DETERMINATION > FINANCIAL ARRANGEMENTS > GENERAL

Variable Rate Financial Arrangements

Issued: 22 January 1993

G26

This Determination may be cited as "Determination G26: Variable Rate Financial Arrangements".

1 Explanation (which does not form part of the determination)

1. Determination G26 applies to variable rate financial arrangements on which Interest is paid at least annually. Any income or expense relating to a variable rate financial arrangement must be accrued. Determination G26 sets out two alternative methods by which this should be done, and explains the circumstances in which each should be used.

   A variable rate arrangement may be a floating rate arrangement or a reviewable rate arrangement.

   Floating rate arrangements are those where the Interest rate is reset periodically according to a predetermined formula. The formula links the Interest rate to an indicator rate such as the bank bill or interbank rate.

   Reviewable rate arrangements are those where the Interest rate is set periodically in line with market rates. Any change in the Interest rate reflects and is consistent with changes in market Interest rates. The most common form of reviewable rate loan is a mortgage where the Interest rate is subject to periodic review by the lender.

2. The income or expense in relation to a variable rate arrangement could consist of:

   (a) Periodic Interest payments as determined from time to time;

   (b) A premium or discount on the issue or face value of the arrangement;

   (c) Fees paid or received in relation to the arrangement.

   These amounts must be accrued.

3. The methods provided in this determination separately accrue:

   (a) Periodic Interest on a daily basis over the income year to which it relates;

   (b) Any discount or premium and fees over the term of the arrangement, on either a straight line basis (Method A) or a yield to maturity basis (Method B).

4. The critical factor in deciding whether Method A or Method B applies to an arrangement is the size of the premium or discount (including fees) relating to the arrangement.

   (a) Method A applies to financial arrangements where there is a small (or no) discount or premium. These are arrangements where the discount or premium and fees (non-contingent fees with a limit of 2% of the core acquisition price, plus

contingent fees) is less than 2% of the average amount of principal outstanding over the term of the arrangement. (For a full definition see clause 5 - Interpretation).

(b) Method B is of general application, and may be applied to any variable rate financial arrangement within the scope of this determination.

5. **Method A** permits the spreading of fees and premium or discount over the term of a financial arrangement on a straight line basis, in proportion to the principal outstanding. The simplest case of Method A occurs where the principal is fixed throughout the term. In that case, the premium or discount and fees are spread on a straight line basis over the term of the arrangement.

6. **Method B** can be applied regardless of the amount of fees and premium or discount. It requires the fees and premium or discount to be spread on a yield to maturity basis. Since the future cashflows are not known, the actual yield to maturity rate cannot be calculated, but must be estimated. This is done by using the initial Interest rate (or price or index) and assuming that this rate will apply throughout the term of the financial arrangement.

   The spreading of fees and premium or discount may be done on either a per Period basis or a per income year basis. To calculate the yield to maturity, Method B uses either Determination G3: Yield to Maturity Method or Determination G10B: Present Value Calculation Methods and G11A: Present Value Based Yield to Maturity Method.

7. It is important to note that in both Method A and Method B there is no recalculation or respreading of fees and discount or premium, when there is a change in Interest rate, price, or index. The spreading is done only once, at either the date of acquisition or issue as the case may be.

8. Interest is calculated separately for each period (or income year) depending on the actual Interest rate applying in the Period (or the Periods within that income year).

9. A holder of a variable rate financial arrangement to which this determination applies may bring any fees or premium received at the date of issue of the financial arrangement into income at that time.

10. Those taxpayers to whom section 64C(2A) of the Act applies should use Determination G24: Straight Line Method.

2 Reference

This determination is made pursuant to section 64E(1)(b) of the Income Tax Act 1976

3 Scope

Determination G26 shall be applied to any variable rate financial arrangements where:

(a) All of the amounts payable (other than the principal, any discount or premium, and any fees) are either:

(i) set periodically according to a predetermined formula. That formula must link the amounts payable to economic, commodity, industrial, or financial indices or prices, or banking rates, or general commercial rates; or

(ii) set periodically by reference to market interest rates; and

(b) The amounts of principal (including any fees and any premium or discount) and the times or intervals at which they are to be advanced and repaid, are known, or are able to be determined, or can reasonably be anticipated, as at the first balance date after issue or acquisition.

