
TIB Appendix

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Determination G24: Straight Line Method

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This determination may be cited as “Determination G24: Straight Line Method.”

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

- (1) Under section 64C(2A) of the Income Tax Act 1976 (“the Act”), a taxpayer may use the straight line method to account for financial arrangements. The method may be used when the total value of all financial arrangements issued and held by that taxpayer is less than \$1,000,000 at all times during the income year. “Value” in relation to a financial arrangement is:
 - (a) For a fixed principal financial arrangement the nominal or face value of the arrangement; and
 - (b) For a variable principal debt instrument the amount owing by or to the person.
- (2) This determination sets out two methods for applying the straight line method to calculate income derived or expenditure incurred. Both methods refer to Total Finance Charges. The Total Finance Charges are the amount that will be spread over the term of the arrangement.
- (3) Total Finance Charges include interest, any premium or discount, and fees (excluding those deductible at the commencement of the loan). Interest payable under a Variable Rate Financial Arrangement is, however, excluded from the Total Finance Charges to be apportioned because it is not known in advance.
- (4) **Method A** applies only where the loan is for a fixed amount of principal with interest, if any, payable at regular intervals. All Periods Between Payments must be of equal length. Method A allocates the Total Finance Charges equally to each Period in the term of the arrangement.

Method B applies where the principal outstanding may vary, and the payments may be at irregular intervals. It allocates the Total Finance Charges to each period in the term of the arrangement in proportion to the principal outstanding in each Period and the length of that Period.

- (5) A Variable Rate Financial Arrangement is one where the interest rate is linked to an external indicator price or index. In this case the actual interest payable in respect of a Period is added to the Total Finance Charges excluding interest that have been apportioned to that Period. Note

that as a result the Total Finance Charges might be negative, if the Variable Rate Financial Arrangement was issued at a premium.

- (6) For this determination to apply -
 - (a) The amounts and due dates of all principal repayments must be known or reasonably able to be anticipated, and
 - (b) Interest, if any, must be calculated on the principal outstanding from time to time.
- (7) This determination can be applied to financial arrangements denominated in a foreign currency, in conjunction with Determination G9A: Financial Arrangements that are Denominated in a Currency or Commodity other than New Zealand Dollars.
- (8) Where a Period spans two income years, the amount of income derived or expenditure incurred in respect of the Period is apportioned between income years on a daily basis using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.
- (9) Section 64C(2B)(b) of the Act sets out the procedure to be followed on changing from the method previously used to account for the financial arrangement, to the straight line method. Example H illustrates how this procedure is applied.
- (10) Section 64C(2A)(c) of the Act says that a person using the straight line method must apply that method consistently to a financial arrangement until it matures, is sold, remitted or transferred unless the prior consent of the Commissioner to adopt another method is obtained.

2. Reference

This determination is made pursuant to section 64E(1) of the Act.

3. Scope of Determination

This determination applies where a person decides pursuant to section 64C(2A) of the Act to calculate the income or expenditure in relation to a financial arrangement using the straight line method, and the financial arrangement meets the following criteria:

- (1) The financial arrangement is a Variable Rate Financial Arrangement as defined in this determination, or the interest rate, if any, is specified in the financial arrangement and is fixed; and

- (2) The amounts of principal (including any fees and any premium or discount at the time of issue or acquisition) and the times or intervals at which they are to be advanced and repaid are known or can reasonably be anticipated or are able to be determined as at the first balance date after issue or acquisition; and
- (3) Interest, if any, is calculated on the amount of principal outstanding from time to time.

4. Principle

For financial arrangements which meet the criteria of this determination, the Total Finance Charges may be apportioned over the term of the financial arrangement pro rata with the principal expected to be outstanding in each Period Between Payments and the length of that Period. In the case of Variable Rate Financial Arrangements interest payable is excluded from the calculation of the Total Finance Charges; instead the actual interest payable in respect of a Period is added to the Total Finance Charges (excluding interest) which have been apportioned to that Period. In all other cases interest is included in the calculation of Total Finance Charges.

