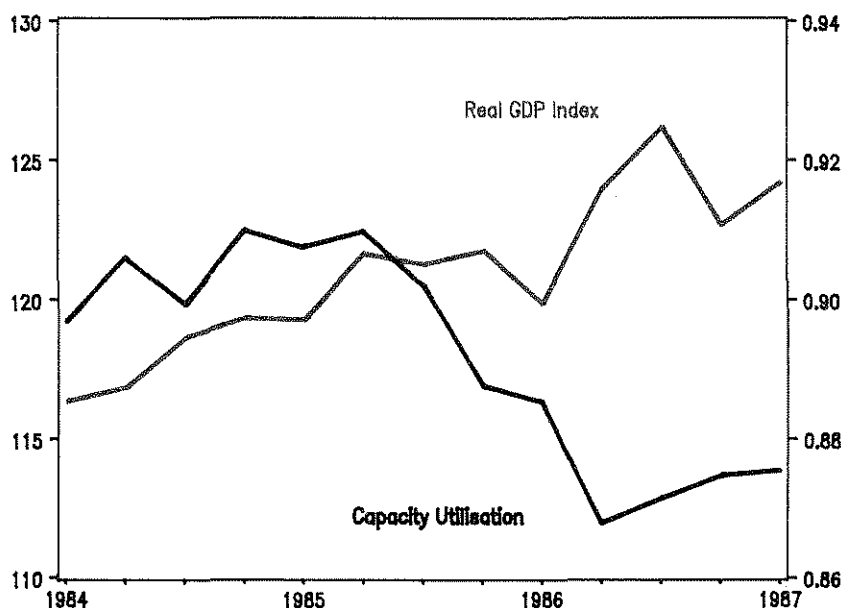
registered unemployed rose by 24,000 over 1986/87. Secondly, the New Zealand Institute of Economic Research stated in its June Business Opinion Survey that, according to its capacity utilisation measure, New Zealand has been in a recession for the last seven quarters. (Figure 1 shows recent trends in real GDP compared to the capacity utilisation indicator.) Finally, the Reserve Bank Econometric Model version of real GDP, which calculates output from the expenditure side, estimates that real growth over 1986/87 was only 0.4 per cent.

There are two polar explanations for these seemingly disparate views of the economy. The first is that the output figures are essentially accurate, and that the decline in the demand for labour reflects the rationalisation and restructuring that has been occurring in the economy. Resources have moved from unprofitable sectors which had low productivity, and there have perhaps been some efficiencies achieved within particular sectors. For both reasons, overall labour productivity has increased. There has therefore been a break with past pat-

terns whereby improvements in productivity were associated with the up-phase of the business cycle, when overall employment was expanding. Similarly it can be argued that the relationship between the NZIER capacity utilisation measure and overall activity has been weakened by structural shifts in the economy. The capacity utilisation ratio covers the manufacturing and building sector only, so if part of the restructuring process has been a shift of resources away from these sectors and into the services sector, this would not be captured and the indicator would exaggerate the extent to which overall activity had slowed.

This still leaves the gap between the official output and the RBNZ expenditure versions of GDP to be explained. Theoretically if both measures were perfect they would give the same result. But in practice, even in countries where there are official measures of GDP using both methods, quite large discrepancies can arise. In effect their official statistics present two different pictures of the same economy. Neither is right or wrong, and it is a matter of judgment as to which ver-

Figure 1
Index of Real GDP (Seasonally Adjusted)
And Capacity Utilisation



NOTE: The capacity utilisation measure was developed by the N.Z.I.E.R.

sion looks the most plausible. In this case, if one's judgment is that the reasonably strong real growth and restructuring story really captures what has been going on in the New Zealand economy, then the Reserve Bank data can be discounted because it is unofficial, and not as comprehensively estimated as the Statistics Department measure.

The second possible explanation is that it is the Statistics Department measure of GDP which is not giving a 'true' picture of underlying developments in the economy. Because of constraints imposed by limited resources and the need to produce timely data, real added value in many sectors and subsectors of the economy is not measured directly but is estimated from a number of indicator series. The aggregate figure therefore is not, and does not purport to be, a precise measure of the economy's net output. Particularly in the short run it will be subject to a range of error.

