

HOUSING COSTS IN THE CPI

Andrew Bascand comments on the conceptual treatment of housing costs in the Consumers Price Index.

Abstract

Some commentators have recently questioned the appropriateness of the current treatment of owner occupied housing costs in New Zealand's Consumers Price Index (CPI). To a certain extent the issues are technical, but because the CPI is the most widely used indicator of inflation, the issues are important. Briefly, there are several housing cost measurement alternatives; New Zealand presently uses an approach which takes account of changes in both the price of dwellings and mortgage interest rates. Many overseas countries currently follow alternative approaches which attempt to measure the cost of consuming housing services, as opposed to purchase and debt servicing costs. One such method involves measuring the rental value of owner occupied dwellings. These consumption-based methods exclude the investment element currently embedded in New Zealand's approach. Following a review of the conceptual issues and international experience, the article concludes that in the short term a CPI indicator net of the dwelling price and mortgage

interest components should be published, while in the longer run the adoption of a rental equivalence approach should be reconsidered.

During 1987 the 'housing' component of New Zealand's CPI rose faster than any other (see table 1). As a result, and given the increasing importance attached to the measurement of inflation, some commentators have questioned the appropriateness of the current treatment of housing costs in New Zealand's CPI. Some of the issues relating to the measurement of home ownership costs in the CPI were briefly touched upon in the 'Economic Review' (RBNZ *Bulletin* September 1987, pp 219-223). In the context of interpreting mid-1987 CPI out-turns, that article drew attention to the influence of housing costs, particularly the price of new and existing housing and mortgage interest rates, upon New Zealand's CPI.

The present article examines further some of the conceptual issues in incorporating owner occupied housing costs in the CPI. In particular, the current New Zealand

methodology is contrasted with overseas practice, where a range of alternative approaches have been adopted. Recent movements in the home ownership sub-group of New Zealand's CPI are examined and compared with changes in the cost of shelter in our major trading partners. The data presented show that the inclusion of dwelling purchase prices and mortgage interest rates contributed 1.5 percentage points to New Zealand's CPI out-turn in the year to December 1987. Similarly, however, the cost of shelter in our major trading partners has contributed significantly to their measured CPI out-turns, highlighting the fact that alternative approaches do not insulate CPIs from rises in the cost of housing.

CPI Concepts and Alternative Approaches

Although internationally there are many alternative measures of inflation, the change in the CPI is the most commonly used and is considered a crucial indicator. The index is used extensively in the interpretation of economic conditions and

Table 1
New Zealand's Consumer Price Index
(December 1983 = 1000)

Groups	Food	Housing	Household Operation	Apparel	Trans- portation	Misc.	All Groups
% of Base Expenditure							
December 1983	18.35	21.00	16.00	6.37	18.22	20.06	100.00
December quarter							
Point to point % changes							
1983	4.1	5.9	1.0	6.2	2.5	3.1	3.6
1984	8.1	10.1	4.9	5.4	16.1	8.7	9.4
1985	13.7	20.7	14.8	13.9	10.9	15.9	15.3
1986	19.0	15.3	20.6	17.2	11.1	26.0	18.2
1987	4.6	17.7	5.9	10.2	8.1	9.5	9.6
1982-1987	59.1	91.1	55.3	64.5	58.4	79.3	69.3
Quarterly							
Point to point % changes							
1987 1	0.5	4.9	1.7	1.2	2.2	2.3	2.3
2	2.2	3.8	3.3	6.4	3.4	2.6	3.3
3	1.1	3.3	0.9	0.6	-0.3	2.4	1.6
4	0.7	4.6	-0.1	1.8	2.7	2.4	2.1

Source: New Zealand Department of Statistics: Monthly Abstract of Statistics.

the formulation of policy. In addition, in many countries the CPI holds considerable interest to the general public as a key indicator of the performance of governments' economic policy, because of its use as a yardstick for the adjustment of income maintenance payments and index-linked financial instruments, and because of its relevance to the wage-setting process.

