The New Zealand VALUERS' JOURNAL

MARCH 1987 VOLUME 27 NUMBER 4

Official Publication of the New Zealand Institute of Valuers

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Official Publication of the New Zealand Institute of Valuers

Contents

Education - the key to coping with change

For a profession to cope with change its members must be well educated before entering the profession and remain well informed throughout their professional careers.

The days of the `hunch' valuer have long gone. While intuition and feel for value will always be basic requisites for good valuation, the need for a sound knowledge of the principles of valuation and the application of skills is required if the valuer is to be able to cope adequately.

Our Institute relies on the universities to produce the basic education for prospective members. It is the task of the universities to produce a well educated graduate well versed in theory and capable of adapting to changing conditions. University education is not a training. Employers and the institute itself are required to train the graduate in specific skills.

There is merit therefore in following the lead of other professions in requiring members to be examined on `professional' matters before advancing to associate status. An examination could be designed which revealed the level of competence attained by the applicant during the four years prior to registration and to determine whether or not the candidate had requisite skills for practice.

It is my view that when a separate Department of Valuation with a Chair in Valuation is established in one of the universities a strong body of research at staff and graduate level will emerge. This will greatly enhance the development of the profession. Our Institute can hasten these developments by working co-operatively with the Valuers Registration Board and the Universities to achieve this aim.

Continuing education is critical. The Institute has a responsibility to keep its members well informed on advances in basic skills, changes to statutes, and their interpretation, as well as changes in valuation techniques. Today's technology allows `distance teaching' in smaller centres throughout the country. Both the medical and dental professions are using this facility to keep members informed.

The Institute has set up an Education Board to define educational needs and report back to council. A strong education dissemination policy will go a long way to reducing the often poor performance of members which is manifested in the increasing number of disciplinary actions.

As my term as President of the Institute draws to a close I can look back over two years of challenges to the profession which we have attempted as an Institute to grapple with and always to look ahead with an ever more wary eye and more concern for the future rather than for the past. We are practicing our profession as valuers in exciting times. The development of a free market and the encouragement of competitive influences has led us all to rethink many of our ideals which we previously thought were dear to us. In my opinion valuers generally have come to grips with the changes quickly and in the process have made tremendous improvements in the product offered their consumers. It is disappointing to have to note that we have members whose professional standing in the community proves detrimental to the majority of members. However I can honestly say the `bad apples' can be numbered on the fingers of one hand. I believe as a matter of record that some questions should be asked of those who commission the reports which ultimately end up in the litigation arena. I depart from the President's position with the Institute in good financial heart and with the Institute in the process of developing a Corporate plan which I am confident will provide far reaching benefits to our younger members in the years to come.

I would be remiss in concluding if I did not offer my personal thanks to three members for their not inconsiderable advice and assistance over the last two years, namely Kevin Allan, Lindsay McAlister and John Wall. Kevin Allan as General Secretary has made my job just so much easier while Lindsay and John as chairmen of executive during the two years have provided me with very real assistance and not inconsiderable advice in the various matters which I have had to deliberate upon as President. Finally I owe a tremendous vote of thanks to my partners who have so willingly accepted the tangible and intangible costs of my close involvement with the affairs of the Institute over a period of time which now amounts to some 12 years.

Letters to the Editor

Sir,

I am in receipt of the December 1986 Valuer's Journal and view the membership page with interest.

May I suggest that in the next Journal that you enter MR. F. M. MacNiven as `Deceased' since he has never existed, and that MISS F. M. MacNiven be acknowledged as being a `Recent Registration:

It may also interest you to know that Mr S. L. Middleton's first name is Sara!

Fiona M. MacNiven

May I suggest that you request the Institute to use first names in all cases and drop the Miss, Ms, Mrs and Mr.

Your editor has difficulty at times deciding who is what, whether it matters, and if it does why it does.

Editor

Publications Received and Noted

By The Assistant Editor

Environment 1986:
Report of the post environment forum working party June 1985, released by the Minister for the Environment.
Provides broad outlines on the principles which guided the deliberations of the working party and sets the basis for the creation of the Ministry for the Environment, the splitting up of the Lands and Survey Department, and the changing role of the Forest Service.

Valuation Of Golf Courses'
Property Tax Journal September 1985. An indepth look into the valuation of golf courses in America by William J. Townley, C.A.E.M.A.I., S.R.P.A.

Tax On Property Sales:
Company Director and Professional Administrator Volume 21. An article written by Gordon Stewart discussing aspects to look for when entering into land development schemes as regards taxation liability.

The Cost Of Not Applying Fertiliser:
Farmer, March 13 1986. An article by Marianne Kelly containing discussion and facts and figures arising from preliminary results of effects of reduced fertiliser applications.

Livestock Tax Reconsidered:
Farmer, April 24 1986. Written by A. C. Harris discussing the changes to the livestock taxation system.

BNZ Building, Wellington:
Appraisals by various architects on the Bank of New Zealand head office building in Wellington, contained in the New Zealand Architect No. 5 1986.

Extensive Development Planned For Wellington's Waterfront:
Mr Lance McEldowney the Editor of the New Zealand Engineering magazine comments and discusses the $350 million ($1986) concept plan to redevelop 20 hectares of Wellington's waterfront in the December 1986 issue.

Facts To Consider When Leasing Rural Land - By Max Lamb NZ Farmer October 23 1986
Written by a solicitor, this article clearly explains usual clauses and convenants found in leases, outgoings to be considered and problems which may arise.

Farm Trust Heralds New Concept In Land Tenure - By Harry Broad NZ Farmer October 9 1986
An interview with Hugh Riddiford, spokesman for the Rural Property Trust Scheme, a trust set up to own land and lease back to farmers. Also a brief assessment of the Trust by Des Pritchard a partner with Touche, Ross and Co., a national accounting firm.

The Housing Market And The Return To Housing:
Reserve Bank Bulletin August 1986. Looks into the factors which have influenced the relative return to owner occupied dwellings in recent years.

Supplement To The New Zealand Sheep And Beef Farm Survey 1983-84:
Analysis of production and financial data.

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M. T. Brick	Rotorua/Bay of Plenty
J. H. P. Harcourt	

New Zealand Institute of Valuers 1986 Property Market Report

By G. J. Horsley - *President*

Preamble

Regional reports from the Institute's 14 branches indicate that the economic decline in rural areas of the country has lead to

significant reductions in the numbers of farm sales

significant reductions in the numbers of farm sales and of those

prices have declined during 1986

that have been recorded prices have declined during 1986 to levels which reflect basic earning capacity potential dictated by debt servicing costs, maintenance expenses, product prices and market prospects. Urban properties in rural support provincial centres appear to have levelled off in terms of value and volumes of transactions but in the main urban areas and centres of commerce there has been a measurable growth in residential property sales and values since mid-year, mainly as a consequence of lower mortgage interest rates, although by the year's end there are signs that the rates could again rise, leading to a quieter domestic market in 1987. The Commercial property boom which commenced in Auckland and Wellington in 1985 continued into 1986 and has generated complementary activity in Hamilton, Christchurch and Dunedin, particularly for mid-city retail/office properties and sites, although showroom and warehouse development activity on the city peripheries has increased markedly and fuelled rapid land value rises.

Residential

The Northland Branch of the Institute reports a decline in the number of section and ownership flat sales, but a modest increase in the number of house sales in the twelve months to end of June 1986, and only dwellings showing a slight increase in average price to $70,510. Superior quality homes were selling in Whangarei in a price range of $120,000-$140,000 with the highest known recorded sale at $160,000 excluding chattels. Demand for good quality residential rental accommodation remains strong, with one bedroom flats letting between $70 and $90 per week and executive residences at up to $200 per week.

The first six months of 1986 showed a 15 % fall in the number of house sales in the Auckland region by comparison with the final six months of 1985 and very little significant movement in values. This was in part attributable to an over supply of houses on the market and the high level of prevailing mortgage interest rates. Since mid year however there has been a significant change in the volume of sales and levels of values with first mortgage interest rates reducing from 22.5 % to 18 %, leading to a shortage of residential properties. Mortgage money was more readily available and house prices began to firm in the third quarter of the year. Residential section prices were relatively stable in the Auckland region during the early part of 1986 but there was a brief surge in price in May/June when interest rates began to fall and purchasers were optimistic of completing houses and units before the introduction of the Goods and Services Tax. There are virtually no residential sub-divisions with sections available for sale in the central isthmus, and the majority of sales are now in the form of half sites for ownership flat construction on spare land to the front or rear of existing dwellings. In some instances dwellings were demolished or removed and the land re-developed as either a single unit site or for several units a trend which has become more prevalent in close proximity to the city. Section prices in the peripheral urban areas range $30,000 to $60,000 and since mid 1986 there has been a noticeable upward movement in low cost housing $60,000 to $100,000 and in the medium value range $100,000 to $200,000. To the upper end of the housing market cliff top and beach front properties continue to increase at a spectacular rate, and homes with tennis courts or room for tennis courts were in very strong demand. Two superior residential properties sold in Remuera one needing upgrading and renovation in August for $1.66 million and the other with subdivision and re-development potential in September for $3.3 million, while a 3,000 square metre rear site in Westmere backing onto Waitemata harbour recently sold at auction for $700,000. The development of retirement villages escalated throughout 1986 and the Auckland Branch of the Institute reports that there are now 23 such villages either completed or currently being developed in the greater Auckland area. There is a shortage of rental accommodation within Auckland resulting in an increase in rentals with one bedroom flats letting between $90 and $120 per week, two bedroom flats $120 to $160, three bedroom homes in low cost areas in a range up to $175 per week and houses in more favoured areas in excess of $200 per week.

By mid September the volume of residential sales had increased in Hamilton with approximately 50 houses and home units selling per week, average house prices at $85,000 per week and a generally buoyant market between $50,000 and $160,000. There have been a number of sales during the preceeding twelve months in excess of $200,000 and one sale at $700,000. Residential rental accommodation was in steady demand but the section market has reported as having been sluggish since late 1985 with basic sections at around $20,000 and prices at the upper end of the market having river or other extensive views achieving, $70,000.

The residential market was constant but rather quiet during the first half of 1986 in Rotorua, although high prices are being paid for both vacant and improved lake front properties including one recent sale at $410,000 at Lake Okareka. The volume of geo-thermal property sales was continuing at previous levels. Residential rentals in Rotorua have increased in the last twelve months in a range up to $160 per week. In Tauranga there are indications that house and vacant section sales during the first six months of 1986 were down by approximately 30% and 10% respectively against which there have been modest increases in value. There were no major changes in price evident in Whakatane except at the upper level of the residential market. Kawerau borough was showing good upward price movement prior to the mill dispute but sales have ceased since then. There has been a very buoyant market for vacant residential sections in Taupo with about ten sub-divisions at present on the market and handy sections with pleasant views range $60,000 to $80,000. There has been a good volume of sales for home unit sections although holiday home sales apear to have tapered off possibly due to the downturn in the rural economy affecting potential purchasers from the Hawkes Bay and central North Island.

Across the island in the Gisborne/East Coast area the residential market was static in the first half of 1986 with little if any movement from 1985 price levels. Activity was confined to a range below $60,000 with 187 reported sales at an average price of $58,549 while oyo flat sales showed a slight increase on the same six month period to 1985 but a reduction in average sale price of more than $10,000. There has been a small increase in market activity since June with a definite increase in sale prices for older well presented homes however section sales have fallen off since mid year. The highest section sale being at $38,000. Rental accommodation ranges $35 per week to $130 per week in Gisborne. In Wairoa the urban real estate market is depressed on all fronts being one of the few areas where houses and sections can be purchased at prices below the 1984 Government valuation. A steady market for homes and sections exists in Opotiki, however the curtailment of all forestry development and failure of the Waiapa Valley Vineyards has brought economic depressions in the East Coast towns. Few sales have occurred.

House prices in New Plymouth and Hawera remained static in 1986 with a general downturn experienced in the small rural servicing towns. The second half of the year has seen an increase in the volume of sales reflecting a reduction in mortgage interest rates while prices for home units have followed the general trend. Sales of rental flats have occurred at lower levels because of impending legislation and the wind down of the energy projects. Domestic rentals have reduced with average unfurnished three bedroom homes being let at up to $140 per week and two bedroom lfats at up to $100 per week. Vacant section sales have indicated no real growth and volumes were down on the previous years.

Overall the house market in Hawkes Bay has been slow in 1986 but highlights have included the sale of a Bluff Hill section of 555 square metres with wide views for $62,500 and a west shore beach front leasehold section at a net figure of $90,000 prior to the construction of a superior home. The Hawkes Bay Branch of the Institute reports two Havelock North sales at $225,000 and $242,000 including chattels, and other transactions at Taradale and Bluff Hill at $250,000 and $280,000 respectively. By November there was no noticeable effect on the residential market in Hawkes Bay of the Whakatu Freezing Works closure.

The Central Districts Branch of the Institute notes that for the first six months of 1986 the volume of house sales in Palmerston North and Levin were repsectively half and one third of those recorded for the preceding twelve month period, with similar statistics for ownership flats being recorded, but a very significant decline in the number of sections sold. There were however signs of increased activity in the third quarter of the year and particularly in the first home owner range $50,000 to $70,000 while residential properties exceeding $100,000 were difficult to sell in Palmerston North. In the first six months of the year vacant land sales increased substantially in Wanganui with prices moving to a half year average of just over $12,500. The average house price sale remained steady at about $48,000 with some increase in lower price brackets but a hardening in the middle range and a steady market over $110,000. House and flat rentals in Wanganui show a range of $50 to $120 per week. In the Wairarapa the volume of sales for house properties in Masterton and the smaller boroughs is very much in line with the previous year however prices remained constant with the latter part of 1985. There is an oversupply of houses in excess of $65,000 making that sector a'buyers market' however the number of vacant residential section sales during 1986 has been lower than in the previous year. Although section prices increase steadily they still appear to be below the current cost of development. The average section price in Masterton during 1986 is $8,800 while 320 single residential sales are estimated at an average price of $59,500.

In the Marlborough region vacant section sales increased by 20% in volume during 1986 but prices levelled off with better allotments in the $30-35,000 range and a good supply at the lower end around $15,000. Only a small increase in the price of average homes has been evident in the region during the past year and by September the market appeared to be hardening. The Sounds recreational residential market remains strong in prime areas with road access or waterfront sections realising at 2.5 to 3 times higher than 1981 prices although there was limited interest for sections with remote water access only. Residential rental accommodation in Blenheim remains in balance with rentals unmoved at the upper end at $135 to $150 per week two bedroom flats $95 to $110 per week and one bedroom accommodation up to $90 per week. Poorest accommodation is relatively most expensive - $40 entitles a tenant to a caravan or very poor quality house.

By the third quarter of 1986 the middle home range in Christchurch had become reasonably buoyant with few permanent material homes available under $70,000. The upper end of the Christchurch residential market was sluggish initially but picked up in the latter part of the year in volume rather than price increase. Two thousand six hundred and fifty-eight house sales at an average price of $72,500 were recorded in Christchurch during the first half of 1986 and there has been a noticeable increase in the numbers of new homes and additions to existing homes particularly in the period leading up to the introduction of GST but this is expected to decline at least in the short term. The supply of building sites has improved in Canterbury with several major sub-divisions coming on-stream and section prices have shown a substantial increase with the average suburban section in the Christchurch metropolitan area by July at $28,000. By September domestic rental accommodation ranged from $70 per week for a one bedroomed unit to $160 per week for four bedrooms and some Christchurch rental agencies were expecting to increase rents by 10% from 1st October to compensate landlords for the effect of the Goods and Services Tax.

The South Canterbury Branch of the Institute reports that residential section sales have fallen in volume to approximately one third of the sales volume recorded in the preceding two years, however in both Timaru and Ashburton top section prices now exceed $40,000. Goods and Services Tax is expected to further dampen the vacant section market in the short term. Increased activity during the third quarter of 1986 has been evident in the housing market in Timaru with continuing demand and value growth in the $30,000 to $70,000 price range, and steady value growth range to $120,000 although some hesitancy for properties priced beyond. Prestigious homes continue to find a sound market with one Ashburton sale at $250,000, and two transactions in Timaru during the year at $250,000 and $270,000 respectively. During the first six months of 1986 ownership flat sales were slightly below 1985 levels although this is expected to correct by the years' end and there is a significant under supply of units noted in Ashburton. Residential rentals for older flats range up to $70 per week and average quality flats mainly lie in the $80 to $85 per week rental range.

In the Otago region there has been a steady demand for sections with prices showing an increase on 1985 the most select sites selling at in excess of $50,000 while the demand for housing has been patchy, with prices holding or showing a slight increase. Good quality homes have sold well. Residential rentals have risen dramatically during the past twelve months now achieving rents per room of up to $35 per week and houses utilised for rental selling on net returns ranging 15 % to 17 % while purpose built lfats have also sold well at yields 13 % to 13.5 %. Mosgiel prices are relatively steady in all categories although higher priced properties were beginning to reappear on the market and residential rentals have shown a steady growth during the year.

Invercargill property market is described as steady by the Institute's Branch in that region with prices remaining at established 1985 levels but with a noticeable reduction in sales volume. Most activity has concentrated in the $40,000 to $60,000 price range while superior homes in excess of $100,000 continue to be difficult to sell. The average house price for Invercargill city for the first half year ending June 1986 was approximately $48,500 based on 409 freehold market sales. Sections in the north Invercargill suburbs attracted most activity with average 800 square metre sites in Gladstone and Rosedale selling at about $30,000 but sites in Clifton to the south end at Invercargill realising

about $6,000. The residential rental market remains firm with a reasonable supply of accommodation, three bedroom group type dwellings letting around $100 to $120 unfurnished.

Commercial and Industrial

In the twelve months to June 1986 there were increases of 64 % and 75 % respectively in the number of commercial and industrial sales recorded in Whangarei, and value movements on average at 17 % and 29 % for the same categories. Significant commercial sales included the South British building in Cameron Street in August at a yield of 10.17% on current rentals, while Housing Corporation purchased a Whangarei property for $1.175 million a carpeted, airconditioned and partitioned building showing a 10.6 % return on projected rentals. Office space is now leasing between $95 and $130 per square metre per annum depending upon specification, while industrial rentals range up to $54 per square metre per annum, in Whangarei.

The Auckland central business district is continuing to experience unprecedented increases in the prices of potential redevelopment sites

The Auckland central business district is continuing to experience unprecedented increases in the prices of potential redevelopment sites, many including substantial but dated buildings. Most of the sales have occurred on side street locations with Queen Street positions being tightly held. Newly listed property companies and financial institutions have been particularly active, the more established enterprises taking a lesser role but concentrating on purchases of adjoining properties to extend existing holdings. Recent sales indicate that buyers are making little distinction between freehold and leasehold property levels and land sales in the city core and fringe locations continue to set new levels with examples including a sale of the Regent Hotel car park site in Albert Street prior to auction at $7,879.00 per square metre, having last sold in December 1980 under mortgagee sale conditions for $406 per square metre. Prior to that transaction similar sites in the sector had been realising prices earlier in the year between $2000 per square metre rising to $5,000 per square metre by September. The ASB Chambers in Queen Street sold with settlement due in November 1986 at a price representing $12,000 per square metre of site area while the adjoining RSA premises in High Street sold in September for $7,400 per square metre, on selling within three weeks for a reputed price of just under $10,000 per square metre. These sites are thought to have transferred to an adjoining owner for ultimate redevelopment. Yields on commercial investment properties in the central core have if anything reduced during the past year with one sale of a new office building under construction negotiated on the basis of a return of 6% nett while older office buildings on sites with high redevelopment potential are showing interim returns of between 3% and 6% pending redevelopment or onselling for amalgamation. Nearly all of the newly constructed office space has been leased and recent predictions forecast a shortage of space on the assumption of continuing strong demand. Recent rental reviews in Quay Tower range from $19 per square foot per annum to just under $24 per square foot per annum plus variable outgoings. Asking rentals for top quality space in the Fay Richwhite building in Queen Street due for completion April 1989 range $29 to $31 per square foot plus variable operating costs. Shop rentals in Queen Street currently range up to $100 per square foot with the arcade shop rentals between $40 and $50 per square foot.

There has been a considerable increase in the value of commercially zoned land and rentals of office and retail shops in the Auckland suburban commercial areas during 1986 including Manakau City, Takapuna, Newmarket, Panmure, Otahuhu, New Lynn and Henderson. A property at 237 Broadway, Newmarket sold in November 1984 for $410,000, after which it was refurbished leased for a 20 year term and sold in November 1985 for $935,000 a yield of 9.5%, then in April 1986 sold for $1.5 and is now to be redeveloped in conjunction with an adjoining site.

Yields for prime industrial locations on new net lease investment properties in Auckland are in a range 8.0 % to 8.5 % with returns in slightly less favoured areas at 9.0 to 9.5 %. New leasing rentals in most industrial areas are in the range $5.50 per square foot to $7 per square foot per annum, however there is some over supply in East Tamaki where lessors are offering reduced rentals and rent free periods in an effort to secure lessees.

Recently, options have apparently been taken out on waterfront sites in Parnell and the eastern suburbs in anticipation of a win by New Zealand in the America's Cup, with the optimistic belief that the 1990 event will be sailed in the Hauraki Gulf.

Growth in retail rentals within Hamilton city has appeared to level off during the past year, and rental reviews increases for three year periods are now in the order of 40%, whereas in the fairly recent past increases of up to 100 % were not uncommon. There is substantial rejuvenation of the commercial/retail area of Hamilton city following the completion in 1985 of the Centreplace complex and there are several current proposals for development of retail and office complexes south of Collingwood Street. New office rentals at approximately $170 per square metre plus are greatly in excess of arbitrated rentals for existing office space at $120 per square metre in the city however there is some caution amongst developers who are awaiting firm tenancy commitments before commencing construction. Rentals for small factory units are rising to $65 per square metre in Hamilton while larger industrial complex rentals are around $40 per square metre per annum. Yield for centre city commercial properties mainly lie between 9 and 10% but range from 10% to 11% for industrial complexes depending upon scale.

The Rotorua/Bay of Plenty Branch of the Institute reports that the commercial property market was very bouyant in Rotorua throughout 1986, with substantial and extensive redevelopments, major rebuilding projects, significant rental increases and a strong demand for office space. Retail rents in the city range $170 to $300 per square metre and yields 9.75 % to 11.0 %. Demand has slowed for retail space in Tauranga during the second half of 1986 though rental structures are similar to Rotorua for shops, central city office rentals appear to be at a slightly higher overall level ranging $90 to $150 per square metre per annum. Commercial property demand has been quite good in Whakatane although the few sales reported have been at modest price increases and rental movements. Retailers in Taupo have commented on a downturn in spending as a consequence of rural economy effects on nearby Hawkes Bay and Central North Island and are resisting rental increases. Commercial organisations are now establishing in Taupo whereas previously they had been served from Hamilton and Rotorua. A site on the commercial periphery of the town sold in 1985 for $85,000, early in 1986 for $130,000, and in September for $175,000.

The industrial property market in the Bay of Plenty has been reasonably bouyant, in Rotorua with properties transferring at 11.0 % yields although there has been little activity in Whakatane or Taupo with steady to modestly rising rentals respectively. There is little vacant industrial land now available in Tauranga. This is leading to increasing prices and rising values of land in the vicinity of the Harbour end of the Harbour Bridge which will link Tauranga with Mount Maunganui and is well under construction.

During 1986 Gisborne central business district has undergone a series of changes ranging from minor facelifts to major renovations. A new complex providing 650 square metres of office space was fully leased by September, at a nett rental of $70 per square metre. However retail space within the development of 2299 square metres is proving difficult and only three tenants located at rentals below the asking range of approximately $130 per square metre. Some recent rent reviews of retail premises appear to have been negotiated below a market rate, landlords

being content to accept smaller returns in realisation of the difficult times retailers are experiencing. New developments are showing a 10.0% return, and commercial sales volumes remain similar to 1985. The industrial sector in Gisborne has been quiet with sales volumes down on 1985, peripheral showroom and workshop space being leased at $55 and $43 per square metre respectively. Commercial activity in Opotiki seems solidly based with no major disturbances.

Across the Island in Taranaki the total volume of commercial and industrial sales has remained close to previous years however transactions have indicated increasing returns. Activity was varied during the year but included the auctioning of the Perry Dines tower block for $1.5 million to the Government and the head leasing of a 2,100 square metre office development to a national accountancy practice at $117 per square metre excluding carpeting or partitioning.

Commercial property yields have increased to approximately 11% to 12%. On the retail scene plans have been announced for a $20 million development for Foodstuffs, the land purchases for which have raised property owners' expectations. In one instance a perpetually renewable leasehold ownership sold for 2.7 times the corresponding lessors interest purchase but generally land values have remained steady with little demand throughout central New Plymouth. Provincial towns including Stratford and Hawera have shown rental growth but yields have also increased and these areas have been hit harder by the rural downturn. A modern commercial building in Stratford sold late in 1985 to show a return of 21.6% on a full market rental.