There are several possible sources of upward bias which are suggested by an examination of the sectoral analysis of the overall growth figure. Table 1 shows the growth rates by sector for 1985/86 and 1986/87. The first point which stands out from this table is the high rate of growth in agriculture, particularly in 1985/86. It turns out this growth has more to do with the Statistics Department's methodology for calculating GDP than any surge of activity in this sector. Real output is calculated as gross

real output less real inputs. So when inputs fall sharply but outputs do not because of the technological and biological lags in the farming industry, real net output appears to go up. This is precisely what happened in 1985/86 when a fall in farm incomes led to a sharp fall in expenditures, and the measurement of real agricultural sector GDP rose by 13.7 per cent. Because the agriculture sector methodology can sometimes generate peculiar results, it can be more appropriate to look at non-agricultural GDP. This aggregate would show an increase of around 1.2 per cent in 1985/86 (compared to an overall GDP figure of 2.3 per cent) followed by a 2.3 per cent rise in 1986/87.

Looking at the other major sectors, it can be seen that manufacturing rose slightly in 1986/87 following a fall in the previous year. In part this profile was due to the freezing industry strike at the beginning of 1986 which had the effect of shifting a substantial amount of meat processing production into the 1986/87 year, boosting overall GDP for the year by perhaps 0.3 per cent. For the other major industries the 1986/87 rates of change look to be reasonable. The small decline in construction activity (off a high base) is explained by a sharp rise in office building construction almost offsetting falls in factory, farm and residential construction. Owner-occupied housing shows an increase in line with the growth of the housing

stock, and the increase in transport, communications and business services is generally compatible with what is known about employment trends and the demand for output in most of those sectors.

A possible exception could be the distribution, restaurant and accommodation sector which showed an increase of 5 per cent. This increase is not explained by the restaurant and hotel sub-sector which apparently showed a decline, and the consumer spending boom prior to the introduction of GST would seem to provide only a partial explanation — real retail trade increased by only 1 per cent for the year.

Although it might appear that the 5 per cent growth figure for the sector is too high, there is really no objective way of adjusting it. (If that was possible, the Statistics Department would already have done it.) It may nevertheless be helpful to indicate the difference to the overall growth rate which slower growth in this sector would make. If we, say, halved the growth in the sector to 2.5 per cent, this would have the effect of reducing the overall rate of increase in GDP by 0.6 per cent. If it is assumed (arbitrarily), that 2.5 per cent is indeed closer to the real growth rate for the sector, this together with the other adjustments discussed above would give a picture of the economy growing at an average of 1.5 per cent over the last two years — roughly in line with the average for the Reserve Bank's real expenditure version of GDP for that period.

If we further assume that there is something in the rationalisation and restructuring story, then the pieces of the puzzle can be fitted into a reasonably consistent picture. The economy has been in a growth recession — where growth is still positive but below the long-run trend — but restructuring has meant that the labour market consequences have been somewhat more severe than might have occurred in the past with similar levels of growth.

Thus by taking a different view of the same GDP statistics we have arrived at two plausible pictures of what the economy has been doing

Table 1
Real GDP Growth By Industry Group

	1986	1987
Agriculture	13.7	3.8
Fishing, Forestry	25.4	0.5
Manufacturing	- 4.3	1.0
Electricity, Water, Gas	2.2	6.1
Construction	7.8	-0.9
Owner Occupied Dwellings	1.8	2.0
Trade, Restaurants, Hotels	- 2.1	5.0
Transport, Communications, Business and Personal Services	5.9	3.2
General Government	- 0.7	1.1
GDP	2.3	2.4