(c) Interest is paid at least annually.

Determination G26 provides two alternative methods acceptable for the purposes of section 64C(3) of the Act.

(NOTE: A determination to which Determination G26 refers may be changed or rescinded by a new determination made by the Commissioner. In such a case, a reference to the old determination is taken to be extended to the new determination.)

4 Principle

1. The income deemed to be derived or expenditure deemed to be incurred by a person in a Period (or income year) is calculated by adding together:

   (a) The amount of the Total Finance Charges Excluding Interest allocated to that Period (or income year); and

   (b) The amount of Interest payable or receivable in that Period (or income year).

2. Method A and Method B find and then allocate the Total Finance Charges Excluding Interest to each Period (or an income year) of the financial arrangement. Once this amount has been allocated, the amount of Interest payable or receivable in that Period (or income year) is added to it. This gives the income or expenditure for each Period (or income year) of the financial arrangement.

(a) Method A may only be applied to Small Discount or Premium Financial Arrangements. It results in an allocation to each Period proportionate to the amount of principal outstanding in that Period, and the length of that Period.

(b) Method B may be applied to other financial arrangements. It assumes that the rate, price or index known to apply in the first Period applies to all subsequent Periods. The Act and determinations are used to spread the Total Finance Charges over the term of the financial arrangement. The assumed Interest content of the Total Finance Charges in each Period (or in each income year) is then subtracted.

The yield to maturity method or other permissible method would be used for calculation purposes.

5 Interpretation

1. In this determination, unless the context otherwise requires—

Expressions used have the same meanings as in the Act and where a word or expression is given a particular meaning for the purposes of sections 64B to 64M of the Act, it shall have the same meaning as in this determination.

"the Act" means the Income Tax Act 1976:

"Interest" does not have the meaning given in section 2 of the Act. Rather for the purposes of this determination it means any periodic payment in relation to the financial arrangement, to the extent intended to provide a return to the lender on the sums provided to the borrower. It does not include fees, discounts, or premiums, or payments effecting a reduction of principal.

"Period" means a term commencing immediately after a payment is payable or receivable, and ending when the next payment is payable or receivable. Where the Period is longer than one year, the Period is deemed to comprise one or more Periods each of one year followed (or preceded, at the option of the holder or issuer as the case may be) by a Period of less than one year.

The duration of the financial arrangement should be evenly divided into Periods, which may be measured in days, weeks, fortnights, months, quarters, half years, or years. If an even division is not possible, then the remainder should be treated as a partial Period, and expressed as a fraction of a full Period.

$$m \times \frac{n}{o}$$

where

m = the number of days in the partial Period

n = number of full Periods in a year

o = number of days in a year

For example, if all other Periods are measured in months then a Period of 5 days would be treated as

$$5 \times \frac{12}{365} = 0.1644 \text{ of a month}$$

There must be no more than two partial Periods in any financial arrangement.

“Small Discount or Premium Financial Arrangements” means a financial arrangement to which this determination applies, in respect of which—

(a) The only variable parts of an amount payable comprise Interest which is:

(i) Payable at yearly or more frequent intervals; and

(ii) Is calculated on the amount of the principal outstanding from time to time since the previous Interest payment (or since the date of issue or acquisition if that is later); and

(b) The amount of the Total Finance Charges Excluding Interest (ignoring whether it is a positive or negative amount) is not more than the product of:

(i) Two per cent; and

(ii) The expected term of the financial arrangement calculated in years and fractions of a year; and

(iii) The time-weighted average amount of principal that is reasonably expected to be outstanding during the expected term of the financial arrangement.

Clause 7 of this determination provides examples which show whether or not a financial arrangement is a Small Discount or Premium Financial Arrangement.

"Total Finance Charges" in relation to a financial arrangement means—

(a) For an issuer, the total of all amounts payable by the issuer less the total of all amounts receivable by the issuer, pursuant to the financial arrangement;

(b) For a holder, the total of all amounts receivable by the holder less the total of all amounts payable by the holder, pursuant to a financial arrangement.