Transactions in Napier city for commercial property during 1986 have included the sale of the New Zealand Insurance Company building for $1.2 million dollars to an Auckland Family Trust, purchase by the Chase Corporation of an Emerson Street property for $1.25 million dollars for redevelopment, and the sale of the Leopard Inn during the year for $1.3 million. There are however, only a limited number of commercial developments under construction and there is some concern amongst developers that the supply of potential tenants is almost exhausted. There are several retail vacancies in both Napier and Hastings, although in the latter city redevelopment is still continuing in the Stortford Lodge area where the Trustee Savings Bank paid $160,000 for a 941 square metre commercial site. There was some interest in July for industrial sections developed by the Napier City Council at Onekawa where 1000 square metre sites sold between $33,000 and $36,000 however a large industrial subdivision at Omahu Road, Hastings, has no recorded sales to date. A significant sale towards the year's end was the Morrison Industries complex for $1.2 million immediately leased to a New Zealand wide transport firm. Prime retail rents in Napier and Hastings are now in the order of $190 to $220 per square metre. New office rentals $100 to $120 per square metre with industrial rentals in recent developments at up to $40 per square metre. Surplus space of all types has been created by company mergers and business rationalisation in the region.

There has been a strong demand during the year for both commercial and industrial properties in Palmerston North with yields between 10 and 11 % although sales volumes for commercial and industrial properties for the first half year in 1986 are down in number. Office and industrial rentals for top quality accommodation are slightly above those reported for the Hawkes Bay. In Wanganui commercial and industrial sales activity increased during the first six months of 1986 but the volume turned down during the second half of the year. Sale prices increased by approximately 62 % from the previous year's average to $258,315 for office and retail category properties, but there was a more modest increase in average price industrial property sales. Commercial sales in the Wanganui Provincial boroughs have shown some price decline with merging groups disposing of surplus property. Office and retail rents continue to rise at approximately 10% per annum for new or refurbished space, however old space has remained static and is hard to let. Rentals generally equate those achieved in Hawkes Bay.

The Wairarapa sub branch of the Institute reports that commercial properties have continued to sell on a gradually increasing price level, most of those becoming available in Masterton central business area meeting a ready demand. Industrial properties near the centre of Masterton have sold satisfactorily but larger properties on the outskirts are difficult to quit. Nationalisation of stock firms has brought a number of properties on to the market and these have sold with varying success. Office and retail rentals in Masterton have generally escalated on three to five yearly review clauses between 10% and 12% per annum, older first floor space is difficult to let but new shops and offices have met a ready demand. Recent development has included a purpose built transport depot, extensions to the Solway Park motor hotel complex, and the construction of a new motel nearby.

The Central Business District of Wellington has seen continued and very rapid increase in land values since 1985

The Central Business District of Wellington has seen continued and very rapid increase in land values since 1985, with the boundaries moving out to incorporate the Courtenay Place, Manners Street, Wakefield Street areas whilst the Government has announced renewed interest in development of tracts of land they currently own in Thorndon. With the extension of boundaries have come substantial increases in the land values in these peripheral areas. This is in response to an apparent unsatisfied demand for office/retail premises.

In the last two years land sales have risen from $1500 to $2000 per square metre for central inside allotments to the latest recorded sales of $5000 to $6000 per square metre in areas off the main retail streets, and up to and in excess of $8000 per square metre on main retail streets. Perhaps the most significant `open market' sale was the successful tender for the Central Post Office by the Kupe Consortium, reported to have paid $27 million. After making allowance for the value of the excavation, shoring and foundations a $7000 per square metre basic land value is indicated over the large block comprising 3086 square metres.

Demand for office space has remained strong during 1986 with take-up being 100%. The 1985 rentals of new office buildings had reached occupancy cost levels of $195 to $215 per square metre. Today through to early 1987 there are committed rentals at occupancy cost levels of $270 to $320 per square metre.

The analysis of investment sales over the year has thrown up some changes in yield rates for new office buildings in the Central Business District. Fully leased properties, on a net basis, with rent reviews at three yearly intervals have been selling at yields between 5.50 % and 6.0 %. These sales have been on a freehold basis. Sales of vacant leasehold land have been analysed and are now firmly established by the market to be selling almost irrespective of the unexpired term to next review at 80 % of freehold value.

Picton is experiencing a speculative buying boom in commercial properties with prices in some instances increasing threefold in eighteen months. Examples include a 30 % increase over one month for a retail property and 300 % increase over two years for a vacant block. Commercial property market appeared to be less active in Blenheim from the mid point of the year with prices having peaked and the market slowed. Only one vacant retail allotment remains for which a four storey development has been announced. Retail activities dependent upon rural sector custom have slowed and there are more small businesses for sale than normal. Small space retail rentals range up to $250 per square metre per annum, larger spaces to $120 per square metre, and less favoured locations as low as $65 per square metre. In

early 1986 all available office space in Blenheim was occupied, however the recent development of a Government office building, and the reorganisation of Government departments could lead to vacancies of peripheral office space. Rental levels for office accommodation generally lie within the same ranges achieved for retail space. Industrial land prices in the city have apparently plateaued although sites with frontages to access roads in and out of Blenheim are still keenly sought after. Industrial rentals have shown a steady increase with main street locations at $60-$75 per square metre and down to large space rentals ranging $25 to $35 per square metre per annum.

The Canterbury Branch of the Institute of Valuers reports dramatic bouyancy in the Christchurch central city commercial property market throughout the year, continuing a trend which has existed since 1983. There have however, been greater value gains during 1986 than in former years for properties in key locations and intense competition amongst purchasers with Mainstay Properties and Prime West Corporation being particularly active. Later in the year development groups from Auckland and Wellington were active participants. Location continues to be the principle determinant of values with sites and buildings in key retail positions and adjacent to the Avon River having shown the largest value growth. Most inner city bare land has doubled in value during the past twelve to fifteen months and some sales indicate higher rises. Land at the fringes of the central city area is worth approximately $800 per square metre while the sale of the Clarendon Hotel opposite the Avon River in September was recorded at almost $4,000 per square metre. Factors fuelling these trends are substantial increases in office rentals and decrease in building costs following building economies to improve design and construction techniques. Yields have probably declined 0.5 to 1.25 % during the past twelve months with first class modern buildings in prime locations now reported to be showing returns as low as 7 to 7.5 %. The most significant suburban commercial development in Christchurch during the year was the opening of the Linwood City Mall in the eastern suburbs and further development of land at Riccarton now established as the principal suburban commercial area in Christchurch. Land values in the stronger shopping centres have accelerated substantially and suburban office accommodation has increased in demand with rentals not too far below inner city rates. Retail rentals did not increase as substantially in suburban areas, similar pattern in the central city as in previous years however retailers continue to be willing to pay premium rentals for well located new developments. The industrial property market in Christchurch has shown steady growth around the city and suburbs in 1986 with industrial land adjoining the central retail area having shown movement although little or no development has taken place with most of the vacant land used for parking. Improved industrial sales have shown increases between 20% and 30 % during the year with the average sale price of properties now in excess of $200,000 indicating the strength of the market in 1986.

In South Canterbury the commercial and industrial market has been steady during the year but some weaknesses are evident in fringe areas susceptible to the rural recession. Similar office rental ranges exist in both Timaru and Ashburton. Ground floor new space being leased at $85 to $100 per square metre and first floor areas at $70 to $85 per square metre with older space of ordinary quality attracting rentals of approximately half these levels. Earning yields depending upon building quality and location typically range 9.5 % to 11.0 %. The Government's deferment of the proposed new office building for Timaru is likely to help hold the demand on rentals for existing office space. Typical retail rentals in Timaru range $170 to $220 per square metre for prime central business district positions, whereas similarly specified space in Ashburton would lease at $160 to $200 per square metre per annum. Prime retail space is expected to remain in strong demand exemplified by recent sale of a Timaru retail lease for $75,000 with rentals at near current market levels. Secondary retail and suburban space is however showing signs of weakening as rural restructuring and restricted spending power finds its way into the provincial urban economies. In the industrial sector in South Canterbury the demand from established tenants remains steady but there are signs of a weakening market for fringe/secondary space. In Timaru industrial rentals range from as low as $15 per square metre for older lower quality space to $45 per square metre for inner city service/warehousing. Yields for tenanted industrial properties range 10.5 to 12.0%.

The Dunedin Central Business District is reported to be in the early stages of the most major redevelopment programme in the past 40 years principally due to the activity of the Chase Corporation through a local subsidiary. One new office building of 2,400 square metres has been erected and sold and another of 7,000 square metres in a very central location is under construction. Rentals for these buildings are in the vicinity of $130 to $150 per square metre nett while rentals for office accommodation in older buildings are peaking at over $100 per square metre. Government has announced its intention to erect a departmental building of approximately 14,000 square metres of office accommodation. Refurbished sixty to eighty year old office buildings have leased at rentals up to $90 per square metre while in the retail sector George Street commercial property demand continues at a high level. Currently there has been considerable rental growth for small warehouse properties, at up to $48 per square metre per annum with one project reportedly leasing at $60 per square metre. These appear to be for new small scale developments whereas the substantial old buildings are fluctuating in demand. However, there has been some rejuvenation and refurbishment. Land values on the endowment and Andersons Bay Road areas have shown significant movement and at Kaikorai Valley Road demand is increasing for vacant land with latest sale in April 1986 at $45 per square metre.

Tourism is reported to be the area of most significant growth in the Otago region and although the starting date of the $600 million Walter Peak development has not been confirmed the project has had a flow on effect already evident in the Queenstown market where five hotel sites have been secured for extensions or new developments with a land price content averaging $500 to $700 per square metre. The accommodation market is also bouyant in Wanaka with the Edgewater and the Pines developments (a time share proposal) being very successful, while there is also a new $20 million 250 bed complex due to commence construction in December.

In Invercargill there are a large number of vacant industrial properties with floor areas of more than 500 square metres however in contrast, there is a strong demand for small industrial properties with established central locations. Rentals currently range $20 to $45 per square metre depending upon size and location but there is only limited demand in secondary areas such as Prestonville and Otepuni Avenue where there has been little appreciable change in price and rental. Commercial inner city properties in Invercargill are keenly sought after with rental levels rising markedly and investors meeting a rising market. Current retail rentals range up to $220 per square metre but the present oversupply of upper floor office accommodation continues to have a dampening effect with recent rental renewals being achieved at $45 to $50 per square metre per annum plus rates for older style space in good central locations. Suburban commercial properties are enjoying a degree of bouyancy especially in the Windsor and Martin Street shopping areas and the South City Mall 17 shop development was preleased with rentals ranging $80 to $250 per square metre and strong demand being exhibited for additional shops in the vicinity now under construction.

Rural

The rural market in Northland was extremely quiet for most of the year, however by September some activity had been noted with reported transactions including a 160 hectare property for $335,000 having sold two and a half years previously for $450,000, the sale price representing $12.45 per kilogramme of milkfat; a slightly smaller block but with only seventy-three hectares effective for $185,000 or $14.80 per kilogramme; a further dairying block of 44 hectares signed to a new farmer for $200,000producing 16,000 kilogrammes, due to good management, represent-

ing a rate of $12.50 per kilogramme; while a grazing block of 181 hectares close to Whangarei city with a good mix of soil types and good range of improvement has sold for $500,000 slightly below its 1985 Government valuation. Generally farm property values are not expected to exceed the levels of value recorded in the past years. Coastal properties have however shown steady increases in value with a 35 hectare unit selling in June 1986 for $648,000 being located north of Tutukawa including a small beach cove but only fair improvements; a 16 hectare property with two small tidal beaches within the Bay of Islands sold to a tourist company consortium for $1.3 million subject to obtaining approval. Horticultural properties still appear hard to sell on a depressed market while small holdings are showing an increase in turnover but little change in values.

The Auckland Branch reports that the overall characteristics of the rural market evident towards the end of 1985 have continued into 1986 with generally a low level of transactions although more optimism for improvement towards the end of the year. The rural downturn has largely affected properties north of Warkworth and in the southern part of Franklin County. Vacant small holding blocks have shown value increases of 10 to 40% during the past twelve months while blocks with access to or views over the east coast in the South Auckland area have sold at prices indicating 50% to 75% increase during the same period. Blocks with potential for horse stud development close into the city have benefited by the decision to move the yearling sales facility to South Auckland. Reductions in values for most sheep farm sales are noted and very little activity recorded with one example including Managatangi fattening unit which sold mid year at 20 % below its early 1985 market value. A hill country property in north Raglan purchased in 1980 for farming has apparently sold for forestry at 45 % less than the original cost including subsequent improvements. The sale of a 275 hectare property west of Warkworth in August is analysed at 39 % below its Government valuation two years previously. There has been reasonable activity in the province for dairy farms considering the forecast milk fat price with values having dropped to a range $13 to $115 per kilogramme of milk fat from a high of $20 per kilogramme, in some instances the previous year, and interest now appears to be declining. There is little horticultural sales activity and it appears that values may have fallen considerably although there have been no sales of substance to support this contention. Highlights for the Auckland sector include continuing interest in coastal properties, an area expected to show large value increases, however general rural market activity is levelling out and the Institute predicts that value levels will not show much change in the immediate future apart from specialised properties including small blocks.

The volume of sales transacted during 1986 in all rural categories in the Waikato is down on previous years of consequence of reduced profit margins in most forms of farming coupled with the high level of interest rates, increased farm operating costs and an uncertainty for many farm products. The movement in prices over the 12 months period has followed a similar downward trend although the degree of movement has varied with property classes. Sheep and cattle hill country areas have shown the most notable decline in price, particularly for remote locality propeties, however properties in good condition and convenient location have continued to find a reasonably ready market albeit at generally reduced price levels. Dairy land prices reduced by mid year to a range of $12 to $16 per kilogramme of milk fat from the previous range of up to $25. However more recent expectation of a higher milk fat price payout is generating some minor improvement. There has been a cautious market attitude in Waikato land but some recent improvement in kiwifruit prices is expected to offer this part of the market some encouragement. Purpose developed horse racing/training/breeding properties in the Cambridge and Matamata areas have continued to reflect the strength inherent in that industry and have generally found a good market. Some sales have however reflected a decline and recent proposed tax changes relating to the industry have not yet impacted on the market. The removal of forestry development grants has had a significant impact on the development of land for afforestation. The Waikato Branch reports that mortgagee sales have not featured prominently although a number of properties in sheep and cattle hill country areas have come close to the situation only to be resolved at the last minute or the sales postponed. By late September there was a little more optimism in the rural market than had been experienced for some time however there are wide variances in sale price for hill country properties as demonstrated by a 5,800 stock unit property which sold for $103 per stock unit while a 4,000 stock unit property sold for $175 per unit. It is thought that there is some interest from investors outside the immediate rural community.

There has been virtually no activity in traditional economic farm units in Rotorua, however asking prices and the limited sales recorded indicate very significant drops in value with dairy farm prices at $10 to $12 per kilogramme of milk fat, sheep farms down from $160 to $180 per stock unit to $80 to $100 per stock unit. As in other areas there has been a reasonably bouyant market in small holdings but stepping stone or small deer/goat units showed a levelling off at a time which coincided with changes to the livestock standard values. Across in Tauranga, there appears to have been some investment in economic orchards with one recent purchase of five such units at an aggregated value of $4 million. Generally horticultural land settled at 30% below value levels established two years previously. Several mortgagee sales have realised prices equalling the first mortgage, while there have been no sheep farm sales reported and only one dairy farm sale recorded. In Whakatane a dairy farm is reported to have sold at approximately $10 per kilogramme of milk fat having sold 12 months previously for $15 per kilogramme and in Taupo, while there have been no sales of economic farms, small blocks handy to the town have sold reasonably well, a modest fall being evident in vacant land sales but improved property prices holding.

Dairy land prices showed a steady decline in Taranaki to a low point following the announcement of the 1986/87 milk fat payment in June. There appears to have been a general reduction of about 20% in value below the previous season, however there is some thought that values may have levelled out. An average dairy farm could be expected to sell at around $13 to $15 per kilogramme of milk fat. Market research and local attitudes indicate that fattening and grazing land declined in value soon after the 1982 peak but such movement did not gather momentum until late 1985 when the fall became dramatic. It is now apparent that the poorer remoter country is only able to attract buyers at more than 50% below the 1982 values, however better fattening country has shown less extreme reductions and is likely to still be worth up to $100 per stock unit.

The rural market in the East Cape around Gisborne has been virtually non-existent apart from a few mortgagee sales, one of which for a 756 hectare property carrying 6,500 stock units and with a 1983 Government valuation of $1,157,000 has sold at mortgagee sale for $442,000; a slightly larger property carrying 8,000 stock units sold for just under $530,000 down from its 1982 Government valuation of $937,000; and a 13,000 stock unit with a $1.85 million 1983 Government valuation sold for $960,000. Bare horticultural land appears to have settled in a range $10,000 to $12,000 per hectare compared to $20,000 to $25,000 during the 1981-83 period. Few economic orchards have changed hands and there have been no dairy or forestry sales reported. The market for rural properties in Wairoa is reported as depressed on all fronts, there were no rural sales of economic units reported in Opotiki by late September, follwing the curtailment of forestry development and failure of the Waiapu Valley vineyards, and the East coast towns have entered into a severe economic depression.

The early part of 1986 saw a further decline in the rural land market in Hawkes Bay particularly for pastoral farms. A significant Waiapapa sale being for a 368 hectare property at $450,000 in April supporting 4,300 stock units with a 1982 Government valuation of $1,04 million. An attractive limestone property on the market in January at $728,000 nearly sold at $550,000 before transacting finally at $450,000. Development costs are proving to be an inhibiting factor to horitcultural bare land sales with price levels having declined approximately 36% since 1985. Developed

orchards capable of showing an adequate return, are however still creating buyer interest. Later in the year there appears to have been a feeling of guarded optimism from prospective purchasers of economic farm properties and it is felt that even though the outlook for farm produce prices is by no means certain, the rural market will not decline further. However any deterioration in overseas market prices or rise in interest rates could quickly change this confidence. A recent sale has been recorded for a 481 hectare property of high exposed contour joining the Kaweka ranges to be utilised as a tourist venture featuring deerstalking and trout fishing for overseas visitors.

While there has still been a strong demand for small holdings nearer the larger towns in the Manawatu, it has generally been a slow market for economic units during 1986 with the going price for dairy farms at $11 to $14 per kilogramme of milk fat. Apples appear to be the dominant planting for horticulture in the Horowhenua county and in recent times it appears that horticultural land values have eased. The rual land market in the Wanganui sector is continuing at low sales volumes and an apparent decline of approximately 30 % in farm values from mid 1985 to mid 1986. As in many other centres small holdings and residential properties have however maintained their 1985 volumes and prices.

Although hints of a slump in prices in volumes of rural pastoral property sales were evident in the Wairarapa during 1985 the real crunch has descended during 1986. More remote and costly properties to farm have suffered most, but even handier, easier contoured fattening and cash cropping farms are also affected. The dairy land market has come to a standstill following the drastically reduced milk fat payouts for 1986/87 year and some prices have dropped by up to 40% from the 1981-1984 levels.

During 1986 the volume of rural sales has been very low, being on a par with 1985 in Marlborough, and less in Kaikoura. Pastoral properties for beef and sheep weakened in terms of prices and demand while the limited number of sales recorded for better handy properties show prices at $100 to $120 per stock unit while one remote island property is reported to have sold to an American buyer for about $150 per stock unit. Dairy units sold up to August 1985 at the pre 1982 level, however the market eased during the succeeding six months and appeared to drop by about 25% in March 1986 once dairy farmers realised that the milk fat pay out was certain to be modest. There has been a considerable interest in syndication and special partnerships in the region for cherry blocks where larger packages of risk capital can be spread. Several bouyant sales of mature vineyard blocks indicate established growers have confidence in that industry however interest in reverted and weedy hill country for afforestation evaporated in August 1985 following the removal of financial assistance and benefits by the Government. Rural residential blocks have however sold quite well in a developed state. In general terms there appears to be a hesitation in the rural market as both vendors and purchasers attempt to gauge the future prospects of the overseas markets, exchange in interest rates. Pastoral land prices may stabilise depending upon a variety of factors including any weakening in the Kiwi dollar, rises in meat prices and bouyancy in wool, however dairy farm land prices are expected to harden further as is good arable land owing to low grain prices and rising costs of production.

In Canterbury there has been a dramatic downturn in the volume of farm sales during the past twelve months, however there has been a steady turnover in small holding sales to the peripheral rural/urban areas of Christchurch city, the county towns and boroughs with steady increases in values being achieved. One bankruptcy sale and one mortgagee sale of economic units are noted in the Conway and Rakaia River district. Most farmers are adopting a holding policy with those in dire financial strife endeavouring to rationalise their situation through the sale of small blocks if their property is so subdivided. Lending institutions appear reluctant to promote a rash of mortgagee sales and the Rural Bank debt restructuring package was not having a discernable affect on the market by November. It was thought there could be some sale of mortgages rather than mortgagee sales. Farmers who are under the greatest financial pressure are those who bought at the peak of the market two or three years ago and then embarked upon high development cost programmes. By the year's end there appears to have been a general increase in farmer confidence, possibly reflecting improving weather conditions, better wool prices and slight improvements for sheep and beef meats. Those farmers who ratonalised their product base and cost structure some 18 months ago are now able to ride out the situation. Horticultural land and durable cropping class soils of quality within a 50 kilometre radius of Christchurch are still very much in demand, with many small blocks having maintained and increased values over the period. However there is not expected to be a continuing competitive demand for blocks suitable for special partnership activities such as livestock, deer, goats, bloodstock and horticultural developments. There is some hint that city based buyers who have profited from the stock market and currency transactions could now turn their attention to the rural market. Forestry block purchases in Canterbury are very much in the doldrums with many existing blocks substantially over capitalised in terms of the orginal purchase price and subsequent development outlays and purchasers of such land are now looking towards easy blocks of clean downs or tussock grassland with proximity to market outlets. Other property types in decline include poorly presented blocks in terms of development and maintenance, marginal cropping soils and store farming units on the colder clay down country as well as those properties based on the meat and wool economy set up under land development incentive loans. Banks Peninsula rural properties with hobby farming, horticultural or recreational potential have shown increases in value during the past year reflecting proximity to the city centre, climatic factor and value for money. In summary, values for general farmland in Canterbury with no special features may have declined to the 1978 or 1979 levels and this indicates that average meat and wool economy blocks would have declined by up to 30% during the past 12 months, whilst poorer quality properties with detrimental features may be back by 40 to 40%.

In mid Canterbury current values for good cropping land are now approximately 50% of the peak levels of value achieved in 1982/83 while fattening land was finding some purchaser interest towards the end of the year in the range $75 to $100 per stock unit with three mortgagee auction sales within that range. The rural market.is showing hesitancy, caught between urban levels of value and the much reduced subeconomic small farm alternatives. While there were some new signs of purchaser enquiry the whole rural market is continuing to undergo change as restructuring works its way through the agricultural sector, and overall sale volumes remain very low.

The Otago Branch of the Institute reports that there are not enough good rural properties on the market to satisfy buyers, a change from the hesitant market of 1985 and this could indicate the end of the downward trend in property values. The market for good fattening properties of up to 2,500 stock units has levelled at $100 to $110 per stock unit but the market for the larger grazing properties has not been established with prices fluctuating but following a general decline. In the Alexandra-Cromwell district bare land for orchard development has been selling at $8,750 to $9,800 per hectare while a small developed orchard sold for $26,300 per hectare.

The farmland market in Southland has been quiet during 1986 with a low volume of transactions. Prices continued to show a steady decline throughout the period following a similar trend during much of 1985. Several top Southland farms are reported to have been on the market for some time at realistic asking prices but have failed to attract much interest. A noticeable feature of the land market has been the absence of mortgagee sales although several properties have changed hands on account of vendors' financial positions. By the third quarter of 1986 some confidence was returning to the farming sector however as in Otago there was a real shortage of good rural property for sale.

Investment and Development Opportunities in Commercial Property

By R. Peter Young

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The following paper is based on his presentation acclaimed as a leading address presented at the Auckland Conference of the Institute for International Research.

Before dealing with the specific items noted in the programme I believe I must make some general background comments and also discuss briefly the nature of valuation work.

Contrary to what appears to be the common perception, valuers are not clairvoyants, but are (or should be) essentially urban economists. Our tools of trade comprise market information or data relating to recent sales evidence (including the volume of sales being transacted); rental levels; vacancy levels; together with and analysis of the current supply/demand situation affecting each sector of the real estate market. In addition, valuers must have some ability to distinguish between good and bad architecture; must understand certain aspects of the law particularly relating to lease and other contracts affecting real estate; must have a good working knowledge of town and country planning; an understanding of building construction and in particular the quality of various types of airconditioning systems, lift servicing, etc.; and an appreciation of when, how and why the availability of finance affects different sectors of the real estate market. Above all, valuers must endeavour to maintain a general overview of national economic conditions and likely political influences.

Quite clearly, it is impossible for most normal individuals to assimilate a sufficient level of knowledge in all of these fields. Accordingly, a reasonably high degree of specialisation is now becoming necessary, particularly when dealing with that class of property where investment is the primary motive for ownership. Even with a high degree of specialisation, most valuers would have to admit that there are certain aspects and areas which leave us mystified. For example, do many of us really know why the Auckland and Wellington Central City markets are booming at the present time, while the country's pastoral farming sector, which produced 55 % of our export earnings to March 1985 and March 1986 (excluding forestry, fishing, horticulture and invisibles) has seldom been more depressed?