5. Interpretation

- (1) In this determination, unless the context otherwise requires -

Expressions used have the same meaning 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 the said sections 64B to 64M:

“the Act” means the Income Tax Act 1976:

“Period” or “Period Between Payments” means the term, commencing immediately after a payment is payable or receivable and ending when the next payment is payable or receivable:

Provided that if a Period exceeds one year it shall be 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:

“Total Finance Charges” in relation to a financial arrangement means -

- (a) in respect of 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) in respect of a holder, the total of all amounts receivable by the holder less the total of all amounts payable by the holder, pursuant to the financial arrangement;

excluding amounts of interest payable or receivable under a Variable Rate Financial Arrangement:

Provided that any amounts payable in relation to the financial arrangement shall be reduced by the amount of item z as defined in section 64BA(2) or 64BA(3) of the Act:

“Variable Rate Financial Arrangement” means a financial arrangement under which the interest rate is determined by a fixed relationship to economic, commodity, industrial or financial indices or prices, or banking rates or general commercial rates.

- (2) The length of all the Periods or Periods Between Payments of a financial arrangement shall be measured in time units of days, weeks, fortnights, months, quarters, half years or years as is appropriate to the smallest Period Between Payments, provided that where such a time unit is inappropriate for only one or two Periods this fact shall be disregarded, and the length of those one or two Periods shall be measured in days and expressed as a fraction of the time units appropriate to the remaining Periods Between Payments.
- (3) Any reference in this determination to another determination made by the Commissioner shall be construed as including a reference to any fresh determination made by the Commissioner to vary, rescind, restrict, or extend that determination.
- (4) 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) Method A

- (a) Method A may be applied to any financial arrangement where the amount of principal is fixed and interest, if any, is payable at regular intervals throughout the term of the financial arrangement, and the length of all Periods Between Payments is the same. The financial arrangement may be issued at a premium or discount and fees may be payable.

(b) The amount of income deemed to be derived or expenditure deemed to be incurred in a Period is an amount equal to-

(i) The Total Finance Charges divided by the number of Periods in the financial arrangement,

plus

(ii) In the case of a Variable Rate Financial Arrangement the amount of interest payable or receivable in respect of that Period.

(c) Income deemed to be derived or expenditure deemed to be incurred using this method shall be allocated to income years in accordance with Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

(2) Method B

(a) Method B may be applied to any financial arrangement. It shall be used in all cases where the length of the Periods Between Payments are unequal or the amount of principal varies.

(b) The amount of income deemed to be derived or expenditure deemed to be incurred in respect of a Period is equal to-

(i) The amount calculated according to the formula-

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

where -

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

b is the length of the Period;

c is the amount of principal outstanding during the Period Between Payments;

d is the sum of all items e calculated in respect of every Period Between Payments; and

e in respect of any Period is (b x c),

plus

(ii) In the case of a Variable Rate Financial Arrangement the amount of interest payable or receivable in respect of that Period.

(c) Income deemed to be derived or expenditure

deemed to be incurred using this determination shall be allocated to income years in accordance with Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

7. Examples

Method A

(1) Example A (a fixed rate fixed principal borrowing)

This is an example of a fixed rate borrowing under which the principal is fixed.

On 12 February 1992 a company borrows NZ\$10,000 for 5 years at a fixed interest rate of 16 per cent p.a. payable half yearly in arrears.

The money is raised by issuing notes at a discount of 5 per cent. The borrower is a New Zealand taxpayer who is eligible to use the straight line method.

Contingent fees of 2.5 per cent of \$10,000 are payable by the borrower to the lender; there are no non-contingent fees.

The Total Finance Charges payable by the borrower are -

	\$	
	10,000	principal payable
+	250	fees paid
+	8,000	interest payable
-	<u>9,500</u>	principal received
	8,750	

The length of each Period is measured in time units of half a year, and the principal outstanding is \$10,000 throughout the term of the loan. There are 10 half yearly time periods over the 5 year term of the loan because interest is payable half-yearly.