The path of recent inflation, and greater public awareness of its effects, has raised questions internationally about the accuracy of the CPI as an indicator of inflation. Aside from the question of alternatives to the CPI, there are also different ways of measuring the CPI itself. Which measure is most appropriate conceptually depends to some extent on the purpose for which the CPI is being used. Thus, for any single measure there may well be an element of trade-off between different end uses. Partly in response to this, some countries have elected to publish two variants of the CPI. But even this has the drawback of potentially creating confusion. These issues are examined in more detail below, with a focus on concepts, particularly the treatment of housing costs¹.

Notwithstanding the range of uses the index is put to, the general purpose of the CPI could be characterised as providing a measure of the changing level of prices of goods and services purchased by households. It is not entirely correct, however, to treat the CPI as a *cost-of-living* index. A *cost-of-living* index attempts to measure the cost of purchasing a basket of goods and services that yields a constant level of satisfaction. This requires measurement of changing patterns of expenditure as consumers switch between brands and quality grades. Instead, the CPI is based on the changing cost, to a specified sample of the population, of purchasing a basket of goods and services. The

contents and individual expenditure weights of this basket are reviewed only relatively infrequently.

Construction of the index involves selecting a group of goods and services that are usually purchased by a representative sample from the target population of households. Most countries conduct household budget surveys which provide a substantial amount of basic information used in the construction of weights in the index. Detailed item specifications are prepared which form a base period basket of goods and services. In general, each item is weighted by the average expenditure of the representative sample in the base period. For example, at present in New Zealand, all expenditure weights on items in the CPI basket are held constant at the proportions set in the December quarter 1983, with most weights derived from that year's Household Expenditure and Income Survey.² Determining exactly what is included in the index depends on the purpose of the index, as already noted, and the resources available for its compilation.

There are two conceptual approaches for weighting and pricing items in CPI baskets. First, the *consumption approach*, where the base period weights and price change indicators are calculated by estimating the value of goods and services actually consumed rather than purchased; and, secondly, the *expenditure approach*, where the base period weights and price change indicators are determined by the monetary expenditure of reference sample households on purchases of goods and services. For many goods, and nearly all services, however, the practical differences between the consumption and expenditure approaches are slight because consumption and purchase are roughly coincident. For non-durable items, the cost of consumption is identical

to the purchase price. However, in the case of durable products, particularly housing, the period of consumption extends well beyond the purchase date, i.e. these 'assets' continue to yield a flow of services well beyond the time period in which the expenditure occurred. During each subsequent time period a portion of the service rendered by the durable asset is consumed; the cost of that service, if entered in the CPI, may provide a different measure of the item's cost than would be obtained by entering the original purchase cost. Therefore, for durable items, application of alternative consumption and expenditure methodologies may result in the recording of significantly different CPI out-turns. Houses are the most durable items included in the CPI baskets and in addition, compared with other durable goods like cars and lawnmowers, dwelling expenditure accounts for a much larger proportion of households' budgets. As a result, the methodology employed in measuring housing costs can markedly influence the resulting CPI series.

Alternative Home Ownership Cost Measures

The basic economic criterion for judging alternative measurement methods is that the CPI housing component should measure the cost of providing shelter as accurately as possible in each time period. Ideally, the service flow of the durable good should be measured each period. Alternative shelter cost measurement methods fall into the two broad categories of expenditure and consumption approaches, as outlined above. Following the consumption concept, two popular methods are the 'rental equivalence' and 'user cost' treatments. These attempt to measure the ongoing costs of consuming household services whether or not monetary outlay is involved, while the expenditure commitment approach involves measuring directly actual outgoings on dwellings purchased.

¹ Detailed measurement aspects like weighting patterns, observation methods and index computation are beyond the scope of this article.

² These weights are due to be reviewed this year. The current base period weights for the main item groups in New Zealand's CPI are shown at the head of table 1.

The *rental equivalence approach* distinguishes between the two separate elements of owning a house and living in it. For most home owners, the purchase of a dwelling reflects a desire to both consume shelter and invest in a relatively secure asset. Reflecting this dichotomy, some people own one house while living in another. Naturally, although home ownership has its costs, benefits may accrue in the form of capital appreciation. For tenants, however, the cost of shelter is clearly identified as the rent paid.