Several factual and logical reasons can be put forward to explain the present phenomenon, but questions still remain concerning the long-term implications. Are we seeing the beginning of a pronounced boom/bust cycle experienced in overseas cities over the past 40 to 50 years?

Between 1945 and around 1980, urban development activity in New Zealand (particularly in the non-residential fields) generally ranged between being fairly dormant and a state of unspectacular growth. Within the Auckland Central Business District some cycle patterns occasionally emerged. For example, in late 1977/early 1978 there was an oversupply of approximately 35,000 square metres of new or good quality completed airconditioned office accommodation; and when the Government Valuation Department undertook its five-yearly revaluation of the Central Business District effective late 1979, Queen Street land values were dropped by approximately 10% on the levels fixed five years earlier. However, by international standards these were relatively minor hiccups. Some notable bankruptcies took place but these were probably the result of inexperience, poor management control and bad judgement, rather than from any inherent weakness in real estate as an investment vehicle.

In passing, it is interesting to note that in spite of the relative stability of real estate values in New Zealand cities over a period of 35 years, in that period almost all of our major financial disasters have involved companies with a very high involvement in real estate investment or development. The only major exception that comes to mind is the collapse of Mosgiel.

almost all of our major financial disasters have involved companies with a very high involvement in real estate investment or development.

It is probable that one of the main reasons why the New Zealand urban real estate market was relatively stable (if unspectacular) up to the 1980s is that we have been insulated from the effects of many offshore economic influences.

Whatever the reasons, the position is now quite different. In the past two to three years, the Auckland Central Business District has seen more development than has taken place at any period in the past 40 years, and very likely than at any comparable stage in the history of the City. In late 1977 when the City experienced an office oversupply of approximately 35,000 square metres, there were only two new buildings in the course of erection (Quay Tower and the much smaller National Bank Building in Jean Batten Place). According to a survey undertaken by our office in September 1986, a total of 58 office buildings have been completed

The above address was presented by the author to the Institute for International Research - Auckland Conference November 1986.

or were in course of erection, in the period between July 1980 and September 1986. These buildings contain office accommodation of slightly less than 350,000 square metres, demonstrating an average annual supply of approximately 56,000 square metres. most of this space has, or will, come on-stream in the 1985/87 period and a very high percentage of this accommodation has already been leased.

We estimate that between mid-1980 and December 1984, the average consumption of new office accommodation was in the region of 20,000 square metres per annum. Consequently, the rate of consumption of office accommodation since the beginning of 1985 has, by Auckland standards, been quite phenomenal.

The obvious questions are: Are we entering into a new era characterised by a much more pronounced cyclical real estate market as is experienced in major overseas cities? And secondly, how long will the current boom last?

The current boom has been accompanied by spectacular increases in prices paid for Central City development/redevelopment land. It is interesting to note that the vacant land on the corner of Albert and Swanson Streets, recently reported to have been sold for $25 million, was previously sold in January 1981 for $1,290,000.

Of similar interest is the fact that the land on which the BNZOPA Building (125 Queen Street) has recently been completed, was purchased by the present owners in July 1982 for $3.0 million. The land area is 2020 square metres and the price may have been slightly depressed by the requirement to maintain the original BNZ facade. Nevertheless, on the basis of the most recent Central City land sales and taking into account the facade retention, this land would now have a value in the vicinity of $18.0 million, demonstrating an increase of 600% in slightly more than four years.

Over the past twelve months numerous blocks of Central City land have been purchased for ultimate redevelopment, and it

almost every month a new record is created in terms of price

seems that almost every month a new record is created in terms of price. Some of the latest prices can be substantiated only on the basis of a feasibility study incorporating maximum rental levels, full leasing on completion, a minimum return on capital, and the expectation that the building can be constructed at a reasonable cost with no delays. The chances of all these components fitting together without a hitch would tend to defy Murphy's Law. It is occasionally interesting to re-read an article which appeared in Rydge's Magazine of January 1976 entitled: `Property Valuations - The Sick Joke of Business'. This article was written after the Sydney bust which took place just prior to 1976 and is rather critical of land valuations assessed without having regard to then current economic trends.

The current Auckland market is certainly stimulated by the fact that there are now many more players in the market than there were ten years ago. Most of the current participants were either not in existence or were not forces in the market ten years ago, and some were not in existence five years ago. The traditional investors in Central City real estate (the Life Insurance companies and larger Superannuation/Mutual/Property Pool Funds) now find it extremely difficult to purchase property in the face of competition from the `new boys'. Furthermore, most of the developers who previously erected buildings for sale to the Institutions are now retaining ownership. These recent developments and changes in the market must have been assisted in great degree by significant offshore borrowing at low interest rates.

The consequence of the above is that the current Central City Auckland market is extemely difficult to predict. A valuation is in many respects an economic prediction, and those who have requested economic predictions from sharebrokers, money market experts or economists will know that the answers they receive are very cautious and guarded. However, a valuer is expected to make an economic prediction in the form of valuations and is expected to do so with a high degree of competence and confidence.

We valuers walk a tightrope, in danger of falling to one side into the pitfalls of conservativism (being accused of walking backwards into the future with our eyes steadily fixed in the past); and on the other hand of blindly following the current market as evidenced by the most recent high sales and later, when the market has weakened, being accused of lack of both foresight and knowledge of economic trends. These criticisms are noted strongly in the Rydge's article mentioned above.

The valuaiton of property assets is required by property companies, mutual funds, superannuation funds, property based investment funds, insurance company investment link funds, etc. for several reasons. The main one appears to be that persons contributing to these funds may deposit and withdraw at specified intervals and in order to preserve equity between investors, they should invest and withdraw on the basis of current market values. Valuations may also be used as a test of property performance and can give guidance as to the class of property to buy or sell at any particular time.

In times of relatively stable economic conditions (such as currently applies in the Auckland industrial market), little difficulty is experienced if properties are valued up to the level of current sale prices. However, where the property is within a market showing a high degree of volatility (such as is happening in the Auckland Central Business District) the question arises as to whether this market is really as strong as is demonstrated by the most recent and extremely high sale prices and whether or not properties should be revalued up to that maximum level.

It must be realised that property asset revaluations are normally undertaken on an annual basis (sometimes more frequently) for long-term investors, most of whom handle funds on behalf of the investing public or superannuation funds. These investors are not involved in the speculative side of the market. Given the nature and requirements of such long-term investors, it is my opinion that a level of market value must be firmly and logically established before all properties within this market can be valued up to that level. In saying this, I am very conscious of the fact that an over-conservative or even mildly conservative approach is of no assistance to anyone and that it is a nice question of judgement as to when the new high in property values can be adopted or accepted as being soundly based. On the other hand, however, I do not believe that valuers are acting responsibly in their service and advice to the business community, if they blindly follow the latest and highest sale price and apply it to all property, without at least questioning the economic foundation which may or may not support this price.

Publicity is sometimes given to a sale by a long-term institutional or property company vendor noting that the price is well above the latest asset revaluation figure. This state of affairs should not be surprising to people involved in the real estate business, because this type of vendor is generally not in a position where they are willing sellers, and should never be in a position where they are forced sellers. Accordingly, they will be induced to sell property only if the offered price is sufficiently above their assessment of market value as to raise questions concerning the logic of not selling at that price.

A further point worthy of note in dealing with the revaluation of Central City office buildings concerns an appreciation of the quality of the building and essential services. Although there have been numerous recent sales of Central City development or redevelopment land, there have been very few sales of new or near-new office buildings. However, those sales that have taken place in recent months indicate that prices have been influenced to a very limited degree by the quality of the building and its services. Many Auckland buildings are now being constructed with packaged incremental ceiling-mounted airconditioning units which may have a low installation cost, high running cost, short

life, high noise volume and frequent maintenance requirement when compared with the more efficient central plant variable air volume airconditioning system. I believe that the consequences of installing the former, cheaper type system, even over the relatively short term of eight to ten years, are not fully appreciated by investors. I believe there is some chance that such a system will have an influence on future rental levels and therefore on rental growth and value growth. If the market is not sensitive to such distinctions in building quality, should the valuer take quality into account in assessing market value? I believe we must.

It should be obvious that the performance and value of real estate is dependent to a very large degree on rental growth. However, in my experience the importance of the lease contract and rental structure is not fully appreciated by developers (who very often assume the responsibility for leasing a property) or by end purchasers. The performance of an otherwise first class real estate investment can be extensively eroded by a badly worded lease or by poor administration of the lease or the creation of a poor working relationship with lessees. You do not get capital value growth without rental growth (unless redevelopment is imminent). It is therefore critical that the lease is properly worded - in particular that portion of the lease dealing with the rent review mechanism.

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Over the past fifteen years I have spent a high proportion of my working life involved in rent review work and in the occasional arbitration hearings which result from rent reviews. This experience leaves me in no doubt as to the importance of efficient and sensitive handling of the rent review procedure, if appropriate capital value growth is to be achieved. While the vast majority of rent review negotiations are settled in a reasonably simple manner and without recourse to arbitration, it is possible for the arbitration procedure to get totally out-of-hand, with consequent unacceptable time delays and high costs. This is particularly so if the wording of the lease contract allows for variations of interpretation or allows for the introduction of legal arguments.

It appears that litigation is on the increase in many fields

It appears that litigation is on the increase in many fields and there is a danger that this will happen in the rent review arbitration area. Great care needs to be exercised in property management and administration, in order to avoid rent review arguments getting totally out-of-hand.

It is possible to reach sensible and amicable settlement on rent reviews but this is usually only achieved in buildings which are of good quality, which are very well managed and where a sensible and amicable relationship is fostered between the lessor and lessee. This does not mean that a lessor has to accede to every request and demand made by the lessee - indeed I know of cases where such action has had disastrous consequences.

The programme for this conference notes several subheadings under the general heading of `Valuation of Property Assets. I have already dealt with the one relating to the importance of the lease contract and rental structure. I will now deal with the remaining headings:

Why are valuations necessary?

This question could perhaps best be addressed to fund and company managers. As far as I am aware the valuation of property assets is required by property companies, mutual funds, superannuation funds, property based investment funds, insurance company investment link funds, etc. for several reasons. The main one appears to be that persons contributing to these funds may deposit and withdraw at specified intervals and in order to preserve equity between investors, they should invest and withdraw on the basis of current market values. Valuations may also be used as a test of property performance and can give guidance as to the class of property to buy or sell at any particular time.

Identifying Precise Valuation Requirements:

I believe that company and fund managers must address this question and decide on the philosophy they wish to follow. I have indicated above that the assessment of a current market value for any property involves the investigation and analysis of the most recent market evidence available, together with an assessment of the current state of supply and demand and likely future trends.

At the present time the Auckland Central City market is dominated by high demand for development land and investment property; a limited supply of the former and almost no supply of the latter; and a high volume of money chasing this limited supply of investment opportunity. The result is that extremely high prices are being paid for almost anything which happens to come on the market. It appears that we may be entering into a boom/bust cycle of a magnitude not experienced in any New Zealand city since the Second World War but similar to that experienced in cities in Australia and elsewhere over the past ten to fifteen years.

If fund managers want all properties revalued up to the level indicated by the latest and highest sales, then they must accept that values will need to be written down when the trend moves the other way. On the face of it you may say that this presents no difficulty and is a similar problem to that faced by funds which invest on the sharemarket. However, the nature of market transactions in the Real Estate field makes analyses and application somewhat more difficult than in the sharemarket. One Brierley share is identical to another but no two properties are identical. When the market turns down, what tends to happen is that the number of properties selling declines drastically. Very often, the only sales which are taking place are those ordered by the mortgagee and since these are forced sales, parties with a vested interest will argue that they are not truly indicative of the market. Conversely, the validity of some of the sales which take place during a boom period can be questioned on account of unusual circumstances such as concurrent side deals, part consideration in shares, deferred settlement dates etc.

While the value of a regularly traded share can be tested on the market on any business day, the value of a property cannot be put to the ultimate test unless that property is actually placed on the market, and this rarely happens when properties are purchased and held for long term investment.

Working Towards an Understanding of Value Movements:

Urban real estate can be subdivided into the following broad categories:

Residential
Central City Commercial/Retail
Suburban Commercial/Retail
Industrial

These four sectors act quite independently of each other when it comes to value movements. At the present time while Central City values are increasing at a rapid rate, industrial values are increasing at a much slower rate. Suburban retail rents have escalated rapidly in the last three years while suburban office rents have increased at a somewhat slower rate. The residential market is not relevant for the purposes of this paper.

I believe that with the modern technology now available and a high degree of statistical analysis, it should be possible to predict the market forces in each sector with a much greater degree of accuracy than we can at the present time. There are of course numerous current and potential influences in every sector of the market. It is possible that many of these have such a high degree of unpredictability as to make sophisticated statistical analyses a somewhat futile exercise. At the present time however there are very few serious attempts made at in-depth research and analyses and no highly qualified statisticians employed in the real estate sector.

Many years ago I recall reading a report in Time Magazine which described the real estate market as being `short on fact and long on rumour: To a large degree, this criticism still applies.

Uses and Abuses of Property Valuations:

Quite a bit has recently been said on the subject of 'creative accounting. No doubt much could also be said on the subject of creative valuing. Many of the participants of this conference will have heard the stories which periodically go around, concerning the instructions which some clients give their valuers, with a view to receiving the desired valuation figures. Within the investment world frequented by property companies, investment funds, mutual funds etc., I am not personally aware of any cases where valuations have been manipulated or abused or where undue pressure has been exerted in an attempt to influence a valuer's independent and objective assessment.

The Valuation of Forestry Resources

By A. P. Laing & G. D. Lill

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Alex is the Councillor for Otago and currently a member of the Editorial Board of The New Zealand Valuers' Journal. He has participated widely in Institute affairs over many years including the presentation of papers and commentaries at Valuation Seminars.

The following paper was prepared by Alex Laing and G. D. Lill of Lainco Appraisal Limited and presented at a seminar in Otago.

1. Introduction

The aim of this paper is to promote discussion which will lead to a guidance note or standard for the valuation of a forestry resource. The New Zealand Institute of Valuers has called for a discussion paper for wide circulation. The hope is that valuers and other people associated with forestry will comment on it and provide suggestions for improvement. After due deliberation the institute intends to publish a guidance note or standard on forestry valuation.

It is fair to ask why should we as valuers be required to adopt standards. We take a broad view on the role of standards and consider they should not limit the valuer, but provide guidance for the production of a report the standard of which can be relied on and understood by a wide range of recipients. For example it would be an advantage to know that the value of standing timber shown in the Balance Sheets of the public companies involved in forestry was valued in a consistent manner.

2. The Valuers Orientation

As a profession with the skills to value land and buildings we rely on various techniques which include direct sales comparisons, capitalisation of income, and depreciated replacement cost techniques. The valuer, because of this `market' commercial/ business orientation is well equipped to undertake the task of forestry valuation.

3. What Are We Valuing?

In forestry valuations we are looking at various combinations of land and trees. In commercial terms land is a capital asset and the timber a revenue asset, in other words land with a commercial crop affixed to it. As a consequence much of the *Legal Precedent* relating to the valuation of timber is found in taxation cases, the most notable being the *Kauri Timber Company Limited v. C of T.*

It appears that the purchase of rights to remove trees from land is a capital expense but the purchase of specific standing trees to be felled and removed within the defined time frame does not include rights to an interest in land.

It appears that the purchase of *rights* to remove trees from land is a capital expense but the purchase of specific standing trees to be felled and removed within the defined time frame does not include rights to an interest in land.

The provisions of Sec 74 (2)(b) of the Tax Act overcomes the effect of the decision in *Kauri Timber* by allowing a statutory deduction for the cost of timber including rights.

As valuers we are more likely to be involved with the statutory rather than common law definitions of land rights and trees.

The statutory based taxation/accounting approach to forestry resources was recently released in the Report of the Consultative Committee on Primary Section Taxation. In Chapter 5 the report covers recommended accounting procedures. A summary is as follows -

- Cost of Land to be capitalised and not depreciated.
- Expenditure on Land contouring related to forestry be capitalised and neither depreciable nor deductible.
- Expenditure on land clearing for forestry less any revenue arising from land clearing itself be capitalised and depreciated to the `COST OF BUSH ACCOUNT.
- Other ryes of expenditure on land improvement for forestry (including roads, fences, fire breaks, dams, airstrips etc.) be capitalised and depreciated against current income.
- Repairs and maintenance on these land improvements and on the machinery and equipment used in the forest, be expensed against current income.
- The full cost of forest seedlings, plantings, releasing, blanking, pruning, thinning and fertiliser be capitalised to a `COST OF BUSH ACCOUNT'

Up to this stage virtually all forestry related costs were deductible in the year of expenditure (subject to Forestry Encouragement Grants).

The consultative document not only proposes the non-deductibilty of forestry development expenditure but it also proposes that the costs of growing and maintaining a forest should be capitalised into a `COST OF BUSH ACCOUNT' This is deductible only when income is derived from the sale or harvesting of the forest. The main area of tax-deductibility during the growth period relates to the maintenance of improvements,

financial charges, interest, rent, rates, land tax, insurances and overheads directly relating to the forest operation.

Ministerial approval has been given to these recommendations and valuers must be aware of the likely impact of these basic changes in the taxation of forestry operations and any other structural adjustments to the industry.

4. Valuation Methods

A recent taxation case, Rusk v. *C of IR,* makes a valuable contribution to the valuation methodology.

> "This was a sale of land with growing timber not then mature for milling. The valuation of that asset must, I think, be assessed in accord with accepted valuation principles. The starting point is to have reference to comparable sales. There is here, however, a real difficulty in adopting that approach, as the evidence showed there was an absence of what could properly, be classed as comparable sales, i.e., sales of comparable land with comparable tree crops. All three experts called to give evidence referred to a very limited number of sales in the area of land with growing timber. Those which were analysed were not really comparable, either as regards the land or as the timber, and all required substantial adjustments for a number of factors to make them relevant. Indeed, none of the experts attempted to value the total asset on this basis, and in each case the sales of afforested land were used for the purpose of ascribing the value (or the added value) of the timber, not the value of the land and timber. Because of this lack of evidence - a lack which is quite understandable, as one would not expect there to be regular sales of similar land with crops of timber similar in age and quality - *in my* view, *it is necessary to ascertain first the value of the land, and second the value of the timber."* (Emphasis added.)
>
> "The Value of the Standing Timber"
> "The evidence disclosed that the recognised techniques for the valuation of an immature forest are first by ascertaining stumpage value, second by an analysis of sales of growing timber, and third by theoretical methodology, being either the crop expectation value or the cost compounded value."
>
> "The age and condition of the forest as at the relevant date was such that the stumpage value was minimal, if not nil. *That does not of course mean that the timber then had no value at all - but merely that it had no stumpage value"* (Emphasis added.)

This case defines the steps of valuation methodology as follows -

The preferred method for the valuation of land and timber is by using the evidence of comparable sales.

1. The preferred method for the valuation of land and timber is by using the evidence of comparable sales.

2. As there is usually inadequate evidence available from comparable sales then the approach is to -
   (a) Value the land - with reference to comparable land sales
   (b) Value the standing timber by -
      (a) Ascertaining stumpage value
      or (b) Analysis of sales of growing timber
      or (c) Theoretical methodology

This framework is suited for adoption as a suitable basis for a standard for forestry valuation. For the remainder of this paper the elements of this basic framework will be discussed.

5. Valuation by the use of Comparable Sales

The advantage of sales comparisons is that it represents the activity in the market and is considered the best evidence of market value.

However problems are evident in the use of sales comparisons. Because of the diversity of forest type, age and quality being valued, a straight comparison without interpretation may be meaningless and misleading. By this we mean a simplistic approach by a valuer comparing the sales of stands of timber on an age basis only can be of limited assistance. In order to analyse sales it is necessary to adopt *a Forest Description Standard* so each forest stand can be compared on a detailed and consistent basis.

The New Zealand Forest Council has circulated exposure standards for forest desciptions. For valuation purposes it will be an advantage to follow that exposure standard, although much of the information may not be required however and a summary sheet of the `vital' information may suffice. A form for that purpose has been developed by our organisation and is included in Appendix I.

You will note that on the form a section is included showing the source of advice. Rarely will a valuer be a forestry expert, so it is essential that sound advice on forestry parameters be obtained. In our practice we consult experienced forestry experts and call on their assessment of the physical definition aspects of the forest resource.

6. Value of the Land

To be based on evidence of land sales in the locality.

Valuation of the Standing Timber

The Stumpage Valuation, being the value of the trees prior to felling is the essential element of this approach. Where adequate sales evidence exists stumpage value is a matter of direct comparison.

However where sales evidence is limited it will be necessary to derive a stumpage value from current market information.

The basic model for assessing stumpage values from market information is as follows -

Sale Price of logs (F.O.B. or on Mill Skids)
less Profit and Risk @x % of outlay ((x/100 + x)*SP)
Outlay

less Realisation Costs -
Spur roading
Felling and Logging
Cartage
Wharf Costs (F.O.B. only)
Finance
Stumpage Value

Most of the costs/prices can be readily obtained from local merchants, millers or contractors. However there is one area where in the absence of market information the valuers judgement is required - that is assessing Profit and Risk.

Discussion with operators in Otago indicate a basic return of about 25 % is required for Profit and Risk - this could be broken down as follows -

10% for Risk on Yield variations
i.e. Gross Volume - Extracted Volume
10% for Profit
5 % for Financial risk, (exchange rate/market fluctuations)

For instance, if the vendor does not receive immediate payment and will share the F.O.B. price risk it is usual for the Profit and Risk allowance to be reduced with the purchaser or broker receiving a residual. That does not mean however the full allowance for profit and risk is not taken into account in a valuation.

It is in this area of Profit and Risk that valuers and foresters often disagree.

An allowance for Profit and Risk remains a realistic approach even when the valuation of stumpage is undertaken in plantations where the forest owner also mills and processes the resource within a corporate structure. In such situations profit centres will be established for management purposes and it would be normal to have the forest operation up to felling stage as a profit centre. It would be poor accounting technique for the executives in charge of the milling/processing cost centres to concede profit to the forestry operation, particularly when their opportunity cost is to buy other timber at stumpage on the open market.

8. Theoretical Methodology

Since the value of an immature stand of timber is less than that of a more mature stand, some discount factor must be taken into consideration. This leads to a theoretical methodology recognising either compounded costs or discounted future value.

It appears that a discount rate range of 6-8 % approximates the market situation. (Ref NBR 13 June, 1986.)

As with the value of other revenue primary produce, valuations will be made on a before-tax basis.

Valuation labels have to be put on the exercise, so the value of immature timber involves the *Net Present Value* method (NPV). This approach is suited for stands aged from 11-12 years onwards while the compounded costs approach is more suited for stands of 1-5 years. The valuation of stands of between 5-11 years is the most difficult and a common sense approach is required.

When considering a compounded cost approach the historic cost will be of limited value and it will be necessary to adopt a theoretical cost approach which will take into consideration changes in costs due to inflation, subsidies (or removal of same) and changes in tax regimes.

We cannot understand how the Internal Rate of Return technique can be used as a VALUATION tool. It may have merit in the EVALUATION of project proposals within a given situation but it can be misleading even in that role. However it could be of use in developing the discount rate for theoretical valuation methods.

At this stage we will summarise the valuation methods -

a. Comparable sales method - for either land and timber or timber alone. Clearly if adequate sales evidence is available the task is relatively straight-forward. In-depth analyses of the treatment given to the stand, the age at which this treatment was carried out, estimates of the logging costs and the distance from the sale point must be made however to gauge a useful comparison.

b. Theoretical Methods - when comparable sales are not readily available the valuation procedure is to assess the value of land and trees separately.
   (i) Value of land - assessed on comparable sales basis.
   (ii) Value of timber - assessed
      (a) stumpage values
      (b) discount for age/maturity

trees 11-12 years to maturity - N.P.V.
trees 1-5 years - Theoretical cost structure. trees 5-11 years - combination of costs and N.P.V.

9. Examples of Theoretical Methodology Applied

We have shown in Appendix II an example of the theoretical method of valuation of timber only. This method can be applied to single woodlots or total forests. For a large forest the resource would be classified by age/management criteria and each class valued separately. The value of the total forest would be the sum of the values of the compartments.

(1) Assessing the stumpage value - with the assistance of a forestry expert a forestry description is prepared and the likely yield at maturity calculated. This calculation is based on the condition of the forest at inspection.

On current prices the gross income from the likely yield is budgeted and the costs of realisation estimated. After due allowance for profit and risk the stumpage value at maturity is assessed. The example shows a stumpage value of $522,250.

(2) To assess the value at a specific age the value at stumpage (maturity) is discounted over the remaining period to maturity after taking into consideration any annual costs required to maintain the forest resource. A table showing the values at various ages is incorporated in Appendix II. The example shows a value at 20 years of $239,664 at a discount rate of 71h %.

(3) Compounded Costs - The compounded cost approach is also incorporated in the table. A comparison showing the variation between the two valuation methods is also included. It should be noted that stumpage values have no effect on values derived by the compounding method.