Therefore Method A may be used, and the expenditure incurred in each Period is the Total Finance Charges of \$8750 divided by the number of Periods:

$$\$8,750 / 10 = \$875$$

This expenditure would be spread between income years on a daily basis using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

The taxpayer has a 31 March balance date. In the first Period (12 February 1992 to 12 August 1992)

the expenditure calculated using the straight line method is \$875. There are 182 days in the Period. Expenditure on a daily basis is therefore $\$875/182 = \4.81 . In the 1992 income year expenditure incurred is:

12/2/92 - 31/3/92 48 days. $48 \times \$4.81 = \230.88

In the 1993 income year expenditure incurred is:

31/3/92 - 12/8/92 134 days $134 \times \$4.81 = \644.54
 12/8/92 - 12/2/93 184 days $\$875.00$
 12/2/93 - 31/3/93 47 days $47 \times \$4.83^* = \underline{\$227.01}$
\$1,746.55

* There are 181 days in the period 12 February 1993 to 12 August 1993 therefore the daily rate is \$4.83.

Expenditure for subsequent income years is calculated in the same way. Expenditure for each income year, except the year the loan matures, is shown below:

1992	\$ 230.88
1993	\$1,746.55
1994	\$1,749.23
1995	\$1,749.23
1996	<u>\$1,753.10</u>
TOTAL	\$7,228.99

When the arrangement matures the base price adjustment (section 64F) is used to calculate expenditure in the final income year (1997). The base price adjustment is calculated according to the formula:

$$a - (b + c)$$

a = all amounts paid
 = \$10,000 (principal) + \$250 (fees) + \$8,000 (int.)
 = \$18,250

b = acquisition price
 = all amounts received
 = \$9,500 (principal)

c = expenditure incurred in previous years
 = \$7,228.99 (as calculated above)

Therefore $a - (b + c) = \$1,521.01$.

This amount is deemed to be expenditure incurred.

If the holder was a New Zealand taxpayer able to use the straight line method, it would be deemed to derive income of \$875 in each Period.

(2) Example B (a variable rate loan)

This is the same as Example A except that interest is determined according to a market indicator. e.g. the bank bill or commercial bill rate.

Since the notes with a face value \$10,000 were issued at a 5 per cent discount, and contingent fees of 2.5 per cent were payable by the borrower (to the lender), who is the issuer in relation to this financial arrangement, the Total Finance Charges to the borrower are -

	\$	
	10,000	principal payable
+	250	fees paid
-	<u>9,500</u>	principal received
	750	

Note that since the arrangement is a Variable Rate Financial Arrangement interest amounts are excluded from the calculation of the Total Finance Charges.

The length of each Period is measured in time units of half a year, and the principal outstanding is \$10,000 throughout. In the first period an interest rate of 10 per cent p.a. applied, and, interest of \$500 was payable.

Method A may be used to calculate the expenditure incurred in respect of each Period, that is -

(a) $\$750/10 = \75

plus

(b) the actual interest payable in respect of that Period.

In the first six month Period the interest rate was 10 per cent p.a. so that total expenditure incurred was \$75 plus actual interest of \$500 which is \$575.

This expenditure would be allocated on a daily basis to each day in the Period using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

If the holder was a New Zealand taxpayer able to use the straight line method, it would be deemed to derive income of similar amounts.

(3) Example C (a zero coupon loan)

A New Zealand company raises \$5,000 by issuing 5 year notes with a face value of \$10,000 at a 50 per cent discount. No interest is payable. The taxpayer is an issuer in relation to the financial arrangement.

The Total Finance Charges payable by the borrower are -

	\$	
	10,000	amount payable
-	<u>5,000</u>	amount received
	5,000	

In this case Method A may be used.