For an economist, the ideal measure of the changing cost of consuming shelter is that provided by the rental market. This is recognised in the formation of the national accounts, where the international convention is to impute to owner occupiers a notional amount which indicates their income (as landlords) and their expenditure (as tenants). The imputed rent then represents the households' foregone rental income, i.e. the opportunity cost of consuming shelter. In this way, changes in the rental value of a house represent changes in the cost of home ownership.

Since periodic rentals for owner occupiers cannot be observed, the rental income that is foregone must be estimated from sampling the cost of equivalent housing services which are not owner occupied. To accomplish this, a separate sample of rental dwelling units needs to be constructed, which has the same features as the stock of owner occupied dwellings. The base period housing expenditure of owner-occupiers, using a rental equivalence approach, can be imputed by multiplying the average rent paid by the rental sample group in the base period by the number of households in the reference sample who live in their own house. The expenditure weight is then derived from this as usual. The price change indicator applied to this weight in each time period is simply the change in the average rent paid by the rental equivalence sample, adjusted to

maintain the same quality as measured in the base period.³

The *user cost method* can be considered an alternative consumption-based measure to the imputed rental approach. Although both attempt to measure the cost of consuming a flow of owner occupied housing services, the rental approach measures the market value foregone by not renting the house out, whereas the user cost method measures the cost to home owners of housing services. In terms of shelter costs, to 'rent' their dwellings, owner occupiers 'pay' each month several costs. Although some of these costs reflect monetary payments for services more or less immediately consumed, like rates and insurance, a user cost index also includes the cost of explicit payments for mortgage interest and estimates of implicit dwelling cost elements, namely depreciation, foregone return on dwelling equity and capital gains/losses. (Note that mortgage interest payments do not represent the cost of current consumption of shelter outside a properly specified user cost index, where capital gains/losses and foregone returns on equity are taken into account.) The major components included in a complete user cost index have several measurement alternatives and the entire approach necessarily involves more complex calculations, and more subjective input, in comparison with the rental equivalence approach.

The *expenditure commitment approach*, also known as the asset price approach, measures net expenditures on purchases of dwellings over time. Other expenditure items, such as mortgage interest rates, transaction costs, rates, insurance and repairs may also be included in the home ownership basket; however, these items seem to relate in fact to a combination of an expenditure commitment approach

with elements of a user cost index. Apart from mortgage interest, these other items typically comprise only a small proportion of owner occupied dwelling costs.

Under the expenditure commitment method, despite the fact that dwellings are long-lived assets, the cost of purchasing a home enters the CPI basket in a similar manner to the cost of any other good or service. The base period expenditure weight assigned to the purchase of dwellings can be measured as the gross expenditure on dwellings incurred by households in the base period, offset by any proceeds obtained from the sale of private dwellings during the base period. The price change indicator is then simply calculated using a house price index constructed from data on recent house sales.

Assessment of Home Ownership Cost Measures

Each of the above approaches has its merits; conceptually, a choice has to be made at the outset between measuring changes in the cost of consuming dwelling services and changes in the cost of purchasing a dwelling. In assessing which approach to use, it is worth recalling the basic applications of the CPI. In particular, although the CPI is not strictly a cost-of-living index, it is often used as one, especially in the wage setting process, and in the implicit indexing of social security benefits, etc. In addition, when assessing economic policy, the CPI is commonly regarded as the best indicator of consumer price inflation. Many commentators, therefore, have concluded that housing costs should theoretically be measured on a service flow basis – that is using either of the consumption approaches outlined above. For instance, the OECD have stated that in their opinion the price of dwellings should be excluded from the CPI basket.⁴ Similarly, the US Gen-

³ To construct a true imputed rental series it may be necessary to consider the different taxation treatment of rented and owner-occupier housing, together with any other form of discriminatory government policies, such as subsidies for one form of shelter but not the other.