Any fees payable in relation to the financial arrangement must be reduced by the amount of item z as defined in sections 64BA(2) or 64BA(3) of the Act.

"Total Finance Charges Excluding Interest" in relation to a financial arrangement means the Total Finance Charges excluding all amounts of Interest payable or receivable.

2. For convenience, words and phrases defined in this determination are indicated by initial capital letters, but the absence of a capital letter shall not alone imply that the word or phrase is used with a meaning different from that given by its definition.

6 Method

1. A person may apply Method A to Small Discount or Premium Financial Arrangements, and Method B to any other financial arrangement. In order to determine whether Method A can be applied, use the criteria outlined in the Interpretation clause of this determination.

2. Method A shall be applied in respect of Periods. Method B may be applied either in respect of income years or Periods.

3. The proviso to paragraph (a) of section 64C(3) of the Act allows for another method, similar to those in this determination, to also be used.

4. Once a method has been selected for a financial arrangement, that method must be applied until that financial arrangement matures or is remitted, sold, or otherwise transferred by the person unless the prior consent of the Commissioner to adopt another method is obtained. (The Commissioner's consent may be given conditionally).

5. A person who:

(a) is a holder; and

(b) who receives a premium or fee on the issue or acquisition of a financial arrangement

may elect to include that fee or premium in the income derived by that person in the income year of issue or acquisition.

6. The formula

$$x + y$$

is used to calculate the income derived or expenditure incurred by a person in a Period (or an income year) in relation to the financial arrangement. In this formula:

x is the amount of Total Finance Charges Excluding Interest allocated to that Period (or to that income year); and

y is the amount of Interest payable or receivable in that Period (or that income year).

7. Method A and Method B differ in the method used to calculate the value of x.

(a) Under Method A

$$x = \frac{a \times b \times c}{d}$$

where,

a is the Total Finance Charges Excluding Interest payable by the issuer or receivable by the holder as the case may be;

b is the length of the Period (b = 1 if the Period in question is a full Period, or, for a partial Period, b = a fraction calculated in accordance with the formula given in the clause 5 Interpretation);

c is the amount of principal outstanding during the Period;

d is the sum of all items (b × c) calculated in respect of every Period;

(b) Under Method B

$$x = e - f$$

Since, in a variable rate arrangement, the rate, price, or index varies during the term of the arrangement, the assumption is made that the rate, price or index that applies to the first Period after the date of issue or acquisition applies to all Periods of the financial arrangement. Using the assumption:

e is the income derived, or the expenditure incurred, for a Period (or income year); and

f is the Interest deemed to be payable by the issuer or receivable by the holder as the case may be.

The yield to maturity method is used in accordance with the Act and determinations to decide the value of "e".

8. Amounts calculated using this determination should be apportioned between income years using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

7 Examples

1. **Example A (illustrating Method A)**

On 12 February 1991 a company issues notes with a face value of $10,000 for 5 years, at an interest rate of bank bill plus 0.75% pa payable half yearly in arrears. The notes are issued at a discount of 5%. The borrower is a New Zealand company. Contingent fees of 2.5% of $10,000 are payable by the borrower; there are no non-contingent fees.

There is no change in the principal outstanding over the 5 years. The average principal outstanding is therefore $10,000, both overall and within each half year Period.

(a) Before calculating the amount of expenditure deemed to be incurred by the borrower over the term of the arrangement, it is first necessary to determine whether Method A or Method B is to be used. For Method A to be used, the arrangement must satisfy the criteria for a Small Discount or Premium Financial Arrangement (see clause 5 Interpretation).

In this example, the Total Finance Charges Excluding Interest payable by the borrower are calculated as follows:

$10,000	principal payable
+ 250	fees paid
− 9,500	principal received
a = 750	

Ignoring sign, $750 is less than the amount which determines whether or not Method A can be used, calculated as follows:

2% × the expected term of the financial arrangement calculated in years and fractions of years (5) × the average principal outstanding ($10,000)

2% × 5 × 10,000 = $1,000

So Method A of this determination may be applied.