The Period Between Payments is 1 year and the appropriate time unit is a year. There are 5 periods between payments. Therefore the discount would be allocated equally as \$1,000 to each of the five periods in the term of the loan, and would then be apportioned to income years using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

Method B

(4) Example D (a reducing principal fixed interest loan)

On 12 February 1992 a company borrows NZ\$10,000 for 5 years. The money is raised by issuing notes at a discount of 4.5 per cent.

\$2,000 of the notes are to be repaid on each anniversary of the loan. Interest at 16 per cent p.a. is payable half yearly in arrears on the balance of the notes outstanding during the half year.

The borrower is a New Zealand company. There are no fees. The taxpayer is an issuer in relation to the financial arrangement.

The length of each Period is half a year.

The interest payable in the first year is \$1,600. Each subsequent year this reduces by \$320. The Total Finance Charges to the borrower are therefore -

	\$	
	10,000	principal payable
+	4,800	interest payable
-	<u>9,550</u>	principal received
	5,250	

(i) total interest payable
 $1,600 + 1,280 + 960 + 640 + 320 = 4,800$

Therefore $a = \$5,250$ ('a' is a variable used in the formula described in Method B).

The following table sets out the allocation of the Total Finance Charges, where $b = 1$ throughout (since there is one time unit of half a year in each

Period):-

<u>Half year Period</u>	<u>Principal outstanding</u>	<u>(b x c)</u>	<u>Expenditure</u>
	c	e	$\frac{a \times b \times c}{d}$
1	10,000	10,000	875
2	10,000	10,000	875
3	8,000	8,000	700
4	8,000	8,000	700
5	6,000	6,000	525
6	6,000	6,000	525
7	4,000	4,000	350
8	4,000	4,000	350
9	2,000	2,000	175
10	2,000	<u>2,000</u>	<u>175</u>
	Total d =	60,000	5,250

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

(Note that in practice the income in the final year would be determined using the base price adjustment).

If the holder was a New Zealand taxpayer able to use the straight line method, it would be deemed to derive income of similar amounts.

(5) Example E (a reducing principal variable rate loan)

This is the same as Example D except that interest is determined according to a market indicator.

The notes, with a face value of \$10,000, were issued at a 4.5 per cent discount. There are no fees. The Total Finance Charges to the borrower are -

	\$	
	10,000	principal payable
	<u>- 9,550</u>	principal received
whence a =	450	

Note that since the arrangement is a Variable Rate Financial Arrangement interest amounts are excluded from the calculation of the Total Finance Charges.

The following table sets out the allocation of the Total Finance Charges, where 'b' equals one throughout (since there is one time unit of half a year in each period). The actual interest payable in the Period must be added to the amount

apportioned in each Period to determine total expenditure.

<u>Half year Period</u>	<u>Principal outstanding</u>	<u>(b x c)</u>	<u>Expenditure</u>
	c	e	$\frac{a \times b \times c}{d}$
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	<u>2,000</u>	<u>15</u>
Total d =		60,000	450

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

(Note that in practice the income in the final year would be determined using the base price adjustment).

If the holder was a New Zealand taxpayer able to use the straight line method, it would be deemed to derive income of similar amounts.

(6) Example F (a loan with different repayment periods)

A New Zealand taxpayer borrows \$75,000 and agrees to repay \$100,000. Repayments are \$30,000 at the end of year one and \$70,000 at the end of year four. The taxpayer is an issuer in relation to the financial arrangement.

The Total Finance Charges payable by the borrower are -

\$	
100,000	amount payable
<u>- 75,000</u>	amount received
whence a = 25,000	

The length of each Period is a year therefore b = 1.

The principal outstanding is \$100,000 in the first (one year) Period, and \$70,000 in the subsequent Periods.

Hence the Total Finance Charges are allocated as follows:

<u>Period</u>	<u>Length (years)</u>	<u>Principal outstanding</u>	<u>(b x c)</u>	<u>Expenditure</u>
	b	c	e	$\frac{a \times b \times c}{d}$
1	1	100,000	100,000	8,065
2	1	70,000	70,000	5,645
3	1	70,000	70,000	5,645
4	1	70,000	<u>70,000</u>	<u>5,645</u>
Total d =			310,000	25,000

The expenditure incurred in each Period would be spread between income years using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

(Note that in practice the income in the final year would be determined using the base price adjustment).