(4) It is suggested that a valuation table of this nature allows the opportunity for a sensitivity analysis.

Sensitivity Analysis Table Value at Year 20

		Profit & Risk		
	1	*15%*	20%	25%
Discount Rate -	*5%*	360,211	331,545	305,173
	71/2%	283,163	260,507	239,664
	10%	223,626	205,263	189,061

10. Stumpage Values based on Timber Sales Information

Appendix III sets out N. Z. F. S. contact prices reviewed 'on truck at bush skids. By the application of the approach adopted the range of stumpage values for the categories available can be obtained. These are seen to range from $49.00/m3 to $0/m3.

On this information alone it is possible to assess a value of a *comparable* forest stand.

For example - Estimated Yield at maturity (30 years) 550 m3/ha

Stumpage value at Maturity				
80% Peeler/Saw	440 m3	* $49.00		$21,560
20% Saw	110 m3	* $18.60		2,046
	550 m3			$23,606/ha
Value at age 20 years				
P.V. @ 71/2% for 10 years				$11,453/ha
			say	$11,500/ha

11. Conclusion

The aim of this paper has been to adopt valuation techniques and court precedent within a framework to enable valuers to value standing timber on a consistent basis. It is hoped that if the approach outlined receives acceptance it could be the basis for a guidance note for the valution of standing timber.

APPENDIX I

FOREST DESCRIPTION FOR SALES ANALYSIS

The Sale

Vendor	- Smith
Purchaser	- Jones
Sale Price	- $ 350,000
Title Area	- 86.3 hectares
Legal Description	- Section 10 Blk V1 North Harbour S.D.
Certificate of Title	- 100/101
Tenure	- Freehold
Zoning	- Rural
Advice	- Hetherington/Taylor
Locality	- Situated on Hunter Road 10 km north of Dunedin
	- Facilities - Mill - 15 km Palmerston
	- Port/F.O.B. - Port Chalmers 20 km

Analysis	Sale Price	$ 350,000
	less Value of land	50,000
	Financial Adjustment	-
	Timber Value	$ 300,000

The Property
- Soils - Suited to forestry production
- Land Classification - V1/1V
- Site Index - 26 - 28
- Contour - Steeper gully faces
- Aspect - Cooler faces
- Access - Internal) Requires upgrading prior
  - External) to harvest

The Woodlot - Physical
- Gross Area - 60 hectares
- Net Stocked Area - 48 hectares
- Species - Pinus Radiata
- Age - 20 years
- Silvicultural History -

	- Seedings/ha	- 1,428
Age at	- Releasing	- 2 years
	- Blanking	- -
	- Low Pruning	- 6 years
		- To 2 metres
	- 1st thinning	- 6 years
		- To 450 trees/ha
	- Med. Pruning	- 8 years
		- To 4 metres
	- High Pruning	- 10 years
		- To 6 metres
	- 2nd thinning	- 10 years
		- To 300 trees/ha

- Woodlot Comments - Re: stand quality, with reference to timing and quality of silva-cultural husbandries.

- Estimated Yield at Clear Felling. (Year 30)

		Yield (m3/ha)	Total Yields
Sawlogs	86 %	475 m3	22,800 m3
Pulp Wood etc	14 %	75 m3	3,600 m3
	100 %	550 m 3	26,400 M3

- Financial

- Estimated Income prior to Clear Felling

1. Thinnings	$	-	
2. Grazing	$	-	
3. Sale of other forestry assets	$	-	$ NIL

- Estimated Further Silvicultural costs relating to the stand

1. Thinning	$	-	
2. Pruning	$	-	$ NIL

- Estimated Land development required prior to Clear Felling

1. Roading	$	26,400	
2. Fencing	$	-	
3. Sundry, Firebreaks, Dams etc.	$	-	$ 26,400

- Stumpage Budget

- F.O.B. or On Mill Skids					
- Gross Sales - Sawlogs	22,800 m3	@$ 50.00 (ms)	1,140,000		
- Pulp Wood	3,600 m3	@$ 27.00	97,200	$ 1,237,200	
- Profit and Risk @ 25 % of outlay				247,440	
- Outlay				989,760	
- Realisation Costs					
Spur Roads		@$ 1.00/m3	$ 26,400		
Felling and Logging		@$ 12.50/m3	330,000		
Cartage		@$ 6.00/m3	158,400		
Wharf Costs		@$ 14.00/m3	-		
Finance		-		514, 800	
- Stumpage Value	26,400 m3	@ $ 17.99			
	60 ha	@ $ 7,916		$ 474,960	

- Age of Stand - 20 years
- Price Paid for Timber - $ 300,000
- Indicated Discount Rate - 4.6 %

----

cOMPOUNDED -@?.SOY/..
N.P.V - @ 7.50?

YEAR	ESTAB. COSTS	MAINT. COSTS	ANNUAL COSTS	GRAZING	STUMPAGE PAYMENT	CASH FLOW BEFORE TAX	PRE-TAX VALUES - COMPOUNDED	N.P.VALUE	VARIATION
0						0		(7.111-	
1	35{})	12001	800	ri		(5,500)	(5,500!	(2,144)	(7,644)
2	22318	1200	800	0		(24 318!	(32:1 231!	22.013	(81218)
3	0	1200!	800	1 .875		(125)	(32,623!	23.789	(8,834)
4		1200	800	1,875		(125)	(35,194!	25,698	(9,496!
5		1 2()0!	800	1 ,875		(125)	(37,959)	27,750	(10,209)
6	21050	1200	800	1,875		(21,175)	(61.9811	51,0{}?	(101,974)
		1200	8001	1 , 875		(125)	(66.755!	54,957	(11,797)
8	125^00	1200	${}0	1 ,875;		(1₂2,6₂1r.i	(84,386	7 1 , 70) 4	1f,6822i..,
		1200	8001	1,875		(125!	(90.840)1"	77,207	(1 x.633!
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11		120 t)	800	1 , 875		(125)	(129.7347!	113,991	(15.755)
12		1200	800	1 , 875		(125)	(139,60311	122.666	(16,937
13		1200	80 0	0		(2',1000!	152 .0731	133,866	i 18.2071
14		12,101	8002			(2,0100!	(165,4781	145,906	(19,571)
15		1200!	800			(2,000)	1 179,889!	158,849	(21,041)
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19		120{}	800			(2,0001	1 249.1821	21.083	(?8.{(99!
?!		1200)	800			(x.(00)	(269,871)	239,664	(30,206)
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		200				(2,000!	9 ,	f o	
		1•	8 oo			t2 }{`ii.	(36 : , 350't!	32a . , .} 1•.	(40, 340)
25		1200	800			000!	(399 051)	355,686	(43.365!
26		1200	a0{}			(2,000!	(430,980)	384,362	(46.618!
7		1200	800			(2,000!	1465,303!	415,190	(50,114!
						2,000!	(5)2,2011	448,:29	(53,8721
29		1200	8{}0			(2 " ,0{}f.J!	(54t., 866",	48•, 953	(5,7[illegible], ,9,1 3!
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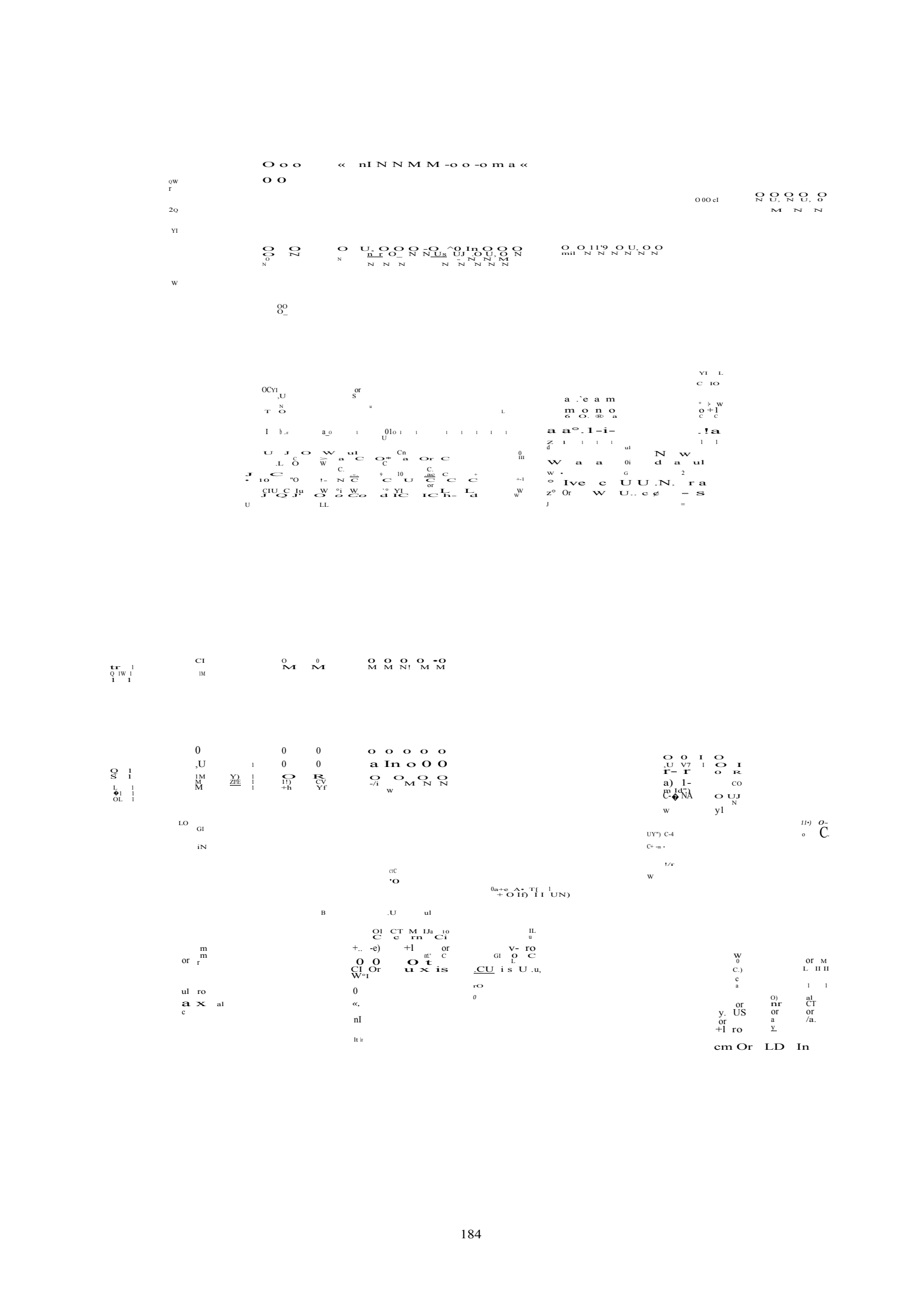


Forest Service Stumpage - Based on Berwick Sales (1/4/85 - 31/3/86).

Category -	B Peeler/Saw <36cm	C Saw < 15cm	D Unpruned <36cm	E Unpruned < 15 cm	F Chipwood
Sale Price/m3 on Truck	$ 80.00	$ 42.00	$ 54.00	$ 38.50	$ 15.00
less Profit & Risk @ 25 % of Outlay	16.00	8.40	10.80	7.70	3.00
Outlay	64.00	33.60	43.20	30.80	12.00
less Log/Load	15.00	15.00	15.00	15.00	12.00
Stumpage Value/m3	$ 49.00	$ 18.60	$ 28.20	$ 15.80	$ Nil

Innovation in Housing and Agriculture: Response to Human Wants

By John G. Gibson

Affordable Housing

John Gibson B.C.A. (Economics), Dip.UV, EN.ZLV. has just resigned as Chief Valuer Housing Corporation to take up the appointment as General Secretary of the Institute.
John is a former member of the N. Z.LV Education Committee and Board of Examiners, original member of the N. Z. I. V. Publicity Committee and a former Editor of the New Zealand Valuer. He has contributed widely to the Institute in many other ways including as Tutor for Urban Land Economics as an examiner of the Professional Examinations, and is a past Chairman of the Wellington Branch of the Institute in the 1970's.

Some New Zealand Experiences in Providing Homes at Modest Prices

Mr Chairman, Ladies and Gentlemen.

Introduction

The question of `affordable housing' is one that has been reviewed by housing agencies worldwide. The size of the topic and the short time available to us today allows only a touching on some of the issues.

My Paper Will Therefore Be Divided Into Six Parts:

- Housing Corporation of New Zealand (HCNZ) experience with innovation in affordable housing in its own housing programme and through its function of providing mortgage finance.
- Some examples of land utilisation and dwelling design in privately built housing.
- The affordability of housing.
- Constraints on achieving affordable housing. •

Government policies in assisting affordability. • Conclusion.

It is not my intention to traverse the whole range of alternatives available to `traditional' housing but my paper would not be complete without mentioning the increasing awareness in New Zealand of `relocatable and `mobile' housing. There already exist in New Zealand various forms of modular relocatable homes and the case for mobile housing as the answer to affordable housing has recently been argued in an unpublished thesis by S. V. Ayre. I

Affordable and Affordability : Definitions

In considering the question of `affordable housing, regard must also be had to `affordability' or the ability of the home owner to meet outgoings, both in immediate and longer time spans. Concepts of `affordable housing' will depend upon the end purchasers' view of housing needs, income received and will vary widely across the whole of society.

In this paper I am concerned with defining `affordable housing' as medium to low cost housing in which all relevant building and health standards are met, and, within the framework of acceptable building design, minimises on-going long term maintenance, and in both the short and long term preserves market resale values.

The `affordability' of any one individual proposal will ultimately be a direct function of the home owners' income and the ability to service outgoings, - in respect to mortgage commitments and, on-going home ownership costs such as maintenance, local authority taxes (rates) etc.

This aspect of home ownership is discussed later in my paper.

Background to the Development of New Zealand Housing

In an article' published in the New Zealand Valuer Volume 24 No. 6 in 1980 Mr C. A. Hedley very adequately describes the development of Housing in New Zealand - essentially timber framed, clad with timber weatherboards and with a corrugated galvanised steel roof.3 Over the years innovations have occurred in building materials, and housing design but the housing of my nation is still characterised by timber framed individual free standing homes on their own parcel of land.

Housing Corporation Experience with Innovation in Housing Design and `Affordable' Housing

Introductory Comments

Government involvement in the housing scene in New Zealand began as early as 1905 but it was not until 1935 that a programme of large scale public rental housing was commenced. During the past 50 years the Central Government of the day has built under the auspices of its agency (variously named and now known as the HCNZ) in excess of 100,000 homes comprising single family homes, low rise and high rise apartments.

The overriding criteria with the construction methods employed have been quality and durability coupled with sensible planning to provide permanent long term accommodation. Planning has been constantly reviewed and revised to incorporate changes in materials and technology available.

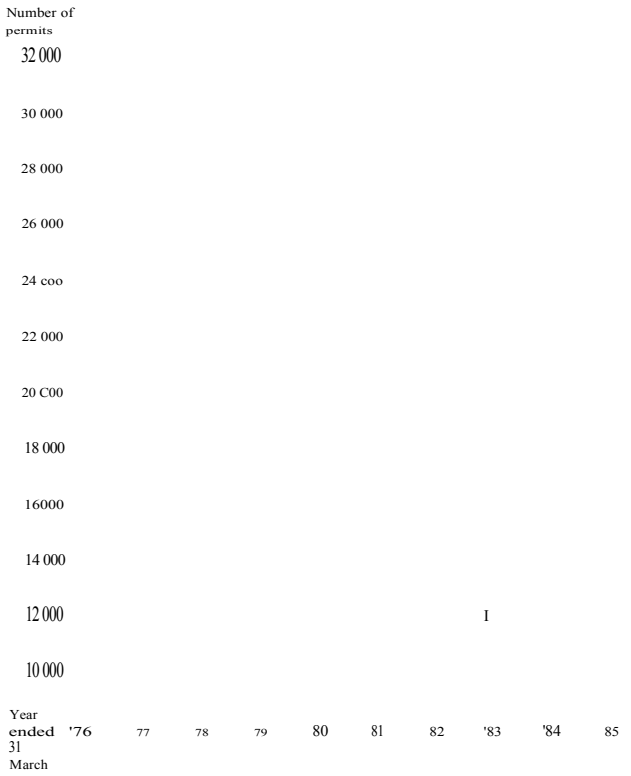
Building Activity in New Zealand

Figure I shows the variability in dwelling construction in New Zealand.

Figure I

Housing Construction in New Zealand
Building Permits Issued (Dwellings)

[Source: Annual Report of the Housing Corporation of NZ Year Ended: 31.3.85]4



Manufactured Housing - HCNZ Experience

Large scale manufactured housing has never been practised in New Zealand for with small runs and the variability in demand as experienced in our country, costs would be high.

This is not to say that manufactured housing does not exist. There is extensive use made throughout New Zealand of factory made components such as roof trusses, pre-cut and pre-nailed framing and factory made transportable and kit-set housing.5 But

fully integrated modular house systems have never really developed past the experimental stage

with few notable exceptions, fully integrated modular house systems have never really developed past the experimental stage and even then they have shown no real cost savings.

Because of the concern with the ever rising costs incurred in the construction of its rental houses and having regard to the need to maintain a `cost-to-value' relationship, and to stimulate further innovation in the industry, the corporation in 1982 promoted a competition whereby builders were invited nationally to register interest in a manufactured housing project with the objective of developing a low-cost `affordable' house.

The competition was advertised widely throughout New Zealand. Invitations were sought from builders to register interest for participation to design and manufacture a low cost house - which was seen as an opportunity.to explore new and/or alternative types of housing and methods of manufacture with the aim of lowering costs.

The corporation's invitation stated in part:

"The Housing Corporation wishes to explore the market possibilities of Manufactured Housing. Because of the escalation of house construction costs, and the subsequent rise in the price of existing houses; there is a need to look for new methods in an endeavour to produce `affordable housing' ..

It is intended to give an opportunity to industry to develop solutions given a free hand in the area of design, materials and construction in order to encourage new ideas and new approaches. Therefore, there are no regulatory or design requirements at this (design) stage, but health, safety and structural aspects must be given proper consideration"

In all there were 78 enquiries but in the event only 25 submissions were received. It had been expected that, following overseas trends, there would have been a significant interest shown by caravan manufacturers. None in fact entered; nor was any `mobile home' currently on the market submitted.

The entries fell into the following categories: 7

- Traditional construction
7 - Panel construction; including the use of insulated panels developed for use in the construction of coolstores.
4 - Portal frame buildings
3 - `Kitset' construction
2 - Ferro-cement
1 - Steel frame
1 - Other.

Costs submitted related to flat site construction without any additional site work or ancillaries.

Two designs originated in Australia.

Only one design produced a house of similar size and layout to that currently in use but which, by the nature of construction, resulted in a lower overall cost. Most designs gave a cheaper house than the current `low-cost' unit but this was generally achieved by a significant reduction in floor area.

A full summary of the submissions is given in Table I.

Three designs were earmarked for future attention and the designers contacted with a view to discussing their products with the possibility of the subsequent award to each of a contract. Two were ultimately selected for construction. These were:

Proposal M

A two bedroom design.
Area 69.12m2.

Construction Details

Pre-fabricated, using insulated coolstore panels (manufactured from colour-coated galvanised steel with polystyrene insulation core), in roof, walls and floors. Floors finished with high density pressed fibreboard. Conventional sub-floor construction.

Savings achieved in reduction of area, factory fabrication and speed of on-site erection.

Proposal T

A three bedroom design to be built on site.
Area 103.7m2.

Construction Details

Timber piles and sub-floor construction. Floor panels based upon stressed skin design using high density wood panels.

Exterior walls also based upon stressed skin design using readily available panel products.

Both walls and floors are insulated. Conventional trussed roof with lightweight roof coverings were used.

Interior walls were factory manufactured panel construction.

Table I
Manufactured Housing - Summary of Submissions

TITLE	SYSTEM	BASIC MATERIAL	ESTIMATED COST	GENERAL COMMENT
A	Panel	Panels comprising Cellulose-fibre-cement and coated steel skins, with insulation core. Timber Floor	33,000+	Basic layout
B	Portal Frame Panel	Timber	40,000	Existing system
C	Nissen Hut	Steel Frame Corrugated Steel claddings	25,000	Possibilities Structural Analysis needed
D	Conventional	Timber	44,000 to 45,000	Existing system (Transportable)
E	Conventional	Timber, cellulose-fibre-cement sheet cladding	1 bedroom- 24,500 2 bedroom- 33,000	Existing System (Transportable)
F	Portal Frame Panels	Concrete	Not stated	New Concept
G	Kitset	Steel Frame Panels	Not stated	Existing Aust System
H	Conventional Construction	Timber	33,500	Traditional
I	Kitset Panels	Steel/Insulation Steel	1 Bedroom 15,000+	New Idea Potential
J	Portal Frame Interlock Panel	Timber	35,000+	Existing System
K	Conventional	Timber	25,000	Conventional (Transportable)
L	Frame and Panel	Timber	30,000	
M	Kitset Panel	Steel/Insulation Steel	21,000 to 33,000	New Idea Potential

TITLE	SYSTEM	BASIC MATERIAL	ESTIMATED COST	GENERAL COMMENT
N	Panels Factory Assembled	High density Pressed Fibreboard skins with insulation core.	42,000	New Idea - Potential. Transportable
O	Kitset Panels	Steel skin panels with insulation core.	35,000	New Idea Potential
P	Kitset	Timber Frames and panels	28,500 to 32,000	Existing System Potential
4	Portal Frame Panels	Timber and Stucco Panels	Not stated	-
R	Factory Made Module	Timber PVC Sheathing	28,000 to 36,000	
S	Factory Made Modules	Ferro Cement	22,000+	New Idea Potential
T	Factory Kitset	Timber	34,000	Existing System Potential
U	Precut Kitset	Timber	18,500* to 52,000	Existing System Potential * Does not include all required items
V	Factory Assembled	Timber Conventional	33,500 to 35,600	Existing Traditional Transportable
W	Modules	Timber and Panels	Not stated	Insufficient Data Supplied
X	Factory Assembled	Timber	22,500 to 27,000	Good Proposal
Y	Site Assembled	Ferro Cement	Not Stated	Innovative Idea

Proposal M continued

Costs

The final costs were as follows:

Dwellings (2)	77,406
Ancillary works	9,550
Floor coverings	3,764
Extras	424
Total cost	$91,144

Represents a per unit cost of $45,572.

Proposal T continued

Costs

The final costs were as follows:

Dwellings (2)	71,932
Ancillary works	9,382
Garages	6,854
Planting	600
Total cost	$88,768

Represents a per unit cost of $44,384.

Subsequently another contract has been let for the construction of further units utilising this construction method.

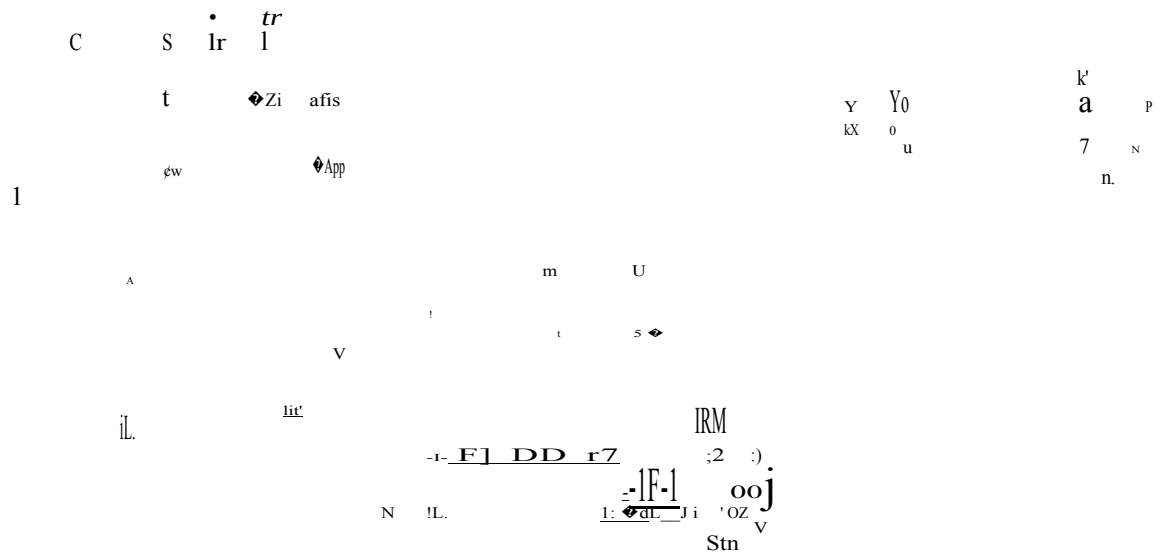
Conclusion

The general impression that was left by this competition was that there was little innovative initiative in the area of house design - particularly where cost constraints applied. It may well be that the New Zealander who has become accustomed to fairly large roomy accommodation will have to be content with less space, if that is the only way he can afford to buy a new home.