⁴ 'Consumer Price Indices'. OECD, Department of Economics and Statistics, March 1984 (p.9).

eral Accounting Office stated that 'a price index that measures changes in the cost of consumption . . . is more appropriate'.⁵

To a large extent, gathering support for consumption approaches reflects increasing recognition that the combination of dwelling purchase costs and mortgage interest payments as a measure of shelter costs, fails to net out the investment element of owner occupied houses. For example, consider the different treatment of the above approaches in the presence of a rising or falling property market. Under the rental equivalence approach, changing property prices would only be reflected in the CPI if and when the cost of rental accommodation, in the owner occupied rental sample, was affected. At first glance this may seem an inappropriate treatment, because the cost of purchasing a dwelling would not directly affect the CPI. However, just as a change in the performance of life insurance funds may not immediately affect the cost to consumers of life insurance, a change in the cost of purchasing a dwelling does not necessarily affect the cost of consuming shelter.⁶

A fully specified user cost index⁷ (as opposed to one which includes only some cost elements) would change more sharply in the presence of fluctuating property market prices than a rental equivalence measure. A rise in dwelling prices would result in a positive contribution to the home ownership component of the CPI via increased depreciation for example; however, the investment element would be netted out of the cost index through a deduction accounting for capital gains or losses.

⁵ 'Measurement of Homeownership Costs Should be Changed.' US General Accounting Office, 1981 (P.20).

⁶ Nevertheless it would be reasonable to expect that, other things being equal, market rentals would sooner or later move in line with property price changes where these are seen as lasting.

⁷ One that includes the foregone return on dwelling equity, depreciation, mortgage interest costs, capital gains/losses, rates, insurance and repairs.

Compared with the consumption approaches, the expenditure commitment approach would measure directly a change in property prices. However, the appropriateness of the direct inclusion under this approach of interest payments, reflecting nominal interest rate changes, has been questioned. This is because both the inflation and real interest rate elements of the nominal interest payment are measured. The inflation component reflects payment for capital maintenance and, therefore, it does not in any sense represent consumption expenditure. Because elements of consumption and investment are measured by the expenditure commitment approach, it has been argued that the resulting home ownership component is inappropriate where the CPI is used extensively in wage bargaining procedures, financial indexation and for assessing inflation out-turns in an economic policy context. Where countries have experienced greater volatility in interest rates and dwelling prices, these concerns have been magnified.

Theoretical support given to consumption based approaches is, however, weakened by their relatively complicated measurement requirements. Therefore, the expenditure commitment approach still finds some practical support. For example, it is argued that a measure which reflects the actual monetary outlays of individual purchasers is likely to be more understandable than methods which involve estimating capital gains and losses, the opportunity of capital and depreciation or, using a sample of rental accommodation, the changing price of imputed owner occupied rents. With respect to the latter factor some statisticians have questioned the feasibility of constructing a suitable rental sample.

As a result of these differences of view, it is not too surprising that there is no universally accepted method and that several countries exclude owner-occupied costs altogether, while others have only

partially adopted a consumption approach.

Home Ownership Cost Measurement in New Zealand

Between 1949 and 1974, owner-occupied housing costs were measured in New Zealand according to a consumption approach. The technique was essentially a user cost index method which involved measuring the changing price of explicit shelter costs, e.g. rates, mortgage interest, insurance, repairs and maintenance, along with estimates of the changing price of implicit shelter costs – dwelling depreciation and the opportunity cost of home owner's dwelling equity. (No allowance was made for capital gains or losses.) Since 1974, following the recommendation of the 1971 CPI Revision Advisory Committee,⁸ an expenditure commitment approach has been followed; however, only the implicitly measured items of depreciation and opportunity cost were discarded, so that the new methodology effectively mixes the expenditure and consumption approaches. Subsequent CPI Revision Advisory Committees (in 1978 and 1985) have generally endorsed the basic principles of the expenditure commitment approach, noting that "the method was more understandable than the former consumption approach" and "was probably more acceptable to users because it generally reflected the actual outlays and experience of individual dwelling purchasers".⁹

The current approach for measuring the cost of owner-occupied shelter in New Zealand involves measurement of three sub-indices (see table 2 for a breakdown of New Zealand's housing CPI regimen), namely:

⁸ New Zealand CPI Revision Advisory Committees are appointed by the Minister of Statistics and normally comprise representatives from the main user groups, together with a specialist consultant and Department of Statistics officials.