Source Department of Statistics

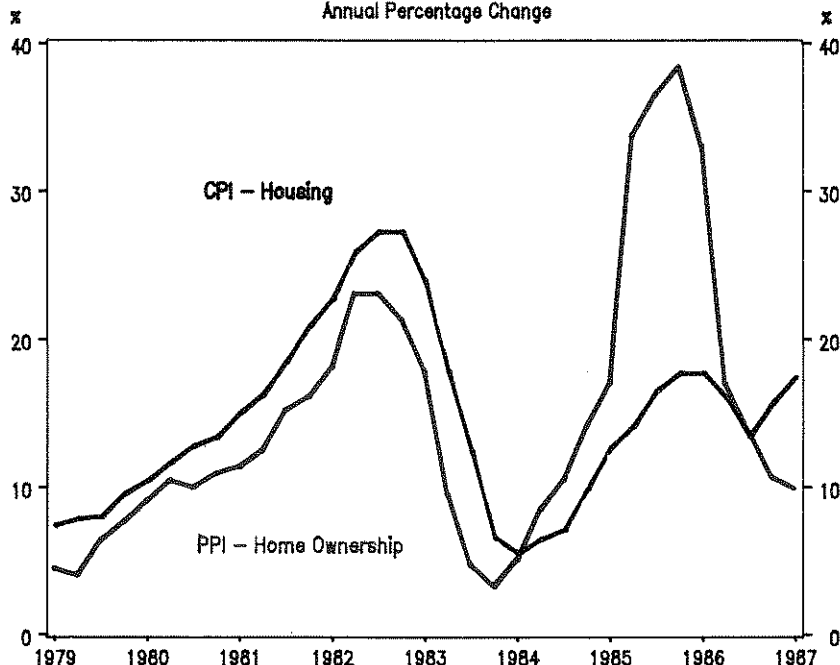
over the last two years. The point is not to demonstrate that either view is right or wrong, but rather to show that what appears to be hard economic data provides only an indicator of economic developments and as such needs careful interpretation.

The C.P.I.

While in the past movements in the Consumers Price Index (CPI) has been a widely accepted measure of inflation in New Zealand, the introduction of GST has muddied the waters somewhat. Although most estimates put the effect of GST at around 6 per cent, it is impossible to be sure of the exact impact because its introduction will have altered demand patterns and pricing behaviour. The unexpectedly high 3.3 per cent increase in the CPI in the June quarter also drew attention to the role of interest rates, and the interest expense component in the housing group of the index in particular, in adding to the quarter's increase (see Figure 2). This raised the issue of the appropriateness of the current methodology for measuring housing costs. The present methodology includes in the cost of owner-occupied housing (which comprises 17.8 percentage points of the 21.6 per cent weight to housing in the overall index), the cost of purchasing new and existing housing, the cost of mortgage interest payments, and the cost of maintaining the house.

It has been argued that this methodology is inappropriate in a consumers' price index because it is a measure of the average cash *outlay* on an investment in housing, when a measure of the cost of *consuming* housing services — the rent which the house would earn if it were let on the open market — would be conceptually preferable. Each measure has its proponents and there is a variety of conceptual treatments of housing in the CPI (or equivalent index) in western countries. The United Kingdom, for example, uses a similar treatment to New Zealand whereas the United States uses a rental equivalent approach. Considerations which have guided the choice of methodology in the New Zealand case include doubts

Figure 2
Housing in CPI & Home Ownership in Producer Price Index
Annual Percentage Change



that private rental markets can provide a sufficiently objective guide to market rents, for example because of the possibility of distortions being introduced through rental controls; the notion that homeowners' primary motive in owning a house is to secure a particular type of housing service (the security that goes with owning a home), and that investment is purely a secondary motive; and finally the view that a cash outlay approach is more understandable than the imputed rental approach.

