TURNER DRAKE + PARTNERS

newsletter

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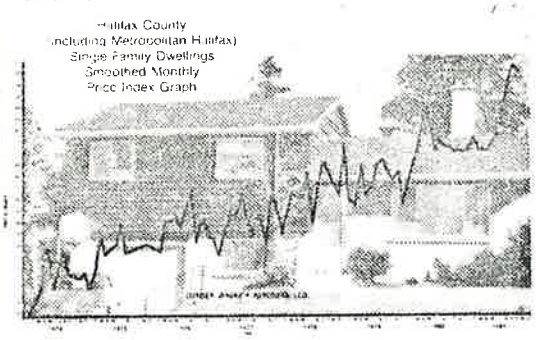
Doubledutch?

Every week Fred Webbinck builds a concrete building the size of a small house ..... and then tips it into Halifax Harbour.

The action of a demented real estate developer, finally driven beyond the edge of reason by high interest rates? No! Actually, Fred is a quiet rational gentleman who came to Canada from Holland almost three decades ago. He certainly has an interest in real estate but that has nothing to do with his apparent demonic habit of depositing it in the harbour's murky depths.

Fred is the General Manager of Foundation Maritime Ltd. and for the past two years he has been building huge concrete pontoons for H.M.Q.'s dockyard expansion program. They are built at the water's edge, adjacent to Purdy's Wharf, Upper Water Street in Halifax, and then launched broadside into the harbour and floated round to the dockyard.

Residential Report



One of the computer tools we utilize for residential appraisals is a time weighted index. Since property prices are cyclical within the year, falling to their nadir in December/January and reaching their zenith in the spring selling period of mid-March to mid-June, broad statements of annual price rises are misleading. Once prices have reached their spring selling peak they will soften later in the year and may not exceed this price again until the spring of the succeeding year. Since the most reliable way of appraising residential properties is the Direct Sales Comparison Approach, i.e. by comparing them with the sales of similar properties, which may have sold at different times during the year or previous years, it is necessary to adjust the sale prices to the appraisal date so that they can be used for comparison purposes. The time weighted index allows us to do this.

Capital Gains Tax

We are increasingly being requested to appraise rental properties such as duplexes, triplexes, etc. for Capital Gains Tax purposes. We have, therefore, extended our time weighted index back an additional three years to January 1970. Our computer will now "index back" sale prices to this date, thus strengthening our ability to appraise property as at the 31st December, 1971 for Capital Gains Tax purposes.

John K. Walker Appraisal Services Ltd. co-operated with us in contributing some of the additional data and they too will have access to our computer output for their clients.

Commercial Comment

A god Called IRR

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The internal rate of return (IRR) is increasingly being used as a selling tool for income producing properties. A shopping centre or office building will typically be marketed on the basis of the IRR the equity investment will yield over a given time horizon. A $5 million office building will be promoted on the basis that the required 25% equity investment will yield an IRR before tax of, say, 18%. The balance will be financed and the resulting cash flow, after debt service, will yield 18% on the $1.25 million equity investment, assuming that the property is sold at the end of a 10 year holding period. I sounds very attractive, but .....

It's All Done by Mirrors!

You may not actually receive $225,000/year (18% x $1.25 million) in the example cited above.

The IRR is the rate of return that is being earned on the capital tied up, while it is tied up, after allowing for recoupment of the initial investment.

Let's take a very simple example. A property purchased for $100,000 cash, held for five years, and resold for $80,000. The property is leased for $20,000/year net absolute (the tenant pays for everything).

Year	Equity Investment Outstanding at Beginning of Year	Cash Flow (Rent and Resale Price)	Yield (17.1576%) on Outstanding Equity Investment	Equity Recoupment
1.	$100,000	$ 20,000	$17,158	$ 2,842
2.	$ 97,158	$ 20,000	$16,670	$ 3,330
3.	$ 93,828	$ 20,000	$16,099	$ 3,901
4.	$ 89,927	$ 20,000	$15,429	$ 4,571
5.	$ 85,356	$100,000	$14,645	$ 85,355
6.	Ø	Ø	Ø	Ø
Total (Rounded)	Ø	$180,000	$80,000	$100,000

The rent of $20,000 per year, plus the sale proceeds of $80,000 in Year 5, are sufficient to recoup the initial $100,000 purchase price and yield 17.1576% on the outstanding equity tied up, while it is tied up. If we had been able to sell the property for $100,000 in Year 5, i.e. recoup the initial purchase price in full, then of course the IRR would have been 20%, i.e.

$$\frac{\text{Rent}\ \$\ 20,000}{\text{Purchase Price}\ \$100,000} = 20\%$$

In the real world, properties propelled by inflationary pressures usually sell for a higher price than the initial purchase price. If the capital and rental values of this property had increased at a compound annual rate of 6%, over the 5 year holding period, the IRR would have been 26%. However, this rate is derived from a cash flow expressed in *current* (inflationary) dollars. In reality, if inflation runs at 8.5% per annum the rate projected to continue for the remainder of this century, the non-inflationary IRR would have been only 18%. The way the cash flow is treated, therefore, makes a considerable difference to the resulting IRR and this has to be clarified before considering any investment proposal:

Treatment of Cash Flow	IRR
Deflated 1982 Dollars	18%
Constant 1982 Dollars	20%
Current (Inflationary) Dollars	26%

IRRS - Take Your Pick!