⁹ Report of the Consumers Price Index Revision Advisory Committee, May 1985 (p.29).

Table 2
New Zealand Housing Cost CPI Components

	Percentage of total expenditure weight December 1983 quarter
Housing Components	
1. Rentals	
TOTAL RENTALS:	3.17
2. Home Ownership	
Purchase and construction of dwelling:	
Previously occupied houses	2.95
Previously occupied flats	0.47
Newly-constructed houses	0.22
Newly-constructed flats	0.21
Sections	0.31
Construction of dwellings	2.23
Sub-Total:	6.39
Financing and expenses of dwelling purchase:	
Mortgage interest	3.99
Solicitors' fees	0.29
Land agents' fees	0.37
Valuation fees	0.02
Stamp duty	0.06
Mortgage repayment insurance	0.04
Sub-Total:	4.76
Maintenance expenditure, rates and insurance:	
Sub-Total:	6.68
TOTAL HOME OWNERSHIP:	17.83
TOTAL HOUSING:	21.00

Source: Consumers Price Index 1985, Department of Statistics.

Purchase and Construction of Dwellings

For the purchase of existing dwellings a property price change indicator is constructed from Valuation Department data. Price movements in residential property transactions are measured with a three month lag. This indicator is then weighted by the proportion of base period expenditure incurred by the reference sample in purchasing and

constructing dwellings, net of their proceeds from housing sales. In the case of the erection of new dwellings, the price change indicator is calculated using construction cost data, while for the purchase of new dwellings, section price movements are added to the compounded result of construction cost data and base period dwelling prices. The resulting price indices are weighted by the corresponding proportion of refer-

ence sample base period expenditure.

Financing and Expenses of Dwelling Purchase

More than four-fifths of this sub-index is accounted for by mortgage interest. The CPI component for mortgage interest is measured by compounding two price change indicators, namely:

- the average interest rate paid by private households on existing dwelling mortgages; and
- the change in the average price of existing dwelling purchases.

This resulting indicator is then weighted by the proportion of sample population expenditure on mortgage interest in the base period. Other financing expenses relating to dwelling purchase include stamp duty, mortgage repayment insurance, land agent and conveyancing fees. Price change indicators for these other financing expenses are also scaled by a property price index before receiving a base period expenditure weight.

Maintenance Expenditure, Rates and Insurance

Regular home owner outgoings on rates and insurance are priced and weighted by the proportion of reference sample expenditure in the base period, while maintenance expenditure relates to the changing cost of contractors' labour and various building materials.

Thus, as noted above, the measurement of owner-occupied housing costs in New Zealand involves a blend of both consumption and expenditure approaches, with current consumption items like rates and insurance included alongside costs relating to expenditure on dwelling purchases.

International Experience and Recent Trends in Housing Costs

The range of approaches to home ownership cost measurement used by OECD countries, as surveyed in 1984, is shown in table 3. The table

Table 3
International Home Ownership CPI Measures¹
The asterisks indicate the alternative approaches used by OECD countries in measuring owner occupied housing costs.

Country	Consumption Approaches						Expenditure Approaches		
	Nothing	Imputed Rent	Property Taxes/ Rates	Insurance	Repairs Etc	Depreciation	Mortgage Interest	Dwelling Cost	Loan Repayment
Denmark	*								
France	*								
Greece	*								
Italy	*								
Luxembourg	*								
Portugal	*								
Switzerland	*								
Turkey	*								
Belgium		*							
Finland		*							
Germany		*							
Japan		*							
Netherlands		*							
United States ²		*	*	*	*		*		
Canada			*	*	*	*	*		
Iceland			*		*		*		
Ireland			*	*	*		*		
Norway			*	*	*		*		
Sweden				*	*	*	*		
United Kingdom ³				*					
Australia ⁴			*	*	*			*	
New Zealand			*	*	*		*	*	
Spain ⁵					*			*	
Austria									*
TOTAL:	8	6	7	8	9	2	7	3	1

¹ Source: 'Consumer Price Indices', OECD, Department of Economics and Statistics, March 1984.

² Since the 1984 OECD survey, the United States have excluded mortgage interest rates from their CPI.