Development of a Corporation Designed `Affordable' House

Following on from this competition the HCNZ moved to develop its own affordable house. Architecturally designed to provide for maximum living accommodation with well balanced bedroom and service rooms and capable of several variations - to roof claddings, roof style, exterior sheathings - the HOUSEPAC plan has now been built in several locations throughout New Zealand at most competitive costs, details of which are given below.

Two sizes are available - a 2 bedroom unit of 78.00m2 and



a 3 bedroom unit of 94.25m2.

The philosophy behind the HOUSEPAC design has been to provide comfortable shelter, adequate warmth and adequate space for families to grow and develop to their fullest potential and therefore make a maximum contribution to New Zealand society.

Details of the two bedroom unit are shown in the attached plan, which also illustrate the design and material variations possible.

The design has proved very successful and has represented excellent value-for-money with construction costs being fully reflected in market values.

Cost details are as follows:

`Housepac' Taupo (December 1984)	
Dwellings (2 bedroom plan)	71,904
Ancillary works (Paths, site cultivation, fencing, letterboxes,garages)	8,184
Total cost for 2 units	$80,088
per unit	40,044
Land value per unit	12,000
Cost per unit	$52,044
`Housepac' Lower Hutt (September 1985)	
Dwellings (2 bedroom plan)	86,687
Ancillary works (Sheds, paths, site cultivation, letterboxes)	12,955
Total cost for 2 units	$99,642
per unit	49,821
Land value per unit	12,500
Cost per unit	$62,321
`Housepac' Nelson (January 1985)	
(a) With garage attached	
Ancillary (Fencing, paths, drive, letterbox)	49,429
	6,300
	55,729
Land value	14,000
Total cost	$69,729
(b) With carport attached	$39,922
(including carport and shed)	7,823
Ancillary (Fencing,paths,driveway)	
	$47,745
Land Value	14,000
Total Cost	$61,745

Table II
Building Systems in New Zealand

Many of the above proved most successful at the time of their introduction, but for various reasons have now disappeared from the market place. The most successful have been some of the panel systems, (those using reconstituted wood products and those using cellulose-fibre-cement sheets) and some of the interlocking-wood-panel systems, some of which have now been developed to a very high level of technical standard and which are marketed internationally. Invariably these systems involve high technology factory production.

At the time of writing, (September 1985), the Housing Corporation accepts 20 of the abovementioned systems and all the interior wall panel systems as suitable for construction as, or incoporated in, its mortgage securities.'

Whilst technical development has been achieved to a high degree, cost reductions have not necessarily occurred, and except where `kitset' forms of the above are available, significant cost reductions have not been made.

Innovation in Construction - Private Housing

Notwithstanding the somewhat disappointing response to the corporation's invitation the building industry in New Zealand is remarkably innovative. In my experience in the HCNZ I have encountered over 60 building schemes, most of which have been aimed at reducing or holding costs and therefore making houses more affordable. Techniques used have been factory pre-cutting, and assembly of components, use of new construction techniques, use of new materials. In addition there have been many areas of innovation which have attempted to reduce costs of componentry; both capital costs and maintenance costs.

the building industry in New Zealand is remarkably innovative.

An analysis of some of these innovative building systems is:

Transportable Housing

In addition to the above, mention must be made of the impact and importance in the New Zealand housing scene of transportable housing. This type of industrialised (factory pre-cut, yard assembled) house construction system has proved most worthwhile and generally has been more successful in restraining costs increases than other more innovative systems. Based upon standardised plans (of each particular manufacturer), quite a number of contractors throughout New Zealand use this method of construction. Size and design of house is limited only by the accessibility of the site and regulations governing the size of units they may transport.

Kitset Housing

A further way of reducing costs for the prospective home owner

and thereby assisting affordability has been the development of kitset housing which is proving a popular form of construction, particularly in the lower price level.

To the cost of the kitset must be added the items not included such as, foundations, electrical, plumbing and other sub-trades, other componentry, including in some cases interior linings, services connections, building fees and any specialist fees needed to supervise construction. These could on a flat section add as much as $17,000 to $22,000 to the basic kitset price depending upon the degree of owner participation.

Figure III indicates the breakdown between total house cost and on-site labour in dwelling construction. The contribution to building costs made by the `on-site' labour component has moved from approximately 26.0% in the 1940s to approximately 36.0% in the 1980s. If the prospective home owner can reduce on-site labour costs by contributing his own labour, then this will represent a substantial potential saving.

By way of illustration of the potential savings available to home owners prepared to erect their own kitsets the following examples are given in Table III.

Most of these dwellings are of basic rectangular plan and simple layout. Firms offer a variety of plans of both 2 and 3 bedroom dwellings and variety of exterior finishing materials.

Examples of Land Utilisation, Dwelling Design and Building Cost Trends in Private Housing Construction

Despite the achievement brought about by new technology and innovation, building costs continue to rise and the search for the `affordable' house continues. Table IV, compiled from Statistics of the HCNZ, gives for selected centres the movements in housing costs and floor areas, in the locations of greater intensity of housing development.

Figure III

Corporation House Construction Cost

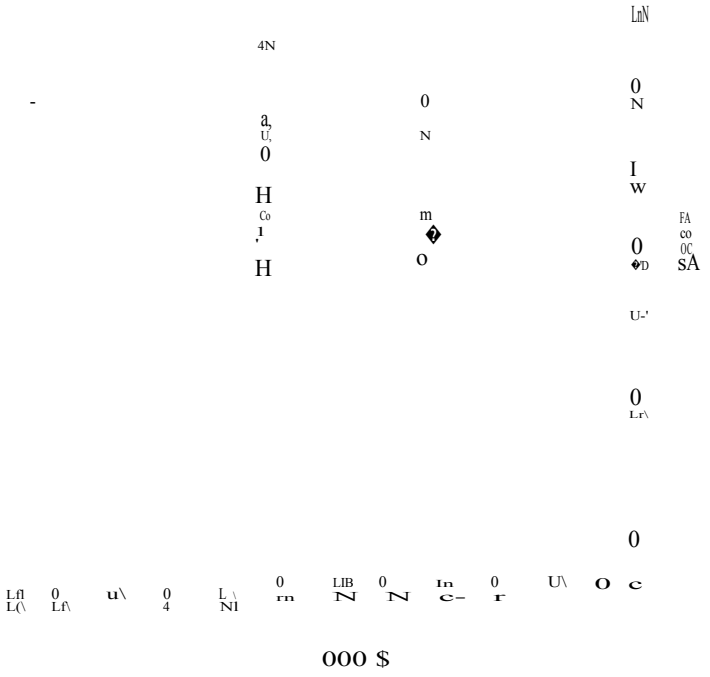


Table Ill

Manufactured Housing Costs: Kitset Housing

COMPANY	AREA AND BEDROOMS	KITSET	ERECTED SHELL	FULLY FINISHED
Woodway Homes Auckland	76.86m2 3	$16,065	$19,085	$41,500
0 & M Shell Homes Auckland	90.72m2 3	19,922	24,405	Not Available
Cosy Cottages Auckland	87.69m2 3	Not Available	25,095	44,940
Ahead Homes (superior quality transportable home)	90.85m2 3	23,600	28,000	50,900
Harmony Homes Auckland	86.OOm2 3	23,000	40,900	49,100
I R McRae Ltd Timaru	98.11m2 3	21,530	-	40,000
Portal-lock Rotorua	96.OOm2 3	32,874*	-	49,909
Initial Homes Rotorua	92.36m2 3	Not stated but is available	-	49,594

* Price includes 40 man-hours labour assistance by manufacturer.

Table IV
Average Construction and Section Costs
in Selected Centres
From Corporation Records of Modest-Income Borrowers

BRANCH		MONTH OF MARCH 1982 $	1983 $	1984 $	1985 $	AUGUST 1985 $
AUCKLAND (1)						
Modal House Cost	($/m2)	426.83	454.25	456.53	517.80	543.93
Average Ingoing Costs(2)	($)	55,938	55,401	57,009	62,539	68,279
Average Section Cost	($)	11,706	12,542	13,913	16,893	19,352
Average Dwelling Size	(m2)	93.26	92.70	89.72	87.05	85.94
MANUKAU						
Modal House Cost	($/m2)	429.09	458.07	464.33	502.55	528.33
Average Ingoing Costs	($)	62,500	56,355	55,187	63,991	67,247
Average Section Cost	($)	14,730	12,284	14,467	18,077	17,785
Average Dwelling Size	(m2)	99.71	93.47	84.13	87.70	86.26
HAMILTON						
Modal House Cost	($/m2)	393.19	433.20	429.70	465.62	492.78
Average Ingoing Costs	($)	52,139	52,363	48,881	52,895	57,235
Average Section Cost	($)	10,400	11,750	11,100	11,866	12,708
Average Dwelling Size	(m2)	93.50	91.66	87.55	80.14	81.29
ROTORUA						
Modal House Cost	($/m2)	385.61	389.60	420.65	455.78	456.98
Average Ingoing Costs	($)	49,847	47,734	48,679	51,228	55,878
Average Section Cost	($)	10,366	10,765	10,300	11,900	14,206
Average Dwelling Size	(m2)	97.96	94.88	86.25	84.62	88.26
PALMERSTON NORTH						
Modal House Cost	($/m2)	421.85	432.69	417.85	485.64	546.28
Average Ingoing Costs	($)	55,263	50,998	47,365	70,750	65,310
Average Section Cost	($)	11,500	10,208	11,113	20,750	24,000
Average Dwelling Size	(m2)	95.38	87.92	85.49	101.41	80.19
CHRISTCHURCH						
Modal House Cost	($/m2)	399.98	431.00	450.98	519.42	497.72
Average Ingoing Costs	($)	57,214	53,332	54,156	59,831	65,972
Average Section Cost	($)	12,243	10,062	10,638	13,188	20,800
Average Dwelling Size	(m2)	103.84	90.50	83.46	82.05	86.08
NZ AVERAGES						
Modal House Cost	($/m2)	408.97	431.36	447.97	475.94	497.03
Average Ingoing Costs	($)	56,172	52,502	50,695	54,936	57,426
Average Section Cost	($)	11,258	11,047	11,176	11,966	13,611
Average Dwelling Size	(m2)	101.78	95.65	87.05	87.02	87.03

Footnote:

1. Auckland: this includes the areas of Auckland City, Takapuna and Henderson.
2. Average ingoing cost: this includes both building and section costs, but is exclusive of ancillary work and is based upon corporation records and actual contract prices for land and building in building contracts entered into by the corporation's borrowers.

Two factors emerge from these statistics:

- the steady rise in in-going costs facing modest-income borrowers.
- the trend to smaller houses, although it would seem from the statistics that this has now stabilised at areas consistent with the constraints imposed by current building codes (and HCNZ lending requirements).

Other trends which have also been evident in the sector being financed by the HCNZ are:

- the trend to more involvement by prospective home owners in the construction and or the completion of their new home (painting, completion of interior trim, exterior works etc.), and
- appointments and amenities offered have also been reduced as the search for affordability continues, such measures often being the reduction of storage cupboards, and with wardrobes being deleted in some instances.
- lower cost materials and simpler building designs.
- a trend to more intense utilisation of land by way of cross-lease

ownership of land, thereby reducing the overall capital outlay through reduced land costs.

(A noticeable factor in some localities has been the different standard of housing offered by competing builders, some builders having stocks of more favourably located sections (at higher prices) offer more compact homes with less amenity, whilst other builders with stocks of less favourably located (and therefore cheaper sections) offer more spacious homes with greater amenity.)

Affordability of Housing

The ability to meet repayments on the capital borrowed will ultimately govern the standard of housing achieved.

Most lending institutions have an upper limit on the ratio of repayments to gross outgoings of between 30 % and 40 % for low to medium income earners (7, 8, 9).

The Housing Corporation of New Zealand, the largest single institution in New Zealand lending to modest-income earners, for many years maintained a strict regard to a ratio of outgoings to income of 30% abandoning this only in 1985., and then only in those situations where it was satisfied that applicants could meet outgoings.

With its structured interest rates, dependent upon the applicants' income and family circumstances, the Housing Corporation is able to tailor mortgage sums and repayment terms to suit the applicants' ability to repay the principal borrowed. New schemes are presently being considered.

Table V
Affordability of Housing

EXAMPLE	CAPITAL COST (INCLUDING LAND)	FINANCING METHOD	MORTGAGE OUTGOINGS AS A % OF BASIC INCOME
A	S64,634	Deposit S19,864 1st mtge : S42,000 x 9% x 30 yrs 2nd mtge : $ 3,000 x 16% x 1 yr (flat)	33.0%
B	S71,743	Deposit S8,585 + S2,500 owner's labour and materials contribution 1st mtge : $45,000 11.0% x 30 yrs 2nd mtge : $12,200 19.5% x 10 yrs (flat) Other. : $ 3,500 Family Benefit Capitalisation	40.6%
C	$48,796	Deposit S5,896 1st mtge : $40,000 x 5% x 30 yrs Other : $ 3,991 Family Benefit Capitalisation	25.3%
D	$50,296	Deposit $8,150 1st mtge : $40,000 x 9% x 30 yrs 2nd mtge : $ 3,000 x 26% x 5 yrs	32.0%
E	$61,400	Deposit $26,400 1st mtge : $35,000 x 15% x 30 yrs	27.0%
F	$50,300	Deposit $8,610 1st mtge in two parts: (a) $36,000 x 9.0% x 30 yrs (b) S 5,690 x 12.5% x 10 yrs	28.16%
G	$66,400	Deposit 55,500 1st mtge : $45,000 x 7% x 30 yrs 2nd mtge : S11,900 x 19% x 25 yrs Other : S 3,990 Family Benefit Capitalisation	38.0%
H	$62,071	Deposit $9,873 1st mtge : $40,000 x 11.0% x 30 yrs 2nd mtge : $10,200 x 16.0% x 20 yrs Other : $ 1,998 x 12.5% x 15 yrs	34.81%
I	$57,200	Deposit 519,200 1st mtge : $30,000 x 9.00% x 30 yrs 2nd mtge $ 8,000 x 13.75% x 25 yrs	28.59%

* Includes an allowance for rates and insurance outgoings.
All instances cited are for modest one-income families.

Table V gives from a random selection of HCNZ mortgages the methods of financing and the mortgage outgoings as a proportion of basic income, (i.e. before any transfer incomes have been considered).

The examples represent real situations and show that even at higher costs and interest rates housing is affordable given the `Social Responsibility' approach of central government as implemented through the HCNZ. However, should concessionary interest rates be abandoned and substantially higher deposits than the present 12.5 % be required, then the position may well change.

BIAC newsletter No. 182 referred to earlier examines the issues more deeply, and is reproduced by permission as an Appendix to this presentation.

Table VI shows the relationship between incomes, and prices of housing and land. Real disposable incomes have shown a reduction of 3.2 % at March 1985 over the base year of 1981 whilst the modal house cost index has shown an increase over the same period of 58% and section prices an increase of 92%.

Constraints on Achieving Affordable Housing

Building and Quality Standards

My conclusion is that the existing building systems do not provide substantial savings in building costs, compared to the modal house standard, except where there is substantial owner input either in the form of owner-builder or owner completion of various aspects of the home. Where then does the scope for economising lie?

Part of the answer may be in the statements made in the `Report of the National Housing Commission for the year ended 31 March 1985'10 which reads:

> "For those with moderate resources, aiming for a moderate home, the way to ownership is less easy. Traditional expectations of the potential home owner may come to be modified if this situation persists. If by the combination of savings and mortgage finance the affordability gap cannot be bridged at all or without extreme difficulty then the nature of the house to be purchased will come under careful scrutiny. Ways and means to achieve reductions in costs that are compatible with tolerable living standards are being explored by the commission. The search for the `low cost' home will be undertaken by more and more people as land, labour and material costs rise simultaneously with the cost of mortgage finance.
>
> In this context the question of whether the level of existing standards and their application go beyond those necessary to ensure safety and reasonable health requirements needs to be considered"

The history of modern building controls and standards in New Zealand goes back to the Hawkes Bay earthquakes in 1931, and the subsequent fires which resulted in the Government of the day setting up a Buildings Regulations Committee which was instituted to `prepare a report embodying such recommendations as it thought fit, with a view to upgrading the standard of building construction in the Dominion in relation to earthquake resistance'

As a result of this measure in 1934, the Government asked the then newly formed New Zealand Standards Institution" to draft a MODEL BUILDING BY-LAW, based on and complementing the basic code prepared by the Buildings Regulation Committee. This was to replace the variety of individual building by-laws maintained by the separate municipalities throughout New Zealand.

Because of expressed concerns on the complexity of building controls, and their alleged contribution to increased costs, in 1982 the then Government of New Zealand appointed a two man review team to examine the present controls on planning and building in New Zealand. Their enquiries are published in a two volume `Review of Planning and Building Controls' 31 May 1983 and 10 May 1984.12

It was clear from these reports that Building Controls were one element of contributing to cost increases both through direct and indirect costs. The above review team in the May 1983 Review in the `foreword' commented:

> "The annual direct costs in terms of time spent by those controlled and by the controllers can be crudely demonstrated to be of the order of $100,000,000. Indirect costs of delays, over-design, excessive requirements, etc, are not quantifiable at this stage but we suspect that they are high - the problem is to determine what proportion of these costs can be saved"

The 1983 report, at pages 52-54, detailed some of the direct and indirect costs.

As a result of this investigation the review panel recommended the drafting of a performance oriented National Building Code binding on both the public and private sectors and a press statement to this effect was made on 20 December 1983 by the Chairman of the Cabinet Works Committee.

Table VI
Incomes and Prices

(2) PERIOD/ YEAR ENDED 31 MARCH	(1, 4) EFFECTIVE PREVAILING WAGE RATE INDEX	(3, 5) SURVEYED WEEKLY EARNINGS	(1, 6) REAL DISPOSABLE INCOME INDEX	(7) MODAL HOUSE COST INDEX	(8) SECTION PRICE INDEX
1980	1,038	172.17		852	1,000
1981	1,061	213.08	1,001	982	1,188
1982	1,089	256.17	1,012	1,197	1,426
1983	1,023	286.99	991	1,390	1,569
1984	966	294.94	1,002	1,465	1,990 (P)
1985	934	311.08 (P)	968	1,552	2,281 (P)

1. Source: Department of Statistics
2. Annual data - incomes data are the averages of the monthly or quarterly data.
3. Source: Department of Labour. Annual data is for the year ended February.
4. The effective prevailing wage rate index is a weighted index of hourly gross wage rates actually paid (as distinct from award rates) deflated by the Consumer Price Index. Index Base: December quarter 1977=1000.
5. Aggregate surveyed gross wage and salary payout divided by all full-time and half part-time employees.
6. Base: March year 1981=1000.
7. Source: New Zealand Institute of Valuers. Measures the cost of building a new house. Base: December quarter.
   Source: (1-7) Reserve Bank Bulletin, Vol. 48, No. 7, July 1985.
8. Source: Valuation Department Urban Real Estate Market in New Zealand Reports 84/3 and provisional report June 1985. Base year: Half year ended December 1980=1000.

The conclusions of the review team and the implications of their survey are not dissimilar to those detailed by the United States Department of Housing and Urban Development in its Affordable Housing Information Kit' published 3.1.8413 In this the HUD identified three areas where innovation in affordable housing demonstrations had had cost savings namely; administrative or processing (including inspections), site planning and development, and building technical requirements.

The most significant cost savings to date had been due to innovations in the administrative and site development areas.

Within New Zealand a recent survey jointly conducted by the Master Builders Federation and the National Housing Commission on a survey of availabiliy of building land, revealed the following response to one question:

"Which, if any of these local authority requirements are seen as delaying or adding cost to development?"

(Note: 68 Answered Questions

Zoning

Roading ((61%)

Not all Questions Were Answered

Footpaths

Servicing (drainage/ water etc.)

Reserve Contributions(

Council Approval Procedures

Other (please specify)

From this brief survey of New Zealand experience and reference to some overseas literature it is clear to the writer that reform of building controls and standards is one positive way of achieving more affordable housing.

Government Policies in Assisting Affordability

Within the framework of the building control legislation mentioned above, the building industry has considerable flexibility to design on a competitive basis, good standard housing.

Another factor remains, that of supply and demand. With the strong demand that persists for housing in New Zealand, there can be a tendency for housing to be priced at `what the market will bear, being influenced by the availability and cost of credit, population changes and the like.

Short of Government intervention in the marketplace in times of strong demand, it seems almost inevitable that sections of the community will be disadvantaged and unable to achieve their housing needs.

Nevertheless, in past years, Governments in New Zealand have taken market intervention moves to attempt to provide affordable housing and it seems appropriate to conclude this section of my paper with rearward look at some of these endeavours, and a brief reference to some present policies.

Past policies are succinctly described in the Annual Reports of the HCNZ' for the years ended 31.3.75, 31.3.76 and 31.3.77.14

At page 7/8 of the 1975 Report it was stated:

> . The corporation's policies include the establishment of a substantial land bank. Joint-venture schemes in association with developers/ builders and local authorities are designed to complement the corporation's direct activity and to provide a ready source of serviced, modestly-priced land. Not only will the corporation supply sections at below current market prices, but loan policies have been extended to enable first home seekers to aquire a section and so crystallise the cost of one of the important elements in home ownership at an earlier date than has so far been possible. The thrust of policies as they affect the corporation's own land is designed to influence market levels downwards; the need for such positive action is to be seen against the increase in land prices in the metropolitan areas of 33.60%. These measures, coupled with the greatly widened package of lending and construction policies, represent a planned effort to better meet the needs of the housing market.' .. .

Also at page 10 of the same report of 1975:

> ... "A restriction on in-going cost limits has been imposed and is designed to increase the building of lower-cost homes. This administrative device restricting the total cost of the land and building to qualify for corporation loan assistance has now become a major plank in Government's credit control policies. Currently, in-going cost limits in Wellington are $28,000, while in Auckland, Christchurch and Nelson the in-going cost limits in Wellington are $28,000, while in Auckland, Christchurch and Nelson the in-going limit is $25,000. For the rest of the country a cost limit of $23,000 operates. The limits are increased by $500 provided the building contract does not contain an escalation clause. Building propositions beyond these amounts are not financed unless special circumstances, such as the needs of a large family, exist.' .. .

These policies were reviewed in the 1976 and 1977 budgets in recognition of the lack of flexibility offered by the measures.

By 1977 the earlier policy of selling sections at below market prices had been discontinued as it was the opinion that the greater number of sections that were becoming available through the corporation would itself have a stabilising effect on prices.

The 1978 budget saw further changes which removed the earlier controls.

Lest it be thought that these constraints exercised a negative influence on the standard of housing it must be stated that many of these very basic houses (a plan of one is shown), have since been added to and basement developments carried out and many of these streets have now matured into most attractive developments.

Present policies of the Government effected through the HCNZ to assist in the affordability of home ownership include the following measures:

- the construction of 500 houses for direct sale to the public thereby eliminating some of the extra costs incurred through marketing, bridging finance and risk incurred by those building the homes and so effectively reducing the on-selling price to the end purchaser.
- the development of residential sections for sale to the public to alleviate the growing shortage and cost of building sites.

Further policy initiatives being developed to address the growing deposit gap which is facing many families on modest incomes include a policy of `equity-sharing' whereby in return for below market interest rates of 3 % home owners are enabled to purchase homes but share the capital value increments with the mortgagee. Other policy developments are the development of `sweat equity' policies which enable those with proven handyman skills to tenant and renovate older corporation owned homes and later purchase

them at prices based upon the cost of acquisition to the corporation plus cost of materials provided and any contract labour employed.

Conclusion

This paper has outlined some of the experiences of the HCNZ in affordable housing, and identified some of the constraints to reducing house and land costs. It has also shown that with sympathetic Government actions in rebated interest rates, flexible loan policies and other actions modest cost housing is attainable and affordable.

This much seems clear from my research: there is relatively little room for substantial savings in building costs if we are to retain the standards of construction and land subdivision that prevail at present. My research indicates that lowering of costs can only be achieved by changing of standards - but this is only if our present standards are used as a basis for comparison, or by standardisation of design and high volume production of uniformly consistent housing.

Changing standards for both housing and subdivisional design need not necessarily mean a lowering of standards, nor should closer living patterns necessarily result in loss of privacy or an increase in nuisance. Medium density developments by both the Housing Corporation and the private sector have proved that properly designed complexes can provide a very acceptable living environment whilst intensifying the use of land. With the closer living patterns implied there would need to be greater attention given to the privacy of individual home owners - perhaps communal planting and short screen fences could achieve this.

Roading standards may also need review. Some subdivisions seem to have roading standards of width and construction that would seem to be excessively high. Perhaps more use could be made of single lane, one way roading in small subdivisions, with associated cost savings.

My paper has identified several factors affecting the affordability of housing, some of which will require further consideration and development by Governments and housing agencies, if housing is to remain within the reach of at least the modest income earner.

- Innovation has been considerable but has not, in the majority of cases been effective in substantially reducing building costs.
- Good housing, well designed at modest cost is achievable, as indicated by the corporation's HOUSEPAC house plans.
- Attempts to `economise' at the expense of good basic design (including aesthetic aspects) and provision of amenities within the dwelling, ultimately lead to higher maintenance costs and lower resale values and capital (value) gains.
- Transportable houses, kitset houses and some factory manufactured houses have achieved the goal of restraining the rate of cost increases and in some exceptional cases have reduced costs.
- Housing systems which allow the owner to participate in construction have the greatest potential to provide affordability.
- International opinion and research indicates that legislative controls and building ordinances may exert constraints leading to unjustifiable increases in house and land costs.
- History records that Government intervention in the marketplace is sometimes desirable and effective in restraining costs by removing `super profits' in times of high demand.