(7) Example G (discounted Government Stock)

A taxpayer buys New Zealand Government Stock on the secondary market. Details are as follows:

Face value	\$500,000
Coupon	16 per cent p.a. payable half yearly
Maturity	15 August 1994
Settlement	1 March 1992
Price	\$548,978 (YTM = 11.6% pa)

The taxpayer is not a cash basis holder but is eligible to use the straight line method to account for its financial arrangements, and decides to do so.

The Total Finance Charges are -

\$	
500,000	maturity value
+ 200,000	five coupons of \$40,000
<u>- 548,978</u>	purchase price
whence a = 151,022	

There is a broken first Period of 167 days, followed by five half year Periods. A time unit of half years is appropriate.

Since the Periods are of unequal length, Method B applies.

The 167 days represents $167 \times 2/365 = 0.9151$ of a half year.

Therefore b = 0.9151 in the first Period and b = 1 in the remaining periods as there is one time unit of half a year in each Period.

The following table can be constructed:

<u>Half year Period</u>	<u>Principal outstanding</u>	<u>(b x c)</u>	<u>Expenditure</u>
	c	e	$\frac{a \times b \times c}{d}$
1	500,000	457,550 ¹	28,117 ²
2	500,000	500,000	30,726
3	500,000	500,000	30,726
4	500,000	500,000	30,726
5	500,000	<u>500,000</u>	<u>30,727</u>
	Total d =	2,457,550	151,022

¹ e = b x c = 0.9151 x 500,000 = 457,550

² a = 151,022 Total Finance Charges

b = 0.9151 Length of Period

c = 500,000 Principal outstanding

d = 2,457,550 sum of all items 'e' above

The income derived in each Period would be spread using Determination G1A: Apportionment of Income and Expenditure on a Daily Basis.

(Note that in practice the income in the final year would be determined using the base price adjustment.)

(8) Example H (transition to the straight line method)

This is similar to Example A, which is summarised as follows:

An amount of \$9,250 (after fees and discount) is borrowed on 12 February 1991, repayable by 10 half yearly interest payments of \$800 each, plus a final payment of \$10,000.

The yield to maturity is 18.356 per cent.

Assume the borrower is a New Zealand taxpayer with a 31 March balance date and used the yield to maturity method for the first income year.

Then the expenditure deemed to be incurred in the income year ending 31 March 1991 is calculated as follows:

(a) Amount attributable to period
12 February - 11 August 1991:

$\$9,250 \times 18.356\% / 2 = \849

(b) Amount attributable to income year ending 31 March 1991:

$\$849 \times 47 \text{ days} / 181 \text{ days} = \220

Assume that in the 1991/1992 income year the taxpayer meets the criteria for the straight line method and decides to use Method A of this determination.

Then the amount of expenditure calculated in accordance with section 64C(2B)(b) is as follows:

(a) From example A, the amount of expenditure that would have been deemed to be incurred under the straight line Method A up to 31 March 1992 is as follows:

- (i) period 12 February - 11 August 1991: \$875
- (ii) period 12 August - 11 February 1992: \$875
- (iii) period 12 February - 31 March 1992
 $875 \times 48 \text{ days} / 182 \text{ days} = \underline{\$231}$
\$1,981

(b) Therefore, using the formula in section 64C(2B)(b)

- a = 0 income derived using the straight line method
- b = \$1,981 expenditure incurred using the straight line method
- c = 0 income derived in prior income years
- d = \$220 expenditure incurred in prior income years

(c) The amount calculated in accordance with the formula is -

$a - b - c + d = 0 - 1,981 - 0 + 220 = -\$1,761$

and since this is a negative amount, it is deemed to be expenditure incurred by the borrower.

This determination is signed by me on the 10th day of July in the year 1991.

R D Adair
Deputy Commissioner of Inland Revenue