³ Ground rents are also included in the United Kingdom's measure.

⁴ From March 1987 Australia adopted an actual outlays approach which excludes dwelling costs but includes mortgage interest.

⁵ Since the 1984 OECD survey, Spain have adopted an imputed rental approach as reported in an ILO publication: Statistical Sources and Methods, CPIs, Vol. 1, 1987.

shows at a glance a tendency towards using a consumption approach instead of an expenditure approach. In addition, one-third of the countries have excluded owner occupier costs altogether for the purposes of CPI measurement. This latter group comprises three of the larger European countries, namely France, Italy and Switzerland, together with the smaller economies of Portugal, Denmark and Luxembourg. The reasons put forward for exclusion include the following: the nature of expenditure on owner occupied housing is mainly investment and therefore should be con-

sidered to be outside the scope of a CPI measure; there is no internationally agreed methodology and therefore it is better to exclude these costs; and in countries where owner occupation is not widespread, the inclusion is not justified.

In interpreting table 3 it is important to note that, theoretically, mortgage interest is included as an input for a user cost index, i.e. as a component of a consumption approach. However, currently no OECD country includes all the elements of a user cost index as generally specified because no attempt is made to measure the opportunity

cost of dwelling equity or capital gains and losses. As a result, the investment element of shelter costs is not properly netted out. The major user cost component, where included, is mortgage interest. The inclusion of mortgage interest, therefore, can be interpreted as an expenditure item rather than a consumption item as outgoings on mortgage interest, by themselves, provide a poor indicator of current dwelling consumption. In the United Kingdom there has been considerable recent debate as to the merits of continuing to include mortgage interest costs stemming mainly from

concerns that mortgage interest is a poor proxy for shelter costs.

Several major countries have adopted the rental equivalence approach, including Japan, West Germany and most recently the United States (although the United States also includes some direct costs which would appear to introduce double counting into their index); three smaller countries, Belgium, the Netherlands and Finland also operate a rental equivalence approach. Prior to 1983, the United States used a similar approach to that currently operating in New Zealand. In discarding an expenditure commitment approach it was noted that it was no longer desirable to use a CPI index in the wage bargaining process and for assessing economic policy, which directly incorporated movements in dwelling prices. In addition, the United States publishes a CPI net of the

shelter component (i.e. net of both rents and imputed rents). In 1984 only Australia and Spain used an expenditure commitment approach similar to New Zealand's. However, since then Australia has adopted an actual outlays method (which excludes dwelling purchase prices but includes mortgage interest), while Spain has adopted an imputed rental approach. Austria is the only OECD country which includes all loan repayment expenditure.

Because OECD countries use a range of home ownership CPI measurement methods, it is not strictly correct to make comparisons of their inflation record using these indices. However, a glance at recent data shows that, over the last four years, despite the alternative measures used, nearly all our major trading partners have also experienced considerable rises in the cost of shelter above the general inflation rate (see

table 4). This serves to highlight the fact that alternative home ownership measurement approaches do not insulate the CPI from rises in the cost of shelter.

For instance, using rents and imputed rents, data for West Germany, Japan and the United States show that between the years ended June 1983 and June 1987 the rise in housing costs outstripped the change in the CPI by 7.2, 5.6 and 2.5 percentage points, respectively. In the United Kingdom over the same period, housing costs (including rents and mortgage interest rates), increased by 19.1 percentage points more than the change in the CPI. In Australia, the only major trading partner to include dwelling costs directly (up to 1986), housing costs rose much in line with CPI increases in the four years to June 1987. A trade weighted average of these countries' housing costs shows that,

Table 4
A Comparison of Shelter Cost and CPI Out-turns of New Zealand's Major Trading Partners

