

<i>Year Ending 31 March</i>	1991	1992
Payment at period end—		
by issuer (B)	\$70,000	\$70,000
by holder (C)	-	-
Days from 31/3 to 15/5	45	45
$N = 365/45$	8.11111	8.11111
$F = R/(100 \times N)$	0.02001	0.02001
$R = 16.2308$		
Present Value = $\frac{(A + B - C)}{(1 + F)}$	\$1,020,887	\$1,038,895

Note: See Example A in Determination G10B: Present Value Calculation Methods for these present values.

(c) The following schedule may then be constructed, showing the income in respect of each Income Year—

<i>Income Year Ending 31 March</i>	<i>Present Value at Year End (a) or (d)</i>	<i>Payment by Holder (b)</i>	<i>Payments by Issuer (c)</i>	<i>Income Earned by Holder</i>
1991	1,020,887	1,012,500	-	8,387 (i)
1992	1,038,895	-	140,000	158,008 (ii)
1993	-	-	1,140,000	101,105 (iii)
				<u>\$267,500</u>

Note: (i) $\$1,020,887 - \$1,012,500 = \$8,387$

(ii) $\$1,038,895 - \$1,020,887 + \$140,000 = \$158,008$

(iii) Calculated using the formula for the base price adjustment in section 64F (2) of the Act:

$a - (b + c)$

Where

$a = \$70,000 + \$70,000 + \$70,000 + \$1,070,000 = \$1,280,000$, the sum of all amounts payable to the holder, and

$b = \$1,012,500$, the acquisition price, and

$c = \$8,387 + \$158,008 = \$166,395$, the amount of income derived to date by the holder.

Note that this is confirmed by extending the same calculation procedure used for 1991 and 1992, into 1993 as follows:

$a = 0$, the Present Value at the end of the 1993 Income Year.

$b = 0$

$c = \$1,140,000$, the payments by the issuer in the year.

$d = \$1,038,895$, the Present Value at the previous balance date.

Hence

$$a - b + c - d = \$101,105.$$

(2) Example B

(a) This example is also similar to that in Determination G3: Yield to Maturity Method (except for the dates).

On 12 March 1991 a holder acquires for \$1,012,500 the right to receive the following income:

	\$
15 May 1991	70,000
15 November 1991	70,000
15 May 1992	70,000
15 November 1992	1,070,000
Total	<u>\$1,280,000</u>

The holder balances on 31 March. All amounts are in New Zealand currency.

This income would be typical of a New Zealand Government Stock with a 14% coupon maturing 15 November 1992.

Under Method B of calculating the Present Value of a financial arrangement, it is calculated that the Annual Yield To Maturity Rate is 16.265%. This is the interest rate at which the Present Value of payments due after 12 March 1991 is equal to \$1,012,500. See the footnote to this Example B for details of calculation using the HP-12C calculator.

(b) The present values at the end of each Income Year are calculated using Method B of Determination G10B: Present Value Calculation Methods. The method is the same as that adopted by the International Association of Bond Dealers and used in the HP-12C and similar calculators.

The calculation of present values in Example B may be made using the BOND PRICE function on the HP-12C (or equivalent) calculator. The following steps reproduce the "Present Value at year end" for the Income Year ending 31 March 1991:

Specified rate	16.265	(g) (D.MY)	
Coupon % pa	14	(i)	
Value date	31.031987	(PMT)	
Maturity date	15.111988	(ENTER)	
Add accrued interest		(f) (PRICE)	96.824919
		(+)	102.084588

which is the per \$100 nominal price corresponding to \$1,020,846.

(c) The following schedule may then be constructed:

<i>Income Year Ending 31 March</i>	<i>Present Value at Year End</i>	<i>Payment by Holder</i>	<i>Payments by Issuer</i>	<i>Income Earned by Holder</i>
1991	1,020,846	1,012,500	-	8,346 (i)
1992	1,039,241	-	140,000	158,395 (ii)
1993	-	-	1,140,000	100,759 (iii)
Total				<u>\$267,500</u>

Note: (i) $\$1,020,846 - \$1,012,500 = \$8,346$

(ii) $\$1,039,241 - \$1,020,846 + \$140,000 = \$158,395$

(iii) Calculated using the formula for the base price adjustment in section 64F (2) of the Act:

$a - (b + c)$

Where

$a = \$70,000 + \$70,000 + \$70,000 + \$1,070,000 = \$1,280,000$, the sum of all amounts payable to the holder,

$b = \$1,012,500$, the acquisition price, and

$c = \$8,346 + \$158,395 = \$166,741$, the amount of income derived to date by the holder.

Note that this is confirmed by extending the same calculation procedure used for 1991 and 1992, into 1993 as follows:

$a = 0$, is the Present Value at the end of the 1993 Income Year.

$b = 0$

$c = \$1,140,000$, are the payments by the issuer in the year.

$d = \$1,039,241$, is the Present Value at the previous balance date.

Hence

$$a - b + c - d = \$100,759.$$

Footnote: The calculations may be made using the BOND PRICE function on the HP-12C (or equivalent) calculator.