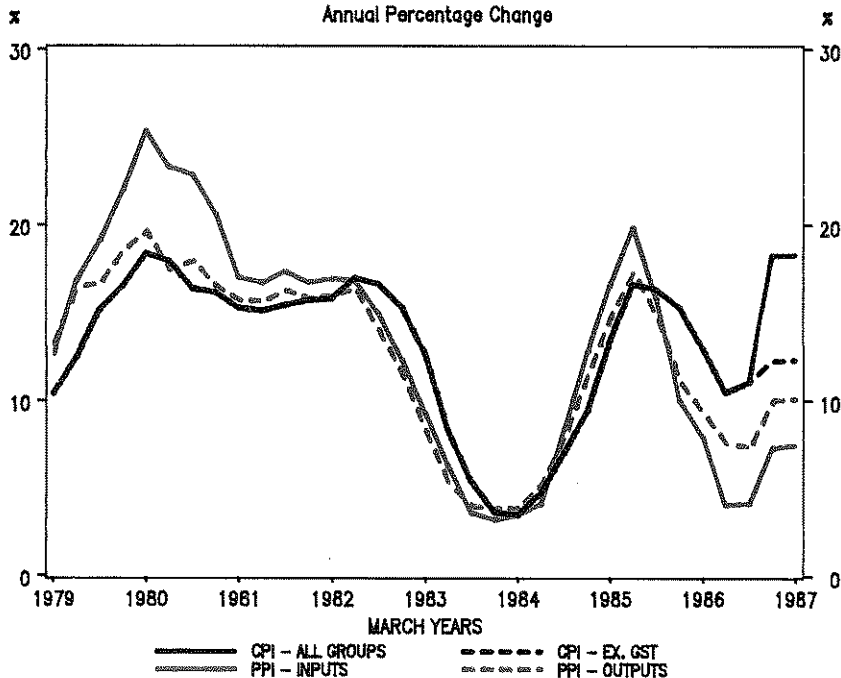
Each of these points may be debatable, but it appears that the current methodology would have added to the measured increase in the CPI over the last year relative to the alternative methodology. Whereas the rental component of the housing index increased by only 12.5 per cent the home-ownership component increased by 19 per cent.

Given the problem of disentangling the influence of indirect taxes from the CPI and at least a degree of doubt as to the appropriateness of the treatment of home-ownership, one might ask whether there are alternative measures which give a clearer indication of the underlying inflation rate. The Producers Price Index for outputs

(PPI-O), would seem to be a candidate. It is broadbased and timely; it excludes indirect taxes; measures the price of owner-occupied housing as an imputed rent and historically has tracked the consumers price index very closely (see Figure 3). Over the last two years there has however, been a divergence between the two and (excluding an allowance for a 6 per cent GST effect on the CPI) it appears that the PPI-O has increased by a cumulative 6 per cent less than the CPI.

It would be a mistake however, to regard the PPI-O as necessarily providing a lower and more accurate measure of what inflation is 'really doing'. In a broad sense, inflation is usually defined as an ongoing increase in the price of goods and services, but it really has no operational content unless we are more specific about which particular basket of goods and services we are referring to. Basically this is what the official indices do. The CPI measures movements in the price of the basket of goods and services which is relevant to the average New Zealand consumer, while the producer price indices measure baskets representing the outputs and inputs of the average New Zealand

Figure 3
Consumer & Producers Price Index
Annual Percentage Change



producer. Each index therefore measures a different type of inflation and will be useful for different purposes. But neither is a better measure of some more 'fundamental' or 'underlying' rate of inflation.

The Budget Deficit

Of the three economic indicators, the Budget Table II deficit provides perhaps the poorest guide to the underlying reality that it is often seen as proxying. No one figure can possibly serve as a summary measure of all aspects of fiscal performance, but the Budget Table II deficit has always suffered from a number of deficiencies which limit its usefulness in assessing the macroeconomic impact of the government's expenditure-income imbalance on the wider economy. Over the last year, its limitations were pointed out in an Annex to the Budget, in an article in the December Reserve Bank *Bulletin* and in a report by the New Zealand Planning Council called 'Tracking Down the Deficit'. All of these pieces also argued that a fiscal deficit is not a single, simple concept and that a range of deficit measures are available. Which one is the 'right' one to look at depends on

the purpose of the analysis. This complexity has probably left the non-professional observer (and perhaps many economists) somewhat perplexed. While the Budget Table II measure may not have been perfect, at least it was familiar and everybody talked about the same number. Despite these advantages, this year's Budget however has made it clear that Budget Table II has outlived its usefulness.