		1983	1984	1985	1986	Year to June 1987	Years ended June 1983 to June 1987
		(annual average % changes)					(% change)
Australia	CPI	10.1	4.0	6.7	9.1	9.3	32.1
	Shelter ¹	8.2	7.5	7.7	8.1	7.4	34.2
Japan	CPI ²	2.1	2.3	2.0	0.6	-0.2	5.3
	Shelter	3.0	2.6	2.6	2.4	2.5	10.9
United Kingdom	CPI ³	4.7	4.7	6.4	3.3	3.5	20.0
	Shelter	2.5	9.2	12.9	5.7	6.7	39.1
United States	CPI ⁴	3.0	3.4	3.5	1.6	1.8	11.6
	Shelter	2.7	4.2	4.0	2.9	2.5	14.1
West Germany	CPI	3.3	2.4	2.2	-0.2	-0.5	5.7
	Shelter ⁵	5.4	3.7	3.1	2.0	1.9	12.9
New Zealand	CPI	7.4	6.1	15.4	13.2	16.7	54.5
	Shelter ⁶	13.5	7.3	17.3	16.4	16.1	65.5

Notes

- ¹ From March 1987 this series excludes dwelling prices but includes mortgage interest.
- ² All items, including imputed rents.
- ³ Excluding items the prices of which show marked seasonal fluctuations.
- ⁴ All items, wage and salary earners only.
- ⁵ Rents, including garage rents.
- ⁶ Total housing component - numbers differ to table 1 because data above is expressed as annual averages.

Sources: Australian Bureau of Statistics
Bank of Japan: Economic Statistics Monthly
United Kingdom: Central Statistical Office
United States Department of Commerce: Survey of Current Business Opinion
Deutsche Bundesbank: Monthly Report
New Zealand Department of Statistics: Monthly Abstract of Statistics

between June 1983 and June 1987, measured shelter costs rose by 6 percentage points more than inflation. Over the same period, measured shelter costs in New Zealand rose by 11 percentage points more than CPI out-turns.¹⁰

The path of home ownership costs in New Zealand has been quite heavily influenced by the outcome for dwelling purchase and construction costs and financing costs. Cumulatively, measured owner-occupier costs rose by 88 per cent between the December quarters 1982 and 1987, with costs relating to the purchase and construction of dwellings and financing expenses (i.e. mortgage interest) rising by 70 per cent and 129 per cent, respectively. Similarly, these items

have from time-to-time made a significant difference to the overall CPI result, as shown by figure 1, which compares recent movements in the official CPI, with an alternative CPI measure excluding mortgage interest and dwelling and construction costs. For instance over the four quarters to December 1987, the alternative measure rose by a cumulative 8.1 per cent compared with a 9.6 per cent rise for the all-items CPI.