(b) The expenditure deemed to be incurred by the borrower in a specific Period is calculated using the formula

$$x + y$$

(i) x is the amount of Total Finance Charges Excluding Interest allocated to that Period. Using Method A

$$x = \frac{a \times b \times c}{d}$$

where

a = the Total Finance Charges Excluding Interest payable by the issuer or receivable as the case may be;

b = the length of the Period

= 1 throughout the time of the financial arrangement, as all of the Periods are the same length (half a year)

c = the amount of principal outstanding during the Period;

= $10,000 in all Periods.

d = the sum of all items (b × c) calculated in respect of every Period;

= 1 × $10,000 × 10 (as there are 10 half year Periods);

= $100,000.

$$\text{Therefore, } x = \frac{750 \times 1 \times 10{,}000}{100{,}000}$$

$$= \$75 \text{ for each half year Period.}$$

(ii) y is the amount of Interest payable or receivable in the Period.

Therefore, in this example,

y = Interest calculated at the bank bill rate plus 0.75%.

(iii) Therefore, the expenditure incurred by the borrower in each half year would be:

x + y

($75 + Interest calculated at the bank bill rate plus 0.75%)

This expenditure would be spread using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

If the fees were payable to a holder who was a New Zealand taxpayer (but not a cash basis holder), this taxpayer would be deemed to have derived similar amounts of income.

2. **Example B (a further illustration of Method A)**

On 12 February 1991 a company issues notes with a face value of $10,000 for five years at an interest rate of bank bill plus 0.75% pa payable half yearly in arrears. The notes are issued at a discount of 4.5%. The borrower is a New Zealand company.

$2,000 of the face value of the notes is to be repaid on each anniversary of the issue. There are no fees.

The length of each Period is measured in half years, so b = 1 throughout.

The average principal outstanding over the five years is:

$$\frac{(10{,}000+8{,}000+6{,}000+4{,}000+2{,}000)}{5} = \$6{,}000$$

(a) Decide whether Method A can be applied.

The Total Finance Charges Excluding Interest payable by the borrower are equal to:

$10,000	principal payable
+ 0	fees paid
– 9,550	principal received (after discount)
a = 450	

Ignoring sign, this is less than:

2% × 5 (years) × 6,000 (average principal outstanding) = $600

So Method A of this determination may be applied.

(b) Calculate the value of x

The following table sets out the allocation of the Total Finance Charges Excluding Interest:

Half Year Period b = 1	Principal Outstanding c	Sum of (b × c)	Allocation a × b × c / d
	$	$	$
1	10,000	10,000	75
2	10,000	10,000	75
3	8,000	8,000	60
4	8,000	8,000	60
5	6,000	6,000	45
6	6,000	6,000	45
7	4,000	4,000	30
8	4,000	4,000	30
9	2,000	2,000	15
10	2,000	2,000	15
		Total 60,000	450

(i) y = Interest on the principal outstanding in the half year at the bank bill rate plus 0.75% p.a.

(ii) The expenditure incurred by the borrower in each half year Period would be:

x (calculated in accordance with the above table) + y

This expenditure would be spread using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

If the fees were payable to a holder who was a New Zealand taxpayer (but not a cash basis holder), this taxpayer would be deemed to have similar amounts of income.

3. **Example C (another illustration of Method A)**

This is similar to Example B, but issued at a premium, and seen from the holder's viewpoint. It is somewhat artificial, in order to illustrate a point.

On 12 February 1991 a company borrows $10,000 for 5 years at an interest rate of bank bill plus 2% p.a. payable half yearly in arrears.

The money is raised by issuing notes at a premium of 5%. The purchaser is a New Zealand company. Contingent fees of 2% are payable by the issuer to the purchaser (holder).

$2,000 of the face value of the notes is to be repaid on each anniversary of the issue. The length of each Period is measured in half years, so b = 1 throughout.

The average principal outstanding over the five years is:

$$\frac{(10,000+8,000+6,000+4,000+2,000)}{5} = \$6,000$$

(a) Decide whether Method A can be applied.

The Total Finance Charges Excluding Interest payable to the lender are equal to:

$10,000	principal payable
+ 200	fees received
–10,500	principal paid
a = –300	

Ignoring sign, this is less than:
2% × 5 × 6,000 = $600

So Method A of this determination may be applied.