The IRR formula is a polynomial of degree *n* and has *n*-1 roots, where *n* equals "the number of years". The majority of these roots is usually negative or imaginary and can be ignored. However, where negative cash flows occur during the investment holding period due, for example, to vacancy, heavy capital expenditures, etc., there may be *more than one positive IRR*.

you may, for example, have an investment proposal which yields an IRR of 25%.....but just as happily and correctly.....has an IRR of 10%. Both are correct! There will, in fact, be as many positive IRR's as there are changes in the sign of the cash flow. Thus, if after the initial investment, the subsequent positive cash flow turns negative, and then positive again, there will be 3 IRR's. A way of testing if there are multiple positive IRR's is to check if there is "negative capital", i.e. if the discounted value of the positive cash flows exceeds the value of the preceeding outflows. Although such situations are abnormal when working with "before tax" cash flows with freehold property, we can envisage them arising, particularly with leasehold properties.

The Many Faces of IRR

In an effort to overcome the problems caused by negative capital and the resulting multiple IRR's the standard single investment internal rate of return has been modified to eliminate negative cash flows. There are at least four main versions of IRR in current use, with several variants:

(1) IRR (Single Investment Version)

This is the version described above. It is the one most commonly used and is usually used with cash flows expressed in current (inflationary) dollars. This IRR discounts the present worth of all of the inflows (net operating income and sale price at end of investment holding period) and all of the outflows (purchase price at beginning of investment holding period plus all negative net operating incomes) to the beginning of the investment holding period. The IRR is the discount rate at which the present value of the inflows = the present worth of the outflows. This version is available on our Compuval computer system.

(2) MIRR (Modified IRR)

This version first discounts all of the outflows to their present value, at the beginning of the investment holding period, at the cost of capital rate. It then calculates the future value of all inflows by compounding them, at the reinvestment rate, to the end of the investment holding period. The modified IRR is the interest rate which will compound the present value of the outflows, over the investment holding period, so that they equal the future value of the inflows.

This version is also available on our Compuval computer system. It has the advantages of overcoming the multiple IRR problem and also of taking into account the opportunity costs associated with reinvesting the cash flows. This is an advantage, particularly where the property is part of a portfolio. Since the reinvestment rate is dependant on the returns available from alternate investments in the portfolio, the MIRR is also referred to as an *external rate of return*. (This phrase is a useful conversation stopper whenever it appears that the party you're explaining matters to, gives every appearance of knowing as much or more about it then you do).

(3) EIRR (Extended IRR)

This version adjusts the cash flows to eliminate all outflows (negative cash flows) other than the initial purchase price. It does this by discounting these outflows back towards the beginning of the investment holding period, at the cost of capital rate. The outlay is discounted back until it is offset by an inflow (positive cash flow). The IRR is then calculated in the manner described for the standard IRR.

(4) FMRR (Financial Management Rate of Return)

Conceptually this is the most elegant IRR model. The cash flow is adjusted to eliminate all outflows (negative cash flows), other than the initial purchase price, by discounting them back until they are offset by an inflow (positive cash flow) in the same manner as the EIRR. Any remaining outflows are then discounted back to the beginning of the investment period à la MIRR. The remaining inflows are compounded forward, usually at the short term reinvestment rate, until the accrued sum reaches the minimum size necessary to invest in other projects at a long term investment rate terminating at the end of the investment holding period.

(4) cont'd
The FMRR is then calculated in the same manner as the MIRR, i.e. by calculating the geometric rate of growth between the present value of the outflows (at the beginning of the time horizon) and the future value of the inflows (at the end of the time horizon).

..... got it!

Expropriation

We have come across some instances where government departments and Crown Corporations have approached property owners and opened negotiations for the purchase of their property prior to the instigation of expropriation proceedings. The property owner has commissioned an appraisal, and presumably also paid legal fees, in anticipation that he would be paid when agreement was reached; only to realize, after the government department has changed its mind about purchasing the property, that he/she has to pay the appraisal and legal costs out of his/her own pocket.

We advise all clients in these circumstances to insist that the expropriating authority first proceed with the expropriation *before* they commence negotiations. The reasonable costs of one appraisal and the legal fees will be paid *as a matter of right* under the Expropriation Acts (Federal and Provincial). Unfortunately many (most?) expropriating bodies omit to inform the property owner of his/her rights in this regard, presumably because they think this will make their negotiations easier. Many lawyers do not appear to know either and the unfortunate property owner often settles on disadvantageous terms because he is not professionally represented.

We intend analyzing the risks and profits associated with proceeding direct to the Expropriations Compensation Board/Court in a future issue of Newsletter.