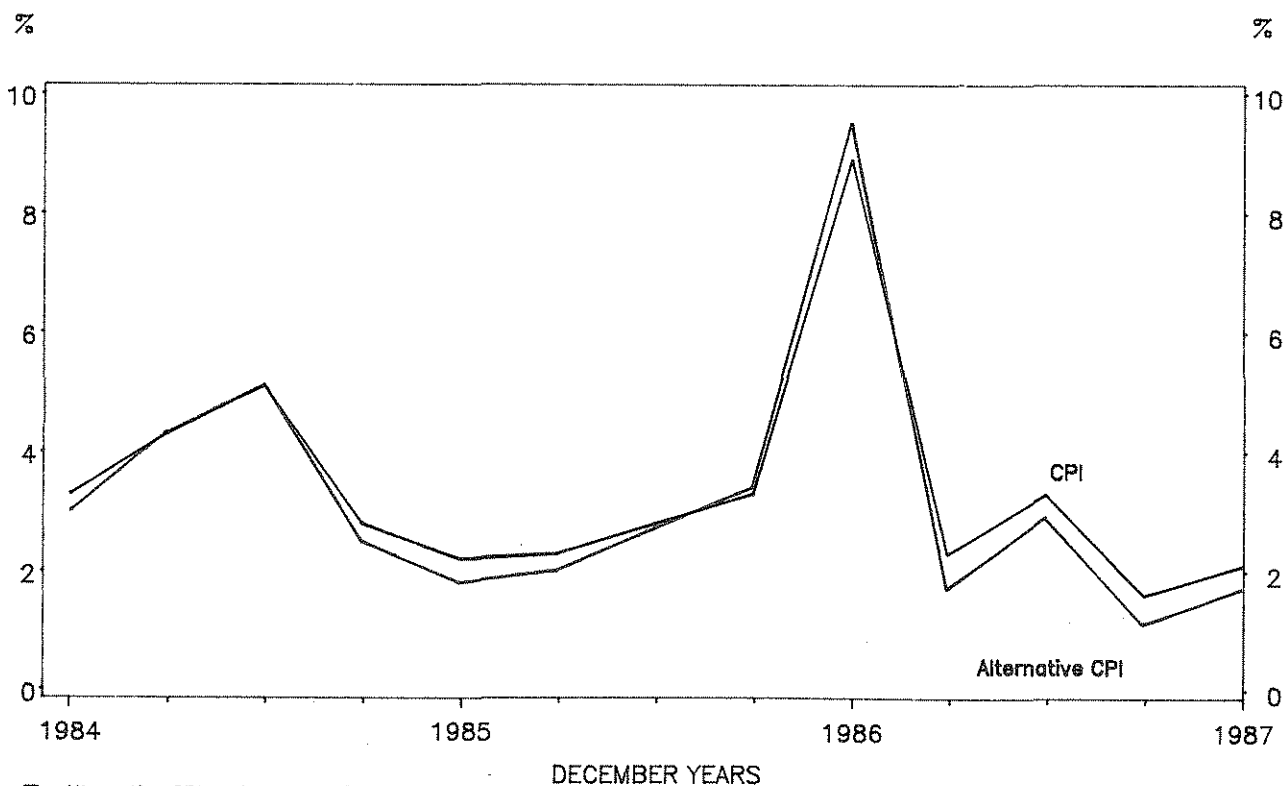
A case can clearly be made for excluding purchase/construction costs and financing costs from New Zealand's CPI, but this is based on conceptual grounds rather than the difference it makes to the measured result. In any event, figure 1 also shows that there is not a great deal of difference between the overall pattern in the two measures over a long enough period, while the overseas experience points to a broadly sim-

ilar conclusion. Naturally, although dwelling prices and mortgage interest rates have recently been contributing significantly to New Zealand's CPI, it is equally possible that a decline in nominal mortgage interest rates, especially if coupled with a downturn in the property market, would sharply reduce CPI out-turns as currently measured. The important point, however, is that these fluctuations often do not represent true changes in the cost to owner-occupiers of consuming shelter; to some extent the resulting CPI series has been and will continue to be an inappropriate indicator of consumer inflation.

Conclusions

Some commentators have suggested that New Zealand's CPI currently captures home ownership costs inappropriately. There are

Figure 1
Comparison of NZ CPI Measures
(quarterly percentage change)



The Alternative CPI excludes dwelling purchase and construction costs and home financing costs

three main alternatives available. First, owner-occupier costs could be excluded entirely from the index. Secondly, a rental equivalence sample could be constructed to measure home ownership costs. Finally, a fully specified user cost index could be specified, similar to the approach employed prior to 1974 but with an additional allowance for capital gains and losses. The latter candidate has been ruled out in the past by New Zealand and more recently the United States, because the method is necessarily complex, involves greater subjectivity than other methods and under some circumstances could produce a series as volatile as the expenditure commitment approach.

If a sample of rented dwellings

could be developed which matched closely the reference sample's owner occupied dwellings, the second option should be given serious consideration. Conceptually, such a method would represent a substantial improvement on the current procedure and, because the principle is rather simple, the approach would be easily understood by a large proportion of the population.

Such a change to the construction of the CPI would require wide acceptance by the major user groups. Because there is a pressing need to gauge accurately inflationary conditions on the one hand and changes in the cost of dwellings and mortgage interest rates on the other, an immediate option is to regularly re-

port a CPI indicator net of these latter components (along the lines of the series in figure 1) in addition to the current CPI measure. Such an approach, in the short term, would balance the requirement of continuity in CPI measurement (which is important given the amount of indexed contracts formed on the basis of the current CPI) with the need for a more accurate indicator for monitoring inflationary conditions.

In the longer run, however, there would appear to be a strong case for moving over fully to an implicit rental approach; both on conceptual grounds and to bring New Zealand's principal inflation measure into line with internationally accepted standards. ■