There are many ways in which cost saving changes could be made, but these will always be subject to a willingness on the part of the inhabitants to adjust traditional expectations.

Affordable housing in the final analysis is a community role - it involves architects, planners, engineers, legislators, administrators, and not the least appraisers.

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   S. V. Ayre: 1984
   A dissertation submitted to the University of Auckland in part fulfilment of the course requirements for the Diploma in Valuation (Honours).
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   C. A. Hedley, ANZIV.
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3. This standard of housing has been adopted by the New Zealand Institute of Valuers in its MODAL HOUSING plans and specifications. The MODAL HOUSE is defined as a dwelling of 92.9m2 of basic standard in weatherboard with corrugated steel roof and containing 3 bedrooms. It has a concrete foundation is '1: shaped and assumed to be on a level site. The cost of the MODAL HOUSE is used widely in statistical areas of building evaluation and valuation.
4. Annual report of the Housing Corporation of NZ 1985 Published Government Printer Wellington NZ.
5. Transportable houses comprise factory-manufactured yard-built houses which are then transportable to the site and placed on permanent foundations. Kitset houses comprise factory manufactured kitsets which are sold in 'package form to the home owner who is then responsible for their assembly and erection on permanent foundations on the housing site.
6. The HCNZ has had a long history of fostering innovation and development in the building industry in New Zealand and has accepted many experimental forms of construction in its lending activities. Members of the corporation represent the HCNZ on statutory organisations involved with building research and standards development.
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APPENDIX

Building Industry Advisory Council

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No 182 NEWSLETTER April 1985

The Affordability of Housing

Over the last 10 years average house sale prices, as recorded by the Valuation Department, have escalated at approximately 11% per annum. In the same period low and medium incomes have risen approximately 13% per annum but mortgage interest rates have also risen. This newsletter discusses how the affordability of house ownership for low and medium income earners has developed over the years taking into account such factors as incomes, taxes, house prices, and interest rates.

A previous newsletter (1) developed an Affordability Index for various specific occupational groups, using house prices for one region and assuming only one mortgage per house. In this newsletter a new measure of affordability has been devised that will give a clearer picture of the situation potential home buyers are in.

This new measure looks at New Zealand averages. Firstly it uses the average house price for the principal urban areas and the average New Zealand male wage. To be able to determine what Housing Corporation interest rate the average buyer is eligible for it is assumed that the average male wage supports a family consisting of Husband, Wife and two children.

As a further improvement the new measure takes into account the maximum loan available from the Housing Corporation and used this to determine the amount a buyer will need to find from a second mortgage. Two levels of required deposit are considered, these being 10% and 25% of the house price. The second mortgage is assumed to be obtained at market rates.

Using all this information, a ratio of annual repayments to annual income is calculated to show the proportion of annual income needed to service the mortgages. Both Gross and Net (after tax) incomes are investigated. As a contrast to the average male wage, the average Social Welfare benefit level, for one beneficiary household with two children, is also used to calculate a repayment to income ratio.

The accompanying tables and figures show the resulting Ratios.

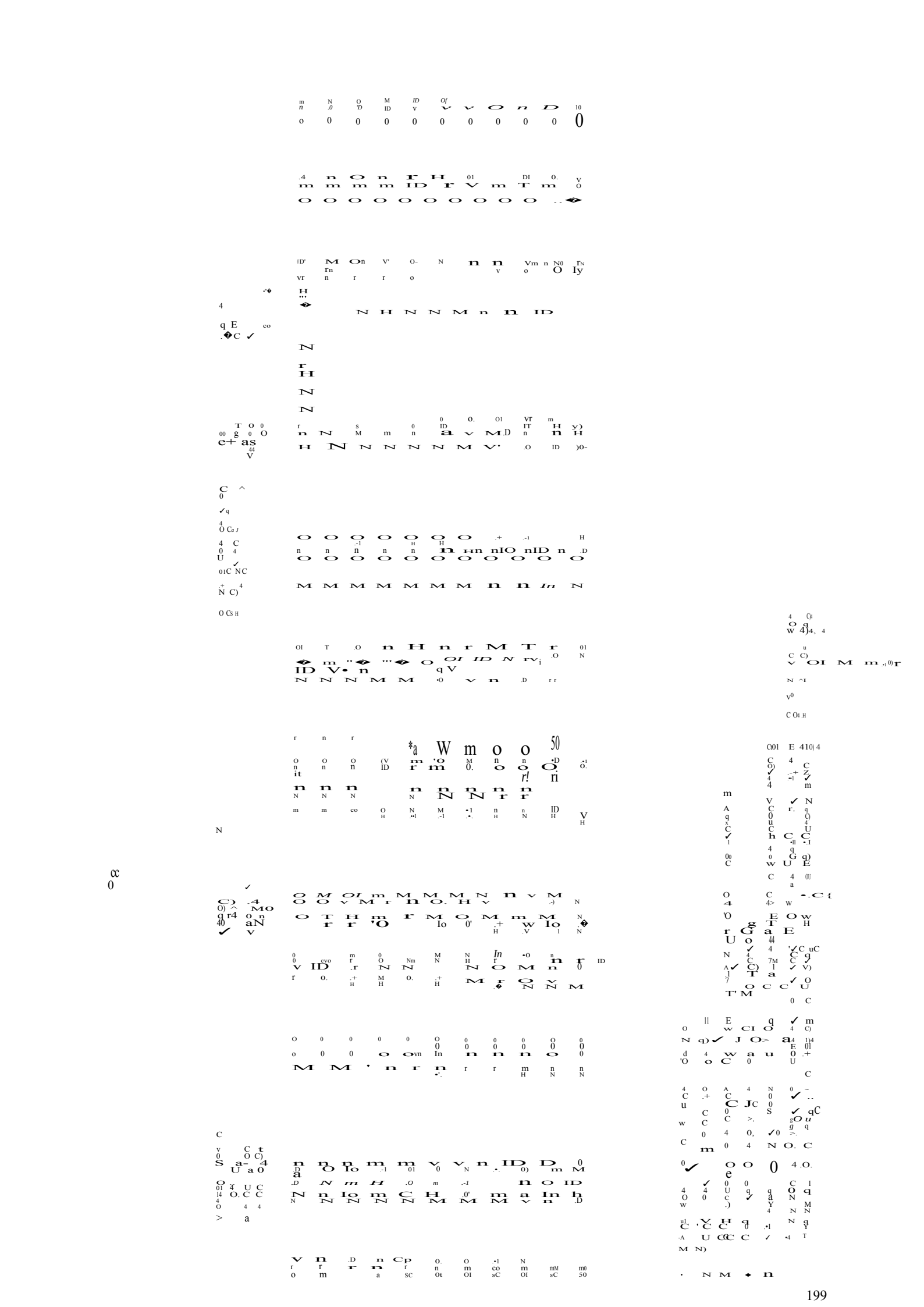
The pattern which has developed is a sharp increase in the ratio in those *years* which have steep increases in house prices, often followed by a decrease in the ratio the next year as maximum HCNZ loan limits are increased. For beneficiaries the trend has been an overall increase in the ratio in the 1980's. For the average wage earner the ratio has remained fairly static provided mortgage interest tax rebates are taken into account. Most lending institutions have an upper limit on the ratio of repayments to gross income of around 30-40% for low to medium income earners. It will be noted the tables show, for beneficiaries, this limit has been exceeded for the past 10 years and therefore they are unlikely to have obtained finance for the purchase of an *average* cost existing house. For example at the 40% repayment to income ratio a beneficiary with a 25% deposit would have been eligible for finance on a home costing up to $43,000 during the March 1984 year. This value corresponds to only the lower 20% (approx.) of sales recorded nationally during the same period. Thus beneficiaries have been restricted to housing at the bottom end of the market even with the substantial deposit of 25% assumed in the calculations.

For the average wage earner the situation was better because the 40% repayment to income ratio allowed the financing of an average cost home at a deposit of 25% or slightly less during 1983/84.

Recent moves by government have increased HCNZ mortgages to $35,000 in Auckland, $33,000 in Hamilton, Rotorua and Wellington, and $28-30,000 in other areas, for existing housing and this has improved affordability. For example a beneficiary with a $33,000 HCNZ 5% mortgage, a second mortgage at 16% and a 25% deposit can now afford a $54,000 house and remain within the 40% repayments to income ratio. The average wage earner is also better off now with the increased HCNZ first mortgage though the increase is largely offset by rises in interest rates for both first (9%) and second (16%) mortgages.

It is proposed to monitor the components that make up the table and to update this report from time to time so the housing affordability of the low and middle income earner can be monitored and quantified in broad terms.

(1) 'Measuring the Affordability of Home Ownership'
BIAC Newsletters Nos 131 and 131A



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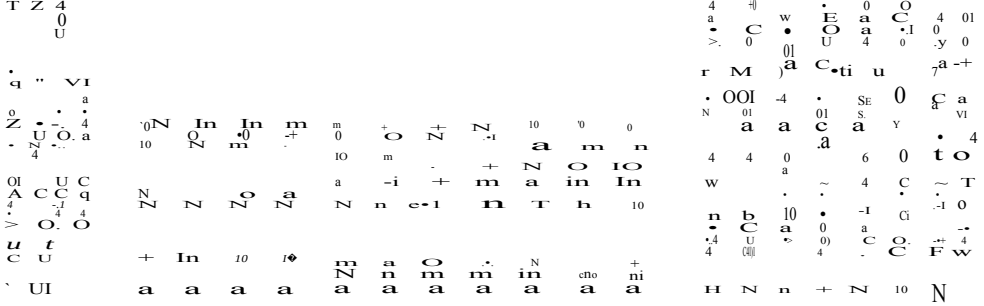
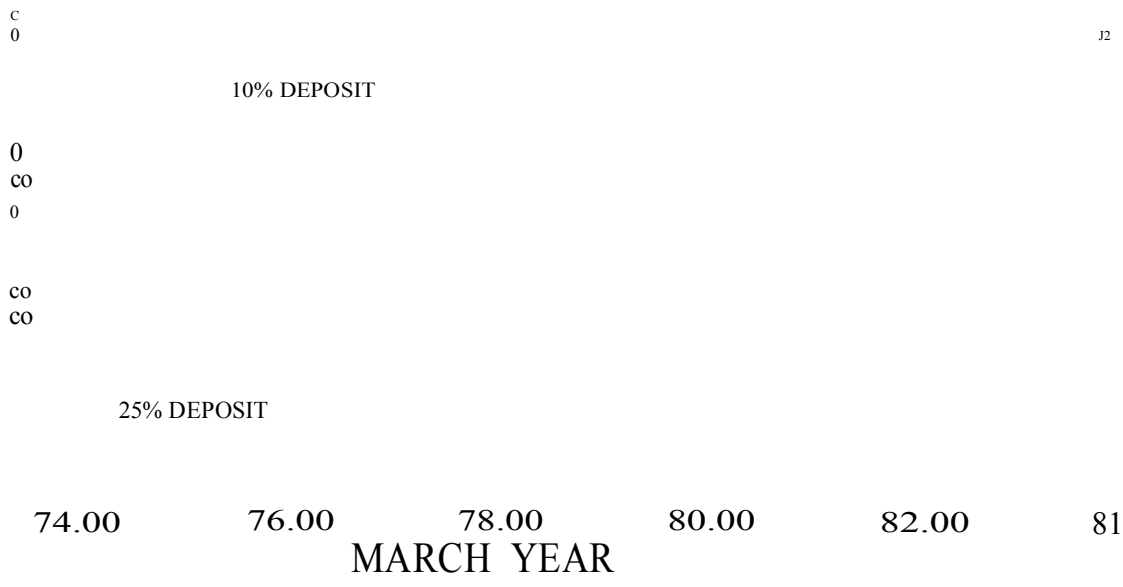


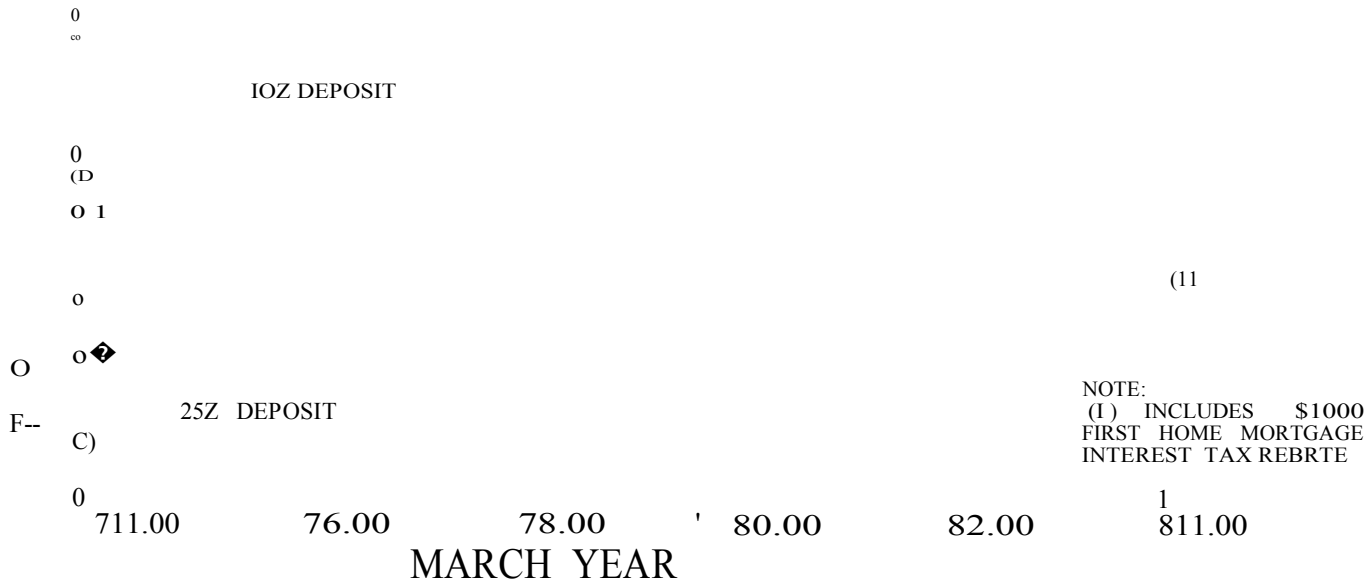
APPENDIX

,c.:' BAT 10 OF MORTGAGE REPAYMENTS -:. TO INCOME FOR BENEFICIARIES



APPENDIX

'RATIO OF MORTGAGE REPAYMENTS -:1 TO AFTER TAX INCOME FOR AVERAGE WAGE EARNER



Computer Aided Design for Valuers

By R. V. (Bob) Hargreaves

Bob Hargreaves A.N.Z.I.V is a Senior Lecturer in Valuation at Massey University, Palmerston North, and is the Councillor for Central Districts.
Bob has contributed regularly on the subject of computer and computer techniques in Valuation and has gain wide acclaim in New Zealand and overseas with his papers on the subject.

The following is the first paper in this series; a second follow up paper will be printed in the June 1987 issue.

A written valuation report is the main form of communication between the valuer and client. The valuation report is sometimes referred to as `the valuer's shopwindow' since it is often the method used by clients for making comparisons between valuers.

Good word processing equipment combined with a competent secretary, can markedly improve the standard of presentation of the written part of valuation reports. Some valuers have a flair for being able to quickly draft neat and accurate plans and diagrams to supplement their reports. The rest of us can usually do with some assistance in this regard.

Computer Aided Design:

Computer aided design (CAD) promises to revolutionise many of the traditional design and drafting tasks in the fields of engineering, surveying, and architecture. Design tasks that used to take days and sometimes weeks can now be completed in a fraction of the time using CAD equipment. For example, it is claimed that a good architectural design programme can enable an architect to complete the design of a house in less than two hours. CAD packages typically convert a single line schematic of a floor layout to a three dimensional diagram. The user specifies the type of construction and the computer is programmed to automatically generate elevations, sections, perspectives, and a schedule of material quantities for the building. A major advantage of CAD is that it is very easy to make and view design changes.

Full CAD systems are currently not cost effective in a valuation practice because they require large computers and expensive software. Valuers are likely to be interested mainly in those drafting applications of CAD that can be done on medium to low cost computer equipment.

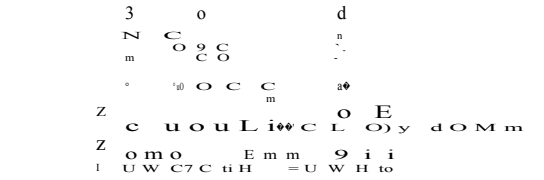
The introduction of the Apple Macintosh and similar types of microcomputers has provided an important new development in the graphics capability of medium cost computer equipment. These developments have been made possible with more powerful central processing units, larger on board random access memories, high resolution monitors, and most importantly, the mouse device that enables the user to `draw' diagrams on the computer screen. Programmes such as MacDraw and MacDraft allow the user to produce scale plans that can be incorporated directly into valuation reports. Figure 1 shows a valuation type plan of a house produced by the author using the MacDraw programme. This type of drafting programme gives the user a wise range of choices in the size and type of lettering used on the plan. Similarly a range of symbols is available. Designated areas can be shaded in and mistakes quickly rectified. There is an on screen ruler to assist in keeping the plans to scale.

Development work done by Massey University valuation students Luke Comely in 1985 and April Shannon in 1986 confirmed the feasibility of using the computer to draw farm and orchard plans. Figure 2 shows a farm plan produced using the MacDraw programme. It is the author's experience that initially drawing plans by hand is faster than using the computer because of the time it takes to learn to use the programme. Once the user is familiar with the programme the computer drafting method should be at least as fast as the manual method and has the added benefit of producing much higher quality work. The valuer can also save time by developing a standard legend that can be called up from storage whenever a new plan is being drawn.

Graphics output from the computer is normally sent to a dot matrix printer. The examples used in this paper have utilised a laser printer. Laser technology produces higher quality output than the dot matrix system.

Summary and Conclusions

This short article has attempted to show that computer assisted drafting can tidy up the shop window if your manual drafting skills are less than adequate. The technology already available with Macintosh type computers is adequate for the drafting requirements of most valuers. Improvements on the programming side will make computer assisted drafting more user friendly in the near future. A future article in this section will discuss the use of computer drawn charts (bar charts, line charts and pie charts) in valuation reports.



Rate of Return on Investments

does IRR represent the true rate?

By C. H. H. Clarke

Harold Clarke joined the Valuation Department (Rotorua) as an Urban Valuer in 1950. He became an Associate member of the Valuers Institute in 1965, and retired in 1970 as District Valuer, Tauranga. Since retirement he has maintained an interest in valuation matters and has contributed four articles to the NZ Valuer.

The purpose of this article is to point out that the IRR (internal rate of return) cannot be interpreted as the true rate of return on an investment unless the IRR is equal to or close to the market interest rate.

The title Discounted Cash Flow (DCF) has been adopted to mean that the value of an investment is the present worth of future cash flows, calculated at a specified discount rate which may be quite different from the ruling market interest rate. Hence it may be seen that under DCF, investment risk could be allowed for by the simple expedient of increasing the discount rate. Examination of the mathematics involved should prove conclusively that where a required rate of return (IRR) exceeds or is less than the market interest rate the calculated value of an investment would be distorted and considerably so when there is a wide variation in the respective rates.

So much has been said and written about DCF that anyone might well believe that there was no other way of assessing the rate of return on an investment.

Assuming that one had never heard of DCF but that one had a good knowledge and understanding of compound interest, present worth and future worth etc., it should be a comparatively simple matter to assess by an orthodox method the rate of return on an investment where all the cash flows are given.

My version of how such an orthodox method should proceed is as follows:-

Preliminary comment:

1. The return from an investment over a defined period of time is the financial benefit accruing to the investor and includes all future cash flows subject to the allowance for the recovery of the capital outlay at the end of the period. In fact the return could be more conveniently described as the `profit:

2. The rate of return is in reality the rate of capitalisation of the profit, but before the profit can be capitalised it has to be converted to its equivalent annual value.

3. The conversion of future cash flows to annual value is an essential element in the orthodox assessment of the rate of return on an investment. However the validity of the calculation to assess annual value is dependent on its being carried out at the current market interest rate. The need to adhere to the market interest rate is because when we refer to cash flows we mean cash in terms of dollars and the simple fact is that the present worth of a dollar receivable at some future date is dictated by market influences affecting the dollar and not by any circumstances affecting a particular investment.

4. Conversion of future cash flows to an equivalent annual value may be carried out by either of two methods described as follows:-

(a) First calculate the future worth of the future cash flows by applying the relevant compound interest factors, and then divide the result by a figure which is a summation of the compound interest factors used to assess future worth, or by the factor

$$\frac{(1+i)^n \quad 1}{}$$

(b) First calculate the present worth of the future cash flows by applying the relevant discount factors, and then divide the result by a figure which is a summation of the discount factors used to assess the present worth, or by the factor

$$\frac{(1+i)^n \quad 1}{i \quad (1+i)^n}$$

Explanation of the recommended orthodox method is aided by hypothetical investment cash flow examples which follow:

Investment No. 1

Cost of investment $125,000

Net income at end of year 1	$13,000
Net income at end of year 2	14,000
Net income at end of year 3	15,000
Net income at end of year 4	16,000
Net income at end of year 5	17,317
Net selling price at end of year 5	$164,000

The market interest rate is assessed at 10%

An assessment of the rate of return on the cost of this investment is required.

Solution No. 1

The profit from this investment includes all of the future cash lfows subject to deduction of the cost of $125,000 at the end of year 5, so that the total profit cash flow at the end of year 5 is $56,317.

Step 1 Calculate the future worth or the present worth of the future profit cash flows at the market interest rate of 10%

Future worth:

$13,000 x 1.104	(1.4641)	
14,000 x 1.103	(1.331)	
15,000 x 1.102	(1.21)	
16,000 x 1.10	(1.10)	
56,317 x 1.0	(10	$129,733

Summation of factors 3.790786

or 1.105 - 1

$$= 3.790786$$

.10

Present worth:

$13,000- 1.10 x (.909091)
14,000- 1.102 x (.826446)
15,000_ 1.103 x (.751315)
16,000- 1.104 x (.683013)
56,317- 1.105 x (.620921) =$80,554

Summation of factors = 3.790786

or $\frac{1.105 - 1}{.10\ (1.10)5} = 6.1051$

Step 2 Convert future worth or present worth to annual value. Divide by summation of factors obtained in Step 1.

$\frac{\$129,733}{6.1051} = \$21,250$ p.a. $\frac{\$80,554}{3.790786} = \$21,25\ 0$ p.a.

Rate of return on cost $\frac{21,250}{125,000}$

.17 = 17%

Solution No. 2

In this method the annual value of *all* the future cash flows is calculated. When this result is divided by the cost of the investment the rate of return before capital recovery is obtained, and may be described as the gross rate of return. The net rate of return is then found by deducting the sinking fund factor for the period from the gross rate. The sinking fund factor is from the formula

$$\frac{i}{(1+i)^{n}-1}$$

N.B. In this solution and further calculations the future worth method will be adopted in assessing annual value.

Step 1 Calculate the future worth of all future cash flows at the market interest rate of 10%

$ 13,000 x 1.104
14,000 x 1.103
15,000 x 1.102
16,000 x 1.10
181,317 x 1.0 = $254,733

Step 2 Convert the future worth to annual value. Divide by the compound interest factor 6.1051 as in Solution No. 1

$\frac{\$254,733}{6.1051} = \$41,725$ p.a.

Gross rate of return on cost $\frac{41,725}{125,000}$

.33380

Deduct sinking fund factor $\frac{.10}{1.105 - 1}$ - .163797

Net rate of return = .170003
= 17%

Adequate explanation of how annual value has been arrived at has now been given, and to shorten formulae to be used in this article the following abbreviations are being adopted:

V = Cost of investment (or value plus purchase costs)
R = Rate of return on cost of investment
Fw = Future worth of all future cash flows at market interest rate
Av = Annual value of future cash flows at market interest rate
i = Market interest rate
Sf = Sinking fund factor for period at market interest rate from the formula

$$\frac{i}{(1+i)^{n}-1}$$

Investment No.2

An investor has paid $4,675 for the right to receive an annual net income of $1,000 for 15 years with no redemption rights.

Assess the rate of return on the investment assuming that the market interest rate for the period is 10%.

Solution

Adopting Method No.2 the formula is

$$R = \frac{Av}{V} - Sf$$

Av as already stated is $1,000

Sf = $\frac{0314738}{1.10150\ 1 =}$

Rate of return = $\frac{1,000}{4,675}$ - .0314738

.2139037 - .0314738
.18243
18.243%

Investment No.3

Referring to Investment No.1, the investor advises that he intends to borrow $85,000 on first mortgage at 10% for 5 years, and a further $30,000 on second mortgage at 14 % for the same period. The interest is to be paid at the end of each year. The market interest rate is assessed at 10%.