(b) The income deemed to be derived by the holder in a Period is calculated using the formula

x + y

(i) Calculate the value of x

The following table sets out the allocation of the Total Finance Charges Excluding Interest:

Half Year Period b = 1	Principal Outstanding c	Sum of (b × c)	Allocation $\frac{a \times b \times c}{d}$
	$	$	$
1	10,000	10,000	–50
2	10,000	10,000	–50
3	8,000	8,000	–40
4	8,000	8,000	–40
5	6,000	6,000	–30
6	6,000	6,000	–30
7	4,000	4,000	–20
8	4,000	4,000	–20
9	2,000	2,000	–10
10	2,000	2,000	–10
		Total d = 60,000	a = –300

Note: x is negative because a premium has been paid.

(ii) y = Interest on the principal outstanding in the half year at the bank bill rate plus 2% p.a.

(iii) The income derived by the holder in each half year Period would be:

x (calculated in accordance with the above table) + y

This income would be spread using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

4. **Example D (illustrating Method B on a Period Basis)**

This example uses Determination G3: Yield to Maturity Method.

A New Zealand company issues notes with a face value of $10,000 for a term of 3 years at a discount of 10% ($1,000). The Interest rate is equal to Libor plus 1% pa, and Interest is payable half yearly in arrears. There are no fees.

The Interest rate is 10% in the first Period after issue.

Assuming that this interest rate holds throughout the term of the notes, the yield to maturity is 14.21% pa, calculated at half yearly rests.

(a) Decide whether Method A can be applied.

Total Finance Charges Excluding Interest is equal to:

$	10,000	principal payable
+	0	fees paid
–	9,000	principal received (after discount)
a =	1,000	

Ignoring sign, this is more than: 2% × 3 (years) × 10,000 (average principal outstanding) = $600. Because the Small Discount or Premium criteria are not met, Method A may not be applied.

(b) The expenditure deemed to be incurred by the borrower in a Period is equal to

x + y.

(i) Calculate the value of x (Total Finance Charges Excluding Interest allocated to that Period)

$$x = e - f$$

Method B assumes that the Interest rate applying in the first Period (10% in this example) applies throughout the financial arrangement.

e is the Total Finance Charge. This is calculated using Determination G3: Yield to Maturity Method (or G10B in conjunction with G11A). The yield to maturity rate is 14.21% pa. (See table for the value of e in each Period.)

f is the Interest that would be payable by the borrower if the rate that applied in the first Period after the date of issue applied to all Periods of the financial arrangement.

Since the initial Interest rate is 10% in this example, f = 500 for each Period.

(ii) y = the actual Interest paid in a Period. Values for this example are shown in the table below.

(iii) The expenditure deemed to be incurred in each Period using Method B is calculated in the following table:

Period	Total Finance Charges (assuming 10% pa interest) (1) e	Interest (at 10% pa) (2) f	Total Finance Charges Excluding Interest x = e – f	Actual Interest rate % pa	Actual interest payable y	Total expenditure deemed to be incurred x + y
1	640	500	140	10	500	640
2	649	500	149	11	550	699
3	660	500	160	9	450	610
4	671	50	171	9	450	621
5	683	500	183	8	400	583
6	697	500	197	8	400	597
	4,000	3,000	1,000		2,750	3,750

NOTES:

(1) Based on a yield to maturity of 14.21% pa calculated using Determination G3 and an interest rate of 10% pa throughout.

(2) 10% is the rate applying in the first Period after issue.

Whole dollars and minor adjustments have been made to aid readability. The results still satisfy the requirements of Determination G2: Requirements as to Precision. That Determination allows for the use of results other than those calculated using the Yield to Maturity Method, provided they do not result in a difference of more than $5 per period.

The total expenditure is confirmed as:

$	1,000	discount (x)
+	2,750	interest actually payable (y)
$	3,750	

(Note: In practice the expenditure in the final income year would be determined using the base price adjustment in section 64F of the Act.)

The expenditure for each Period would be apportioned using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

If the fees were payable to a holder who was a New Zealand taxpayer (but not a cash basis holder), this taxpayer would be deemed to have derived similar amounts of income.