The main reason is that Budget Table II includes on the income side, revenues from asset sales and from the repayment of debt by government corporations and the State Owned Enterprises. This year these items will add about \$1,700 million to revenue and were a major factor in producing the projected surplus of \$379 million. It is now widely understood that this surplus is quite different in its impact from one generated by an increase in revenue or a decrease in expenditure — first, because it involves a reduction in the assets of central government, it is ultimately not sustainable, and second much of the implied reductions in central government borrowing is offset by increased government corporate borrowing, thus maintaining the pressure on fin-

ancial markets. Because these capital revenue items are potentially large and variable over the next few years, Budget Table II clearly can no longer be used as a guide to overall fiscal performance.

While there is not a single replacement measure that will do for all types of fiscal analysis, there is one measure which is appropriate for an important set of questions that relate to how much the central government — the core non-commercial arm of government — is either drawing on or augmenting private savings. The answer to this question will be useful in assessing how much pressure the government is placing on the financial markets at any point in time and, more fundamentally, whether the rate of accumulation of debt which is implied by a deficit is sustainable or whether it must ultimately imply substantial adjustment either through a reduction in expenditure or an increase in taxation revenue.

That measure is the inflation adjusted Government Finance Statistics (GFS) financial balance. It has three desirable properties. First it excludes the effects of asset sales and debt repayments. Secondly, it covers only the core government functions. With corporatisation, nearly all commercial activities should be self-funding and hence will not be a claim on future tax revenue. Thirdly, and very importantly, it adjusts for the inflation premium component of interest rates. The inflation related element of interest payments is included as an 'above the line' or current expense item in a nominal set of accounts, but in economic terms it is really a debt repayment and therefore should be included 'below the line'.

Theoretically, a better measure of the underlying trend in the deficit can be obtained by also making a cyclical adjustment to the real GFS financial balance, but in practice it is difficult to separate the cyclical component, and the adjustments in any case generally do not make a significant difference. Thus for most purposes the non-cyclical measure will usually serve quite well.

Table 2
Measures of Fiscal Balance

	1983/84	1984/85	1985/86	1986/87	1987/88
Budget Table II	-3,101	-2,784	-1,871	-1,952	+ 379
IMF GFS Fiscal Balance	-3,209	-3,235	-2,082	-2,017	+ 379
GFS Financial Balance	-2,384	-2,451	-1,397	-1,894	-1,271
GFS Real Financial Balance	-2,050	-1,300	- 200	+ 400	+ 100

Source 1987 Budget

From a purist point of view, the real GFS measure could also be augmented by explicitly accounting for various items such as the accrued pension entitlement of public servants. Also, there will no doubt be methodological debates about the best way to make the inflation adjustment. But basically the figures which were reported in Annex I to the Budget, rather than in Budget Table II, provide a reasonably good picture of the Government's fiscal position. The real financial balance (a shortened title which will hopefully assist in its widespread use) is compared with some other measures of the net fiscal position in table 2.

It may be noted that on the basis of this measure the central government accounts have been in balance, or close to that, over the last two years. The Budget forecasts for revenue and expenditure items suggest that a small surplus can be expected this year.

Summary and Conclusion

This article has looked at three different statistics which are important indicators of aspects of the economy. The discussion of the real GDP statistics suggested that there is no single absolutely reliable measure of what the economy is 'really' doing. The official figures are only a proxy of reality, are subject to a range of error, and have to be used cautiously alongside a range of other indicators and statistics in order to build-up a picture of how the economy is moving. Even then this picture will be a partially subjective one and several different interpretations can be made. Economic commentary in general often has as much to do with the art of the storyteller as it does with purely objective analysis.

The second part of the article considered the possibility that price indices other than the CPI are giving a

better picture of what inflation is doing. It was concluded that while there may be some debate about the appropriateness of the methodology used for calculating the housing component of the CPI, this index nevertheless does what it is designed to do: it measures the change in the price level of the average New Zealand consumption basket. If there is a need to separate the effect of tax changes on consumer prices then this is better done by making an explicit (albeit approximate) adjustment to this index rather than using the producers output price index which measures quite a different type of inflation. Neither index is presenting a fuller picture of reality. They are simply measuring different things.

The third section of this article tried to reduce the degree of complexity surrounding the use of the budget balance statistics. It argued that when we are interested in issues relating to the real net savings of central government then a useful figure to focus on is the inflation adjusted, GFS financial balance — the real financial balance — rather than the traditional Budget Table II measure.