Calculate the rate of return on the lesser equity of $10,000.

Solution

The interest on $85,000 at 10% = $ 8,500
The interest on $30,000 at 14% = 4,200
$12,700 p.a.

Solution of Investment No.1 is adjusted as follows:

Cost	$125,000 at 17% yields		$21,250 p.a.
less mortgages	$115,000	costing	12,700 p.a.
Therefore equity of	$10,000	yields	$8,550 p.a.

Rate of return on cost $\frac{8,500}{10,000}$

.855

85.5%

While the subject of this article relates mainly to the rate of return on investments, the reverse procedure of assessing the price which should be paid for an investment, given all future cash flows together with the required rate of return, is supplementary information explaining further how the orthodox method works.

Investment NoA

The future cash flows of a commercial property are estimated to be $70,000 p.a. for the first 5 years, $90,000 p.a. for the second 5 years, and a net selling price of $950,000 at the end of the period of 10 years. What is the warranted cost of this property if the required rate of return is 16 % and the market interest rate is 10 %.

Solution

The formula is derived from Solution No.2 of Investment No.1 as follows:

$$R = \frac{Av}{V} - Sf$$

$$R + Sf = \frac{Av}{V}$$

$$V = \frac{Av}{R + Sf}$$

Step 1 Calculate future worth of cash flows at 10%

$70,000 x 6.1051 x 1.61051	=	$688,262.7
90,000 x 6.1051	=	549,459
Plus selling price	=	950,000
		$2,187,721.7

Step 2 Convert future worth to annual value.

Divide by factor $\frac{1.1010 - 1}{.10} = 15.93742$

Annual value $\frac{\$2,187,721.7}{15.93742}$

$= \$137,270$ p.a.

Warranted cost (see formula) $Sf = \frac{.10}{1.1010 - 1} = .0627454$

$\frac{\$137,270}{.16 + .0627454}$

$\frac{\$137,270}{.2227454}$

$\$616,263$

Investment No.5

Thef ut ure net income from ap rop ertyis estimated to be $60, 000 p.a. for the first 5 years, $80,000 p.a. for the second 5 years, plus a capital gain of 70 % at the end of 10 years.

Calculate the warranted cost of the property if the required rate of return is 16 % and the market interest rate is 10 % for the period.

Solution

In this investment the cash flows are restricted to the annual income and the selling price is unknown except that it will amount to the warranted cost multiplied by 170% (1.70).

In the formula:

$$V = \frac{Av}{R + Sf}$$

the addition of Sf to R is to allow for a 100% capital loss, but in this case the selling price includes a capital gain of 70%, and to allow for same the capitalisation rate is found by *reducing* the required rate of return by the sinking fund factor multiplied by the capital gain percentage.

If Cg = the percentage of capital gain then the formula for this problem is:

$$V = \frac{Av}{R - (Sf \times Cg)}$$

Step 1 Calculate the future worth of cash flows at 10%

$60,000 x 6.1051 x 1.61051
80,000 x 6.1051 = $1,078,347.5

Step 2 Convert future worth to annual value.

Divide by factor

$$\frac{1.1010 - 1}{.10} = 15.93742$$

The sinking fund factor is the inversion of the above factor

$$= \frac{I}{15.93742} = .0627454$$

Annual value

$$- \frac{\$1,078,347.5}{15.93742} = \$67,661 \text{ p.a.}$$

Warranted cost (by the above formula)

$$\frac{\$67,661}{.16 - (.0627454 \times .70)}$$

$$\frac{\$67,661}{.116078}$$

$$\$582,892$$

For purposes of comparison solutions of the investment problems have been worked out in accordance with the DCF technique, and because there are some who favour Soloman's method solutions by his method have been added.

As a matter of interest the formulae for Soloman's method are as follows:

$$R = \left(\frac{V'}{V} \% \right) - 1 \qquad V - \frac{Fw}{(1 + R)'}$$

Fw is calculated at the market interest rate.

A comparison of results is as follows:

	Orthodox	DCF	Soloman's
Investment No.1	17%	16.307%	15.30%
Investment No.2	18.243%	20%	13.63%
Investment No.3	*85.5%*	47.157%	44.13%
Investment No.4	$616,263	$584,854	$495,920
Investment No.5	$582,892	$544,858	$397,704

If for purposes of comparison the Orthodox results are taken as the base, it will be seen that where the annual income is on a rising scale and/or there is capital gain DCF under values, and where annual income is on a diminishing scale and/or there is capital loss DCF over values.

The difference in results from Investments Nos. 1, 2, 4 and 5 is not enough to excite much comment. However a close look at the results from Investment No.3 discloses, in the writer's opinion, clear proof that in certain cases IRR can be a very inaccurate assessment of the true rate of return on an investment.

In investments Nos. 1 and 3 the amount of capital gain is constant at $39,000. If the results from the two methods (Orthodox and DCF) were analysed it will be seen that under the Orthodox method the annual value of the capital gain remains constant at $6,388 for both investments, while under DCF the calculated annual value of the capital gain varies from $5,637 in Investment No.1 to only $3,117 in Investment No.3.

The assessed IRR of 47.157% for Investment No.3 would indicate to the investor that his investment of $10,000 would yield a net income of $4,716 p.a. Given the DCF result from Investment No.l he might well figure it in his own way as follows:

Investment of	$125,000 x	16.307% yields	$20,384 p.a.
Less mortgages	$115,000	costing	$12,700 p.a.
Equity of	$10,000	should yield	$ 7,684 p.a.
			76.84 %

There is logic in this figuring but given the cash flows in Investment No.3 DCF requires that the discounted values of the cash out-flows must equal the discounted value of the cash in-flows and to achieve this result a discount rate (IRR) of 47.157 % has to be adopted.

Allowance for investment risk

As mentioned earlier the allowance for investment risk is made under DCF by increasing the discount rate.

Quoting from a footnote in *Urban Land Appraisal by* National Association of Assessing Officers (1940) - "we do not approve of the custom of varying discount and capitalization rates with degrees of risk but incline to the viewpoint that the allowance should be made in the income estimate."

While perhaps not apparent the Orthodox method does allow for investment risk by a reduction in the income (profit) estimate

but it does so indirectly. For example in Investment No.4 the capitalisation rate on the annual value of the profit is increased from the market rate of 10 % which would represent the rate for a gilt edge security to a rate of 16 % which would allow for the uncertainty of the estimated future income. While the increase is represented by the fraction 16/10 the corresponding reduction in the estimated future cash flows is represented by the fraction 10/16, which amounts to a reduction of 371/2 %.

Example of application to Investment NoA

Annual value of profit	$98,602	p.a.
Reduce by 371/2 %	$36,975.75	
10/16	$61,626.25	p.a.
Capitalise at gilt edge rate of 10%	$61,626.25 .10	
	$616,263	

The Orthodox method as explained in this article is basically similar to Hoskold's method of assessing the rate of return on an investment. Hoskold is reputed to have been the first to give publicity to the subject, but his theory dealt only with a constant future cash flow with no redemption value. The most important point which Hoskold brought forward was that depreciation or capital recovery should be allowed for at the market interest rate, based on the consideration that if a sinking fund was set up it could not be expected to earn interest at more than the available rate, irrespective of the rate of return from a particular investment.

Hoskold would have dealt with Investment No.2 as follows:

Annual income before depreciation		$1,000 p.a.
Less allowance for 100% depreciation		
Cost x sinking fund factor at market interest rate for eriodp	.10 $1.10^{1.1} - 1$	
$4,675 x .0314738		147.14 p. a.
Net income		852.86 p.a.
Rate of return =	852.86 4,675	
	18.243 %	

Table Mortgage

Because a Hire Purchase contract is a form of table mortgage the rate of return on a typical example is examined to compare the IRR with the Orthodox and Hoskold rate of return.

Example:

Amount of loan $10,000; term 3 years; interest 3 % per month; (nominal rate 36% per annum). The market interest rate is 18% confirmed by the Finance Co.'s debenture issues at 18 % for a term of 3 years.

Most Finance companies follow the traditional table mortgage method of charging interest on the amount of the loan and at the same time set up internally a sinking fund which enables the hirer to earn interest on his loan repayments. Almost without exception the practice is to credit interest to the hirer at the same interest rate charged on the loan.

In this example the regular monthly payments would be based on the interest rate plus the sinking fund factor for the term of the loan, that is:

$$3\% (.03) + \frac{.03}{1.0303 - 1_{36}} + .015804 = .045804$$

Monthly payment $10,000 X .045804
= $458.04 per month

The above example can be regarded as a short term investment by the Finance Co. and the rate of return on cost is calculated as follows:

	Orthodox & Hoskold method	DCF method
Gross rate of return on cost		
	$458.04 / $10,000	$458.04 / $10,000
	_ .045804	= .045804
Less sinking fund factor at 1 1/2%		
	.0211524 at 3%	- .015804
	.0246516	= .03
	= 2.456 % per mth	= 3 % per mth

The difference in the rates of return is directly associated with the sinking fund factors. The sinking fund amount of $158.04 per month assessed under DCF assumes that these payments will earn compound interest at 3% per month both for the investor to provide for capital recovery and for the hirer as part of his loan repayment.

The interest charge of 3 % per month is not truly an interest rate because it allows for profit, a fairly high degree of investment risk and some administration costs. The market interest rate would be 1 1/2 % per month based on the nominal rate of 18 % per annum.

In getting the benefit of the high rate of interest the hirer's payments of $158.04 per month add up to only $5,689.44 the balance of $4,310.56 to make up $10,000 being compound interest. And in assuming that the sinking fund sum of $158.04 per month would provide the Finance Co. with capital recovery is quite unrealistic when it is able to borrow at 1 1/2 % per month. In fact at the available rate of 1 1/2 % per month the capital recovery would amount to $158.04 x 47.276 = $7,472, a short fall of $2,528.

There are other situations where DCF does not cope satisfactorily, for example where a summation of the future cash flows is less than the cost of an investment.

Conclusion

There is little doubt that the DCF technique owes its origin to the simplicity of calculating the present worth of variable future cash lfows as the means of assessing the warranted cost of an investment.

It is however very doubtful if the reverse procedure of assessing the rate of return on an investment was contemplated in those early days when calculators did not exist and the required trial and error calculations would have been very laborious and time consuming.

Readers would have to concede that the assessment of the rate of return as demonstrated by the recommended Orthodox method is a much easier and more direct procedure than the DCF method of assessing IRR.

The actual difference in results as between the DCF and the Orthodox method is in all cases precisely in proportion to the annual value of the investment profit, calculated at the IRR rate under DCF and the annual value calculated at the market interest rate under the Orthodox method.

It must be pointed out that this article applies specifically to the mathematical aspect of the subject. Reliance is placed on the fact that there is only one correct answer to a mathematical problem.

Much of what has been written about DCF has no particular reference to the mathematical basis of the technique and is often useful information equally applicable to the Orthodox method.

DEPTH TABLES

1. Construction

By Munroe L. Graham

Munroe L. Graham Dip.U.V, A.N.Z.LV, A.R.E.I.N.Z. has been a contributor to the Institute Journal on a number of subjects in the past, including landlord tenant disputes, the Trustee Act and shop rental valuations. The subject article results from continuing research on the effects of both frontage and depth on land value. Mr Graham is Senior Valuer for a public firm operating from central Auckland.

The following is the first of two articles. The second titled `Depth Tables Application' will be printed in the June issue of the valuer.

Preamble

Residential, commercial and industrial land uses have changed dramatically during recent decades and market patterns have consequently led to the need for amendments to historic forms of land sales analysis.

Of the three basic systems which may be adopted (direct comparison, comparison by land area, analysis by frontage reduction and depth table), it is the latter which is favoured for mass appraisal and law court usage due to its ability to give a fair and rational apportionment of value between sites and to allow value comparison between sites of greatly different size. It is this last advantage coupled with the fact that computer programming requires mathematical formulae that allows the depth table approach to be of use to the individual practitioner with one off valuations in addition to the public practitioner undertaking mass apprasial work.

The tables upon which Valuers have relied to date have tended to be those developed between 50 and 100 years ago. It has become necessary to reconsider all historic tables for two main reasons. Firstly, land usage has changed even in recent decades and certainly over the period of 50-100 years. It is reasonable to suppose therefore that most tables developed prior to 1920, prior to the mass production and popularisation of the motor vehicle and the mass production and standardisation of building elements, would be largely irrelevant and of only passing interest. Secondly, modern mathematical based tables are easier to apply than their forebears, easier to understand by the public, non Valuer Arbitrators, Judges and Legal advisers and are readily adaptable to computer programming.

My purpose in submitting these articles is to alert the reader to various differences inherent between depth tables and to present for consideration a family of tables derived from a common and well known basis and applicable to a very wide range of land uses.

A further article in this series will consider the application of some of the tables in a form which will give the Valuer the best grasp of the quantum of values which is being dealt with and which will also allow for easy computer processing.

Historical

It seems likely that most depth tables created for general use have sprung from various `rules of thumb' of which over a dozen exist and of which the following are a typical example:

1. Half site value occurs at one quarter site depth.
2. Half site value occurs at one third site depth.
3. Two thirds value occurs at half site depth.
4. If site depth is doubled, value increases by 25%.
5. If site depth is trebled, value increased by 50%.

These rules are of course mutually exclusive as they have been applied to land of various uses, industrial, commercial and residential and sites covering a wide range of standard depths (see below for the effects of the depth standard on the construction of some classes of depth table).

From early Valuation text books it would appear that the first table to relate value with depth was the 4-3-2-1 rule which might more properly have been named the 40-30-20-10+9-8-7-6 rule. The first four numbers represent value percentages for the first, second, third and fourth quarters of site depth and the second four .numbers also represent percentages of standard site value for the various quarter depth zones extending beyond the standard depth. This table appears to have had only limited application in America where it was first used but fairly widespread subsequent application in Australia during the mid part of this century. There is no simple formula for this table and depth factors for intermediate depths between quarter zones are difficult to calculate.

The first simple mathematical depth table to have been formally adopted was that created by Judge Hoffman of New York during the 1880's. It is one of the family of square root depth tables of which the one third, two thirds rule and the London (Harper/ Edgar, Reeves) rules are also members.

During the early decades of this century the mathematical depth rules which had been established until that time were found wanting and non-mathematical tables were derived and adopted by various city and county authorities in the United States for mass appraisal work. The Somers Table dates from this period and was widely adopted sometimes with amendments for commercial and residential work.

It would appear to have been in the 1930's that the American Jerrett produced his well known formula, subsequently widely adopted for industrial and residential use, in New Zealand particularly for industrial land.

The Jerrett formula will form an important part of the subject matter of these articles on depth tables.

During the last 50 years there has been little further development in the mathematics of depth tables by the creation of new formulae. In New Zealand I suggested in an article to the New Zealand Valuer (March 1983) a formula designated F10 which seemed appropriate for application to shop rentals. However, although the formula answered a need by reflecting the evidence of agreements within a wide range of shopping centres it was far too cumbersome to apply in practice and may now be discarded in favour of the far simpler Jerett based formula set out in Table 2 (in the article to follow).

The number of possible depth tables that can be adopted is infinite although clearly prudent choice can narrow the possibilities down to one or two for any particular class of land. Nowadays

because land usage is still changing and because Local Authority requirements affecting land development also change from time to time, the relationship of value with depth will vary over the years. As a consequence the depth table which might have been appropriate for a decade or more must be discarded in favour of a more appropriate alternative and each table in turn must be considered transitory.

Depth Table Construction

A depth table gives the relationship of site value to site depth on the premise that value increases with depth but that the rate of increase decreases with depth. In the construction of a depth table as a result it might be supposed that a mathematical formula could be found to describe such change. In Practice there is good confirmation that such a supposition is true over a wide range of possible depths except at the extremes of location near the street frontage (where value change can be abrupt) or at very great depth (where added value is likely to be constant, as in the case of farmland).

Essentially depth tables are of two types:

(a) Derived
(b) Mathematical

(a) As noted above the derived tables are those which result from the adoption of a mathematical table which gives reasonably adequate results over a limited range but must be adjusted to conform to sales evidence, usually at the extremes of range for very shallow or very deep sites.

Derived tables have had widespread use in the assessment of residential land in Auckland and elsewhere and the original Somers Table developed in the early part of this century was derived, although as will be seen below, close mathematical equivalents are available and would be much more acceptable nowadays for mass appraisal work.

(b) Mathematical tables are infinite in number but I feel that there are two basic types which should be considered in detail and these comprise an example each of two basic forms:
(1) Geometric progression
(2) Simple progression

(1) The geometric progression follows an open curve which has some interesting characteristics:

(a) There is a fixed proportionate increase for every proportionate (say doubling) of depth.

(b) The rate of increase of land value is independent of the standard depth adopted and consequently an alteration to the standard depth has no effect on the basic depth formula.

Three tables have been adopted in the past which follow this format, one of which is in widespread use throughout New Zealand in the assessment of shop rentals known as the London table but also known under the name of Harper, Edgar and Reeves. The depth factor is known by the formula:

$$\frac{D.5}{S.5}$$

For some, the above notation may be unfamiliar but raising to the power of .5 is equivalent to deriving a square root (my typewriter does not have a square root sign). In the formula, `D' stands for depth while `S' stands for the particular standard depth which has been adopted.

Judge Hoffman in the 1880's chose a table derived from the same family where the basic mathematical formula is:

$$\frac{D''}{S.}$$

Under the Hoffman depth rule n = .585 and the table has the characteristic that two thirds value is achieved at half depth and a 50% increase in value is achieved if depth is doubled.

If n is given the value of .631 the so called one third, two thirds rule is created which has the interesting distinction that for a tripling of depth, value is doubled.

If n is given the value of 1, the depth table becomes a straight line.

(2) Simple progression, the second of the two types of table under discussion, has two main characteristics:

(a) The curve is closed, i.e. there is a limiting value and regardless of site depth, value never exceeds a given amount.

(b) The rate of change of value with depth is dependent on the standard depth which has been adopted. The greater the standard depth, the greater will be the value given to back land for any given depth formula and the greater also will be the limiting value.

This is a fairly satisfactory arrangement for most classes of urban property as clearly land values cannot increase at a constant rate forever and evidence confirms the existence of a limiting factor. This feature of land values is best illustrated in the example of the single residential site which is of average width but perhaps 50 metres or so deep. A doubling of depth to 100 metres adds little if anything to land value. A further doubling of 200 metres is unlikely to produce land of further utility value. Similarly extra site depth may add very little to the value of a narrow commercial site developed under strip shopping lines particularly in country town or suburban commercial areas.

The 4-3-2-1 rule is of the type described above but has virtually no application in New Zealand as it is complex to operate.

The Jerrett formula is another of the type described above and will be dealt with in detail below.

The Jerrett Table

Most Valuers will be familiar with the Jerrett formula which is described in all modern text books and enjoys current wide usage throughout New Zealand, the United States and the British Commonwealth.

I present to the reader a family of tables derived from a single formula of which the well known Jerrett Table is one example. The depth factor is derived from the general formula:

$$\frac{nD}{(n-1)\,D+S}$$

The Jerrett formula is created when n is given the value of 2. n can be given any fractional or whole number in excess of 1, but if n=1, the formula produces a straight line.

Table 1 has been presented as a family of tables developed from the basic formula shown above. A standard depth of 10 metres has been adopted for reasons which will be explained in the next article. Accordingly at this depth the basic Jerrett formula is presented in its original form. The various formulae for the other tables within this family are shown so that depth factors at intermediate depths can be assessed accurately. Above the formulae the numbers prefixed by the letter J' show that the tables are in fact Jerrett tables with different standard depths varying from 10 metres to 150 metres, all converted to the same 10 metre standard.

It can be seen that in accordance with the general rule for tables of this type, the standard depth adopted has a substantial effect on the extent to which backland is asessed. Under the Jerrett 10 metre table backland has little value. The Jerrett 20 metre table whether or not it is converted to a 10 metre, 30 metre or 40 metre standard is well suited to the assessment of single residential land in localities such as suburban Auckland and the same table can be used as a mathematical replacement of Somers 30. A Jerrett 30 metre table converted to a 10 metre standard is ideally suited to a wide range of shop rental calculations for central and suburban Auckland (see Table 2). The Jerrett 50 metre table is suitable for low value industrial land, while the Jerrett 100 metre table known also as amended Jerrett 50 is suitable for the higher valued industrial land encountered in Penrose, the Wairau Valley and comparable industrial areas in the Wellington region.

Standard Depth Conversion

If a geometric progression of the type described above (for

example the London Depth Table) has been adopted then a change of standard depth has no effect on the formula unless it is necessary to incorporate a multiplier which will convert the factor directly to a percentage. It is therefore easy to compare values analysed under the London formula where different standard depths have been adopted merely by introducing a simple conversion factor.

It will be recalled that New Zealand adopted the metric system in 1972. There are a few pre-metric Valuers still in existence although their numbers are diminishing. For shop rental assessment these Valuers quote rentals on the basis of value for per foot frontage per week based on a 50ft standard depth. Some semi pre-metric Valuers by simplistic direct conversion have adopted the 15.24 metre depth standard while others have rounded-off by adopting a 15 metre standard. The more modern and simpler approach is to adopt a 10 metre standard with rentals quoted on a per annum basis, a true post-metric system. It is known that on occasion pre-metric and post-metric Valuers must confer and it is therefore useful to know that value per ft frontage per week to a 50ft standard depth of 10=value per metre frontage per annum to a standard depth of 10 metres. Similarly value per metre frontage per week to a 15 metre standard multiplied by 42.46 is equal to value per metre frontage per annum to a standard depth of 10 metres under the London formula.

When it comes to changing the depth standard of the Jerrett table, which is a simple mathematical progression, there are clearly difficulties as the formula needs to be altered. One might well ask what the purpose would be in changing from one depth standard to another but there will be occasions when this is necessary to compare a number of depth tables in order to arrive at one which is most suitable as conforming to the bulk of evidence available and if a high level of accuracy is required for intermediate depth values then a new depth formula must be adopted derived from an original.

Valuation text books explain the conversion from one standard depth to another as an apportionment of an original factor (or depth formula) in the ratio:

$$\frac{\text{Original depth factor at standard depth}}{\text{depth factor at new standard depth}}$$

Both factors are assessed on the basis of the original formula and therefore the numerator equals unity (1). Effectively the original formula is multiplied by the inverse of the factor at depth S2 where S2 is the new standard depth.

Adopting the Jerrett formula, the conversion to the new standard depth S2 from the original standard depth Sl is brought about as follows:

New Formula = original formula x inverse conversion factor

$$\frac{2D}{D + S1} \times \frac{S2 + S1}{2S2}$$

$$\frac{2D\ (S2 + S1)}{2S2\ (D + Sl)}$$

$$\frac{D\ (S2 + Sl)}{S2\ (D + Si)}$$

Halving & Doubling

It is at this point that consideration should be given to the algebraic effects on the Jerrett formula of, firstly halving and secondly doubling, the standard depth.

Adopting the conversion formula above, and halving the standard depth (whereby 2S2 = Sl), the formula converts as follows:

$$D\ \frac{(S2 + 2S2)}{S2\ (D + 2S2)} \quad \_ \quad \frac{3DS2}{S2\ (D + 2S2)} \quad \frac{3D}{D + 2S2}$$

The reader will immediately recognise that we have here the better known of the two amended Jerrett formulae. Those Valuers who use the amended Jereff formula to a 50 metre standard for valuing industrial land (currently the most common depth table in use for the major industrial estates in Auckland) are therefore effectively using a Jerrett 100 metre table converted to a 50 metre standard depth. Similarly if the amended Jerrett 30 table is used it is in fact a Jerrett 60 table converted to a 30 metre standard depth, and so on.