5. **Example E (illustrating the application of Methods A and B to a reviewable rate loan)**

A company borrows $1,000,000 for 5 years. The loan will be repaid on a table mortgage basis over the 5 year period with yearly interest reviews. The initial interest rate is 14.5% pa. A fee of $10,000 is charged when the loan is drawn down. The company is a New Zealand taxpayer and the issuer in relation to the financial arrangement.

For the purposes of this example, the total expenditure incurred has been calculated using both Method A and Method B.

(a) Method A

The Total Finance Charges Excluding Interest payable by the issuer equals:

$	1,000,000	principal payable
+	10,000	fees paid
–	1,000,000	principal received
a	= 10,000	

Ignoring the sign, this is less than:

2% × 5 × 653,736 (average principal outstanding).
= $65,373

Therefore Method A may be applied.

The expenditure deemed to be incurred by the issuer is equal to x + y

(i) Calculate the value of x.

The following table sets out the cashflows in relation to the arrangement (based on an initial interest rate of 14.5% pa) and the allocation of the Total Finance Charges Excluding Interest to each income year on a straight line basis, as allowed for in Method A.

Period b = 1	Principal Outstanding c (1)	Payment	Principal Reduction	Interest at 14.5% pa	x = Allocation to each one year period $\frac{a \times b \times c}{d}$
Year 1	1,000,000	294,792	149,792	145,000	3,059
Year 2	850,208	294,792	171,512	123,280	2,601
Year 3	678,696	294,792	196,381	98,411	2,076
Year 4	482,315	294,792	224,856	69,936	1,476
Year 5	257,459	294,792	257,459	37,333	788
	3,268,678		1,000,000	473,960	10,000

NOTES:

(1) Calculated at 14.5% p.a.

(2) Figures rounded to nearest whole dollar

(3) b = 1, since all Periods are the same length a = 10,000, and d = 3,268,678 throughout the term of the arrangement.

(ii) In this case, "y" is the actual Interest paid in a Period. Values for this example are shown in the table below.

(iii) The expenditure deemed to be incurred in each Period is shown in the table below. The example assumes that the annual payment is adjusted to reflect the move in Interest rates. Thus the principal outstanding in any period will be as calculated in the table above.

Year	Allocation x	Interest rate %	Actual Interest payable y	Total expenditure incurred x + y
1	3,059	14.5	145,000(i)	148,059
2	2,601	13.5	114,778(ii)	117,379
3	2,076	12.8	86,873	88,949
4	1,476	12.0	57,878	59,354
5	788	12.9	33,212	34,000
	10,000		437,741	447,741

NOTES:

(1) Figures rounded to whole numbers.

(2) (i) $1,000,000 (principal outstanding in the first Period) × 14.5% = $145,000 (ii) $850,208 (principal outstanding in the second period) × 13.5% = $114,778

(3) The allocation of the Total Finance Charges Excluding Interest does not change as the Interest rate changes.

(b) Method B

This example assumes that the borrower chose to account for all its variable rate financial arrangements using Method B of this Determination. The expenditure deemed to be incurred is calculated using the formula x + y.

In Method B, x = e − f.

(i) Calculate e. The yield to maturity is calculated as 14.923% pa using Determination G3: Yield to Maturity Method and the expected cashflows which are as follows:

(990,000)	principal lent net of fees paid
294,792	annual payments
294,792	annual payments
294,792	annual payments

294,792	annual payments
294,792	annual payments

The table below shows the values of e for each Period.

(ii) Calculate f at an Interest rate of 12.45%, the rate for the first Period. The values for f are shown on the table below.

The following table shows the calculation of the expenditure deemed to be incurred by the borrower.

Period	Total Finance Charges (assuming 14.5% pa Interest (1) e	Assumed Interest at 14.5% (2) f	Total Finance Charges Excluding Interest x = e – f	Actual interest rate % pa (3)	Actual interest payable y	Total expenditure deemed to be incurred x + y
1	147,734	145,000	2,734	14.5	145,000	147,734
2	125,790	123,280	2,510	13.5	114,778	117,288
3	100,000	98,411	2,159	12.8	86,873	89,032
4	71,587	69,936	1,651	12.0	57,878	59,529
5	38,279	37,333	946	12.9	33,212	34,158
	483,960	473,960	10,000		437,741	447,741

NOTES:

(1) Based on the yield to maturity rate of 14.923% pa, calculated using Determination G3 and an Interest rate of 14.5% throughout.

(2) At 14.5% pa; this is the same as in the first table in paragraph (a) of this example.

(3) Actual Interest payable (y) is calculated on principal outstanding in each Period and is the same as the second table in paragraph (a) above.

(4) Figures rounded to whole numbers.

6. **Example F (illustrating Method B on an income year basis)**

Method B may be applied in respect of Periods or income years. In example D and E, Determination G3 was used to calculate the yield to maturity rate, which was then used to calculate e (Total Finance Charges), for each Period. In the present example,

Determination G10B: Present Value Calculation Methods is used in conjunction with Determination G11A: Present Value Based Yield to Maturity Method to calculate the yield to maturity rate and e for each income year. Example F is similar to example D.

On 1 March 1992 a New Zealand investor purchases, for $9,000 a 3 year note with a face value of $10,000 maturing 1 March 1995. Interest at Libor plus 1% pa, is payable half yearly in arrears. Fees of 2% of the face value are payable by the borrower to the investor on issue. The investor balances on 31 March and elects to use a 365 day basis.

The Interest rate is 10% pa in the first Period after issue.

Assuming that this Interest rate holds throughout the term of the notes, the yield to maturity is 15.12% pa, calculated at half yearly rests. This allows for the 2% fees, and uses the net purchase price of 9,000 − 200 = 8,800.

Income deemed to be derived during an income year is calculated using the formula x + y.

(a) Method A of this determination cannot be used because the Small Discount or Premium Criteria are not met. That is, 2% × 3 (years) × 10,000 (average principal outstanding) = 600 which is smaller than the discount plus fees of $1,200.

(b) Apply Method B to calculate the value of x.

$$x = e - f$$

The following table sets out the allocation of the Total Finance Charges Excluding Interest (x) between the income years.

Income year ending 31/3	Present value at year end (1)	Assumed amounts receivable during year	Total Finance Charges (2)	Interest at 10% pa	Total Finance Charges Excluding Interest
			e	f	x = e – f
1992	8,906	–8,800	106	—	106
1993	9,253	1,000	1,347	1,000	347
1994	9,654	1,000	1,401	1,000	401
1995	—	11,000	1,346	1,000	346
		4,200	4,200		1,200

NOTES:

(1) Calculated at 15.12% pa in accordance with Method A of Determination G10B: Present Value Calculation Methods.

(2) Calculated in accordance with Determination G11A: Present Value Based Yield to Maturity Method. In the 1994 income year, for example—

Total Finance Charges =

(a)	9,654	Present value at year end
– (b)	0	Amounts payable by holder
+ (c)	1,000	Amounts receivable by holder
– (d)	9,253	Present value at preceding year end
=	1,401	

(c) In this case, y is the actual Interest paid in a Period. Values for this example are shown in the table below.

The income deemed to be derived in each income year will be as follows:

Income year ending 31/3	Period	Actual Interest rate % pa	Interest received in Period	Interest received in income year	Total Finance Charges Excluding Interest	Income deemed to be derived
				y	x	x + y
1992	—	—	—	—	106	106
1993	1	10	500	1,050	106	106
	2	11	550			
1994	3	9	450	900	401	1,301
	4	9	450			
1995	5	8	400	800	346	1,146
	6	8	400			
				2,750	1,200	3,950

The total is confirmed as:

	1,200	discount
plus	2,750	interest actually receivable
	3,950	

(Note: In practice the income in the final year would be determined using the base price adjustment in section 64F of the Act.)

If the fees were payable by a borrower who was a New Zealand taxpayer with the same income year end, this taxpayer would be deemed to have incurred similar amounts of expenditure.

About this document

General determinations set out the Commissioner's view on how the financial arrangements rules apply to a specific type of financial arrangement. All general determinations are binding on the Commissioner and some are also binding on taxpayers.