If the standard depth is doubled, S2 = 2S1 and it can be shown that the lesser known amended Jerrett table is created, namely:

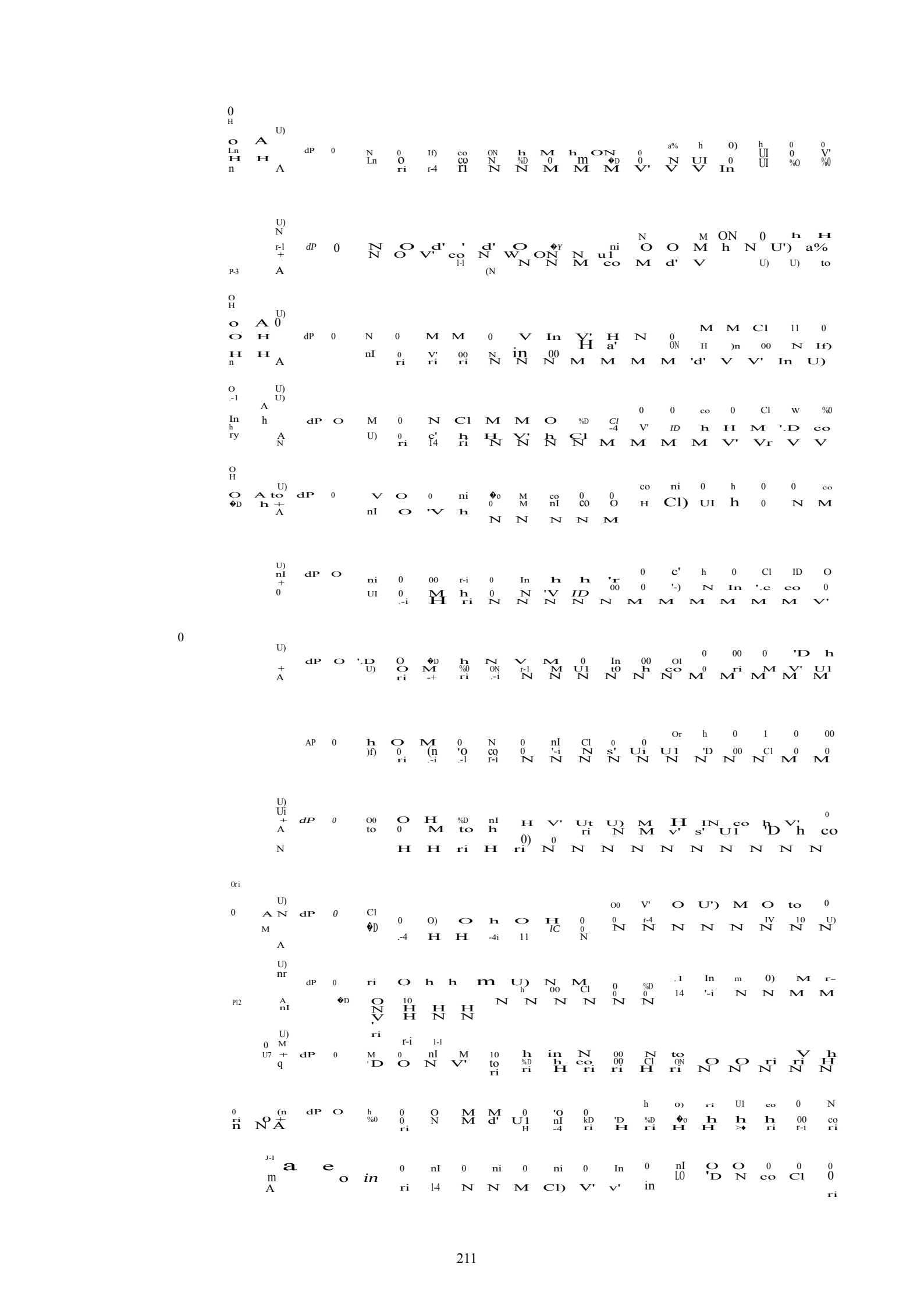
$$\frac{3D}{2D + S}$$

Although little used to date, this formula will be recognised by readers of the 'Valuer's Handbook' as representing an approximation of the Somers/Cleveland Depth Table (where the standard depth is either 100ft or 30 metres).

In conclusion, this discussion, which has lead to a close study of the Jerrett Table has shown that the relationship of value with depth varies with the standard depth which has been adopted and there is a relatively simple algebraic method for changing the standard depth which results in the creation of a family of tables suitable for a wide range of applications to industrial, commercial and residential land in Auckland and throughout New Zealand. Alternatively, the same series of tables can be developed from the standard mathematical formula from which the Jerrett table itself was originally derived.

Tables

Table 1 is shown and is explained above in the text, being a presentation of a range of depth tables, several of which are of particular importance and are presented in more detail in the next article which deals with the application of the study of the Jerrett family to land sales and rentals analysis.



How Good is the Offer?

By Neville Penn

Neville Penn completed a double major in Valuation and Property Development for his Bachelor of Business Studies degree from Massey University 1982-1984 and won the Property Management Institute prize for the paper Real Estate Investment & the Measurement of Performance.'
He now works as Property Consultant (Commercial) for the firm Fogden Real Estate in Wanganui.

Property financing deals are becoming increasingly creative as buyers of commercial or investment property strive to make the best use of scarce cash resources. These offers are usually a mixture of cash down, with the balance payable in various forms at future dates.

In such cases the vendor needs to know the true present value of the components of the offer and in order to calculate this he needs to be familiar with workings of the time value of money.

To demonstrate let me give an example of a now typical case but one which is simplified for the sake of demonstration. Let's assume a sale price has been negotiated between the buyer and seller at $1,000,000 total, a price the vendor is happy enough with. Assume also that the purchaser is a very sound organisation and any risk factor can be ignored for this purpose.

The buyer has offered to finance the deal as follows:

(a) $50,000 cash now;
(b) $50,000 due in one year and in the meantime is at 10%, compounding monthly, for the vendor;
(c) the balance of $900,000 is left on mortgage by the vendor. This mortgage is amortised over a 30 year term, at 11 % with monthly payments of principal and interest, *but is due for repayment in full after seven years.* That is, the vendor receives his final payment at the end of seven years and in the meantime he is receiving payments of principal in reduction of the mortgage plus payments of interest. A calculation of this mortgage shows monthly payments to be $8,570.91.

Therefore, the agreement provides for the vendor to be fully paid in seven years and his total cash received will be -

	Amount actually received
(a) the $50,000 down payment	50,000
(b) the $50,000 at 10% compounding grows to a $55,235 cheque for the vendor in one year	55,235
(c) the vendor also receives monthly cheques of $8,570.91 for the full seven years - $8,570.91 X 84 months	719,956
Further, the $900,000 mortgage has been reduced by the amortisation programme to $859,663 by the end of year 7. The vendor receives this amount and he has then been paid in full and the whole deal is at an end	859,663
	$1,684,854

Total cash received over the seven year financing period has been $1,684,854.

Has this been a Good Deal for the Vendor?

To answer this the deal needs to be analysed on a `present value' basis which holds that a dollar now is worth more to the vendor than a dollar in the future. The vendor who receives the dollar now can put it in the bank and begin to earn interest on it - the vendor who is paid in the future cannot do this and therefore he'll want to receive more in the future to offset this.

The factor which relates the present value of a sum to the future value of a sum is the discount factor - which is in effect the reciprocal of the compound factor.

Our vendor knows he can take advantage of present high interest rates and we'll analyse this deal on the basis of two rates, say 15 % and 20 %, and evaluate and convert the whole offer back to present value.

	@15%	C&20%
(a) the present value of the $50,000 cash down payment is of course $50,000	50,000	50,000
(b) present value of the $55,235 he receives in one year	47,586	45,298
(c) present value of the 84 monthly payments	444,163	385,969
present value of the mortgage which in 7 years will have been reduced from $900,000 to $859,663	302,793	214,450
PRESENT VALUE	$844,542	$695,717

Has it been a good deal?

This will depend on the original saleability of the property. If it was readily saleable at about the price they struck then it very definitely has *not* been a good deal for the vendor.

If it was the only way to make a sale and the price was high then it may have been alright.

But the vital thing is that the vendor should know the parameters and the decision to accept the offer or not should be made with full knowledge of its real value and in the light of all his options.

In this case the vendor received total cash of over $1.6m for his $1.Om property but it took seven years to receive it all. Converted back to present value at, say, 20% it was only $0.7m.

Legal Decisions

CASES RECEIVED

Notice of cases received are given for members' information. They will be printed in The New Zealand Valuers' Journal as space permits and normally in date sequence.

CASES NOTED

Cases `noted' will not normally be published in The New Zealand Valuers' Journal.

Copies of cases `received' and `noted' maybe obtained from the Registrar of the Court under whose jurisdiction the cases were heard. (A charge is normally made for photocopying.)

IN THE MATTER of an Inquiry pursuant to Section 32(2) of the Valuers' Act 1948

AND

IN THE MATTER of charges under Section 31(1)(c) and Section 31(2) of the Valuers' Act 1948 against NORVAL JOSEPH WILLIAMSON

DECISION OF THE BOARD OF INQUIRY
OF THE VALUERS' REGISTRATION BOARD

Members of the Board: M. R. Hanna (Inquiry Chairman)
D. J. Armstrong
P. E. Tierney

Counsel: C. J. McGuire for the Valuer-General
G. V. Hubble for Mr Williamson

Date of Hearing: 8-9 July 1986

Date of Decision: 17 November 1986

This inquiry arose from a complaint lodged by a Mrs Wallace whose daughter Mrs L. M. and son-in-law Mr R. J. Thrupp had in 1983 been involved in what was described to the Valuers Registration Board (The Board) as an acrimonious matrimonial dispute involving a residential property at 52 BARNHILL CRESCENT, PAPAKURA. The complaint related to valuations of this property made in June of that year and again in June 1984 by Mr N. J. Williamson, a Registered Valuer.

The complaint was initially made to the Auckland Branch of the New Zealand Institute of Valuers, then passed to their Professional Practice Committee at Wellington and subsequently lodged with the Board. The report of the Valuer-General dated 5 March 1986 came before the Board which, after due consideration, decided that in terms of Section 32(2) of the Valuers Act an Inquiry should be held. By Notice dated 15 May 1986 Mr Williamson was advised of the Board's decision and the charges against him. A hearing date was made and subsequently deferred at the request of Defence Counsel until this Inquiry was convened on the 8 July 1986. The charges laid against Mr Williamson were:

1. Section 31(1)(c) of the Valuers' Act 1948: That he had been guilty of such incompetent conduct in the performance of his duties as a Valuer as rendered him liable to a penalty provided by the Valuers Act 1948 in that he being instructed to determine the fair market value of the residential property at 52 Barnhill Crescent, Papakura, in a Valuation Report dated 27 June 1983 grossly over-valued the property.
2. Section 31(1)(c) of the Valuers' Act 1948: That he had been guilty of such incompetent conduct in the performance of his duties as a Valuer as rendered him liable to a penalty provided by the Valuers Act 1948 in that he being instructed to re-assess the fair market value of the residential property at 52 Barnhill Crescent, Papakura, in a letter dated 28 June 1984 grossly over-valued the property.

When formally charged at the Inquiry Mr Williamson denied the charges.

The two charges, which the Board regards as linked charges, relate to a valuation of the Thrupp's home at 52 Barnhill Crescent, for $190,000 (including chattels of $10,000) made by Mr Williamson in June 1983 and confirmed by him in June 1984.

Before proceeding to the technical evidence it is convenient at this point to set out a description of the property as it appeared from information provided at the Inquiry and from the Board's own general viewing. Barnhill Crescent is close to and in parts adjoins the Southern Motorway at Papakura which in 1983 was a town of some 20-25,000 people. The neighbourhood of Barnhill Crescent has the advantage of being close to a Motorway on/off ramp and to schooling and shops, and is in a saleable and popular suburb of Papakura known as Pahurehure.

The section is on the corner of Barnhill Crescent and Lakeside Drive, having an area of 833m2 and the house is oriented along the longest boundary and well towards the rear of the lot to display it to advantage. The evidence indicates that prices for properties tend to increase as the motorway traffic noise decreases, and while No. 52 is visually screened from the motorway by two neighbouring houses it is, in fact, only a quite short distance from the carriageway.

No. 52 was constructed in 1978 as a `Show Home' by Mr Thrupp who is a building contractor and the house covers a floor area of approximately 186m2 plus a double garage of approximately 42m2. It is of Spanish styling and contains a living room/dining room and semi-separate kitchen, three bedrooms, rumpus room, laundry, bathroom, w/c, and some built-in features in the garage. The house had a good range of fittings consistent with a home of its style but was lacking in an ensuite bathroom or even a second toilet, a most unusual absence for a home in this price bracket.

The exterior grounds have been elaborately developed including a courtyard entry, paving stone drive, brick edged gardens, high plastered block and paling fences, a spa pool with extensive decking, and a dolls house and garden shed.

Turning now to the history of the dispute the Board learned that valuations had initially been made for the parties in 1983 by Messrs N. J. Williamson and P. D. Petherbridge, both Registered Valuers and that after subsequent failures to agree, revaluations were prepared in 1984 and 1985 and the matter then referred to the Arbitration of Mr R. M. McGough, also a Registered Valuer. Mr McGough's Award formed a part of the various papers submitted in evidence to the Board in the Valuer-General's report at the Hearing, though he was not called personally to give evidence before us.

The Valuation and sale evidence presented to the Board in respect of the subject property has been as follows:

Date	Valuer	Value	Chattels	Purpose
27 June 1983	Williamson	180,000	10,000	Matrimonial
27 June 1983	Horn (for the Valuer-General)	130,000		This Inquiry
23 August 1983	Petherbridge	1 16,000	4,000	Matrimonial
28 June 1984	Williamson	180,000	10,000	Matrimonial
6 June 1985	Williamson	180,000	10,000	Matrimonial
14 June 1985	Petherbridge	132,000	7,000	Matrimonial
20 June 1985	McGough	135,000	10,000	Arbitration

The property sold in early 1986 for $170,000 including chattels.

The case for the prosecution was based upon formal evidence of identification and presentationof the documents comprising his report by Mr S. W. A. Ralston, the Valuer-General, and valuation evidence by Messrs P. D. Petherbridge and T. J. Horn, Registered Valuers.

Mr Petherbridge, who has now been registered for about seven years, had been involved in the valuation of No. 52 Barnhill Crescent since the commencement of the dispute and indeed it was basically because of the wide discrepancy between his figures and those of Mr Williamson that the whole matter reached its present stage. In both his original valuation and his evidence before the Board Mr Petherbridge relied mainly upon his analysis of other sales to substantiate his assessment for No. 52 Barnhill Crescent. He claimed there to be only limited sales evidence as to vacant land but quoted some eight improved sales in the Pahurehure area in the period January to June 1983 as a basis for his opinion of the subject. He stated that in his view No. 52 Barnhill Crescent, for all its location and general quality, had certain design deficiencies which affected its saleability and in particular specified the absence of an ensuite bathroom for the main bedroom which he claimed to be of such importance as would cause many buyers to reject the property without further ado. He also remarked negatively on maintenance aspects of the external plaster finish, the absence of a fourth bedroom and indifferent carpet laying.

In cross examination by Mr Hubble Mr Petherbridge was asked about modal building costs, but stated that while aware of the then current modal rate of $459m he considered this as only a guide and that his own assessment had been

based upon market data with the cost approach used only as a check. In this respect he later isolated

No. 10 The Spinney
No. 20 Winslow Heights and
No. 9 Wilencote Place

as being the best comparables, and in response to questions from the Board reiterated his reliance upon market data, further stating that market changes subsequent to June 1983 had not been dramatic but in general line with increases in building and site development costs.

The second Valuer witness was Mr T. J. Horn, the Senior District Valuer for the Valuation Department for Manakau City who has been registered since 1970.

Mr Horn's valuation had been made in 1986 for the Valuer-General's investigation of the complaint but had been effective June 1983. To the extent that he had the benefit of a general knowledge of subsequent market developments, though none whatsoever of the other valuations, Mr Horn's assessment inevitably carries some advantage of hind-sight but the Board considered that he presented his evidence fairly and thoroughly and that he has a sound grasp of the levels of values in the Papakura area. He too relied primarily upon the analysis of comparable sales to set a range of net rates from which his final valuation was drawn. In this respect he gave details of a total of nine improved properties which had sold in the neighbourhood in the period November 1982 to April 1983. He regarded No. 20 Winslow Heights as the best comparable.

Mr Horn stated that there were no sales in Papakura in 1983 that were anywhere near $190,000 and in fact that there had never been a property sold at that level up to that time. He did not consider the Thrupp property to be the best in Papakura and believed that the design and lack of an ensuite were major drawbacks. In his opinion, the Thrupp property was woth $130,000 plus chattels as at 27 June 1983. He also stated that the house market was increasing through the later part of 1983 and the early part of 1984 by approximately I% per month. Mr Horn's evidence was not materially challenged in cross-examination nor in questioning from Members, and the Board has been much assisted by it.

Evidence for the Valuer-General concluded at this point and Mr Hubble opened for Mr Williamson by calling his client, a Registered Valuer since 1971, who presented a lengthy submission including some detailed analysis of costs and sales. The line of this evidence deserves close attention and we return to it later, but in order to maintain continuity it may be sufficient to say here that it was presented by Mr Williamson with a high degree of personal conviction in which he remained unshaken either by Mr McGuire's cross-examination or by subsequent questions from Board Members.

Finally the Board heard closing addresses from both Counsel, each of whom carefully and lucidly drew to its attention points of principle and evidence for particular consideration. We have been grateful for their courtesy and assistance and have given to each of their arguments such weight as has seemed appropriate in the overall circumstances.

At this point we must return to a more detailed examination of the evidence by Mr Williamson for it is apparent that, rightly or wrongly, it is his opinion as to the value of No. 52 Barnhill Crescent which materially conflicts with the concensus of the other three valuers who have from time to time been involved with it.

As we have noted Mr Williamson's submission included some quite detailed analysis of sales data, though many examples he quoted to us were post-date and not included in his original valuation report. Indeed it was apparent that the great bulk of the analysis upon which Mr Williamson relied at the Inquiry had resulted from inspections made only a few weeks before the Hearing commenced and that his inspection of sales evidence at the time of both the 1983 and 1984 valuations was cursory at best. The various sales upon which he touched in his original report or in more or less detail at the Hearing may be briefly scheduled as follows:

Address	Date	Price (inc. Chattels)
20 Winslow Heights	1/83	$130,000*
Resale	12/84	$130,000
18 The Lea	1/83	$115,000*
9 Wilencote Drive	2/83	$127,000
Resale	4/86	$170,000
10 The Spinney	2/83	$127,000*
43 Ray Small Drive	2/83	$135,000*
Resale	4/84	$124,000
43 Lakeside Drive	3/83	$109,000*
5 Hartsfield Drive	3/83	$110,000*
20 Westholme Way	8/83	$140,000
Resale	6/86	$167,000
19 Lakeside Drive	8/84	$128,000
51 Lakeside Drive	8/84	$130,000
7 Wilencote Place	9/84	$150,000
Resale	2/86	$145,000
10 Wilencote Place	12/84	$175,000
20 The Lea	3/85	$150,000
7 Cricklewood Drive	4/85	$120,000

* These sales were quoted in Mr Williamson's report of 27 June 1983.

The Board noted from these that the highest sale available to Mr Williamson at the time of his 1983 valuation was that of No. 43 Ray Small Drive at $135,000 in February 1983 (though this was claimed to be a'high' sale by the other valuers who had also quoted it) and which re-sold only 14 months later for $124,000. Clearly No. 52 Barnhill Crescent would have had to be very greatly superior to the others to have been worth $55,000 (or 41%) above the ceiling recorded in the local market up to the date of valuation.

From that point much of Mr Williamson's sales evidence seemed intended to sustain his original valuation position but this produced some curious results. For example, the only property approaching the level of value suggested by Mr Williamson for 52 Barnhill Crescent was No. 10 Wilencote Place which sold in December 1984 for $175,000 including chattels. The Board notes that this property, the sale details of which were unavailable to Mr Williamson even when he made his 1984 valuation, was considered by him to be comparable to 52 Barnhill Crescent but considered superior by Mr McGough in his Award.

As we understand it No. 10 Wilencote Place is a larger house of two storeys with living room, separate dining room, study, four bedrooms and two bathrooms including an ensuite, on a larger section in a better locality. Mr Williamson makes no allowance whatsoever for those features yet claimed that 52 Barnhill Crescent was superior in the following degrees:

Corner Section	$4,500	
Developed Cellar (little more than cupboard in garage)	2,000	
Workshop in garage	7,280	
Insect screens	300	
Screened front entry	3,200	
Spa pool	2,500	
Screened patio	1,000	
Dolls house and shed	4,500	
Fully enclosed rear yard	1,500	
TOTAL		$26,780

Indeed in all the analysis he presented to the Inquiry there was not one property where Mr Williamson made any allowance to indicate that there were some features that were superior to the Thrupp property, for example:

(i) A good sized swimming pool drew no allowance above the small spa pool.
(ii) A house of similar size but without a designated rumpus room was considered by Mr Williamson to be $13,500 inferior even though it had a family room, ensuite bathroom, and better design.

The board has emphasised these points in Mr Williamson's evidence not because it believes they caused the value level which he applied to No. 52 Barnhill Crescent, but rather that they were the inevitable result of his technical approach to his task. What we thought to be the basic thrust of both his original assessments and his evidence before us was an almost obsessive reliance upon the Cost Approach to valuation. While there is no doubt that the Thrupp house included a number of special features and indeed had been constructed as a 'Show Home', Mr Williamson's approach to it was to adjust his cost multiple by allowance for a wide variety of design and structural features on an individual basis, which when taken all together compounded the total amounts applied to the various improvements to an extent which was patently unrealistic. This position was then worsened by the valuer's failure to recognise and allow for the obvious design limitations of the house which have been noted previously.

To all of these depreciated cost calculations Mr Williamson then added an amount of $35,000 as the value of the site, a sum which compares with $25,000 set by Mr Petherbridge and $24,000 by Mr Horn, all at their 1983 values. Certainly there is some conflict as to ruling values for vacant land in Pahurehure at the time, and factual evidence submitted by consent of the parties did little to clarify the point. What does seem clear is that by its most favourable interpretation Mr Williamson's $35,000 is a full cost figure and does not necessarily bear a direct relationship to the amount by which the current capital worth of the total realty was increased by the land factor.

In any event it is the unequivocal view of this board that for whatever reasons, Mr Williamson's valuation of No. 52 Barnhill Crescent at $190,000 in June 1983 did indeed grossly overstate its real market worth at that time. That opinion also holds true in respect of his valuation of the property in June 1984 at the same figure, though we do not propose to detail here the evidential matter which brought us to that conclusion except to record that we prefer the submissions of the Valuers for the Valuer-General to those for the defence.

In fairness we should also record our impression that Mr Petherbridge's 1983 valuation of $120,000 gross was probably pitched at a somewhat conservative level, though not beyond reasonable bounds, and he did concede in evidence that with the benefit of hind-sight he felt he had understated the value of Other Improvements at the property by some $4,000. Mr Williamson however would make no such concession. He was adamant that his valuations of 1983, 1984 and 1985 were accurate then and still are. This is an opinion with which the Board is unable to concur.

While it is not the business of this Board of Inquiry to value the subject property we may record our impression from the proceedings before us that its net worth in June 1983 was probably in the vicinity of $130,000 and in June 1984 this may have appreciated as far as, say, $140,000. As to the value of chattels the evidence was conflicting with Mr Petherbridge originally estimating $4,000 and Mr Williamson including a number of items which the Board might have thought to be fixtures and contesting for $10,000. The fair answer may well lie at around $5,000, $6,000 or $7,000 in 1983 money.

Be that as it may, it seems to be the Board that the kindest thing which can be said for Mr Williamson's performance in the completion and defence of his valuation of the Thrupp property is that he failed to see the wood for the trees, and indeed the metaphor could perhaps be extended by the observation that he failed even to see the trees for the undergrowth. More bluntly we can say that in all respects the Board prefers the thrust of the evidence of Messrs Horn and Petherbridge and considers that Mr Williamson's valuations were not only excessive but, worse, were excessive because of his fixed and inflexible approach to the valuation assignment. We believe that he so committed himself to the application

of Depreciated Cost techniques to the various individual improvements at No. 52 Barnhill Crescent that his judgement as to the totality became quite dissociated from the market place as evidenced by all the other sales data. Had he checked his results objectively against the sales available, the over-estimation must surely have been apparent. That he did not do so amounts in the Board's opinion to incompetent conduct. In these circumstances it is disappointing for us also to record that having heard all of the evidence given at the Inquiry Mr Williamson seemed quite unable to accept that an alternative interpretation of the facts might be correct. Surely an open mind is one of the fundamental prerequisites for an impartial valuer!

In summary then, having heard and considered all the evidence before it, the Board is of the opinion that Mr Williamson's valuations of 27 June 1983 and 28 June 1984 did indeed grossly over-value the property at No. 52 Barnhill Crescent, Papakura. The Board further believes that the totality of his reports, submissions and evidence clearly demonstrate incompetence in the matter of these valuations by a Registered Valuer of Mr Williamson's experience.

The Board therefore finds Norval Joseph Williamson guilty of incompetent conduct in terms of charges No. 1 and No. 2.

Penalty

The preceding parts of this Decision were issued to the interested parties on 10 September 1986 to permit the presentation of such submissions in respect of penalty as Counsel for Mr Williamson might wish to offer. These submissions were duly received and have been carefully considered by the Board.

Having given full weight to the various mitigating factors which Mr Hubble has put before us, the Board remains firmly of the view that the circumstances of the case demand a significant penalty. Nevertheless, Counsel's submissions and the fact that this is the defendant's first appearance before the Board have satisfied us that to strike off or suspend Mr Williamson's Registration would be inappropriate. We have therefore considered the alternatives mindful that while the impact of the available monetary penalties has been somewhat eroded it is necessary that the Board should act fairly and consistently within the parameters of its statutory powers from time to time.

Therefore, having found Norval Joseph Williamson guily of incompetent conduct in terms of Charges I and 2, the Board, acting under the powers vested in it by Section 33 of the Valuers Act 1948, does hereby fine him the following sums:

(l) As to Charge 1: $750 (SEVEN HUNDRED & FIFTY DOLLARS)

AND

(2) As to Charge 2: $250 (TWO HUNDRED & FIFTY DOLLARS).

These amounts to be paid by him as directed by the Registrar.

M. R. Hanna
Inquiry Chairman

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