Protocol for calculating monetary benefits

NSW EPA

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Glossary

Assessment Period	The period that begins at the Date of Non-Compliance and ceases at the Date for Assessment
Business	The business, trade or commercial activity conducted by an Entity (i.e. person) such as an individual (e.g. sole trader) or a corporation
Date for Assessment	The known or deemed date, either in the past or in the future, at which a business is taken to cease gaining monetary benefits from non-compliance with its Legal Obligations
Date of Compliance	The date on which the non-compliance that gave rise to the monetary benefits is taken to have ended
Date of Non-Compliance	The date at which a business is taken to begin to gain monetary benefits from non-compliance with its Legal Obligations
Debt	The total of current and non-current liabilities for borrowings with terms of more than one year
Direct Cost of Sales	The costs that are wholly and exclusively incurred as a result of the sale having been made
Entity / person	The legal entity (i.e. the 'person') that is liable for income tax for a business, such as an individual (e.g. sole trader) or a corporation. The term 'person' is the legal term, defined in section 21 of the *Interpretation Act 1987* (NSW), as: 'an individual, a corporation and a body corporate or politic'.
Gross Margin	The net amount of the revenue arising from non-compliant sales less the associated Direct Cost of Sales
GST	Goods and Services Tax
Income tax	When used, this term refers to both individual income tax and company tax, whichever is applicable
Legal Obligations	Any obligations, duties and other responsibilities under the *Protection of the Environment Operations Act 1997*
Method	The equations and relationships to be applied to complete a calculation of a monetary benefit, set out in Section 2 of this Protocol
Non-Compliance Period	The period between the Date of Non-Compliance and Date of Compliance
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
Principal Sum	Either: • an amount of expenditure that has been avoided; or • an amount of expenditure that has been delayed until such time as it is incurred; or • the Gross Margin obtained from sales that have been made but are not compliant with a business's Legal Obligations.

Rate of Return	The weighted average of: • the percentage annual return that the business is able to earn on the share of a Principal Sum, which is not applied to reduce Debt; and • the annual rate of interest on any Debt that a business is able to avoid by applying any remaining share of a Principal Sum to reduce Debt.
Shareholder Equity	Shareholder capital and reserves invested in the business
Time Value of the Principal Sum	The total of: • the compounded returns that the business is able to earn by investing the share of the Principal Sum, which is not applied to reduce Debt; and • any compounded interest costs that a business is able to avoid by applying any remaining share of a Principal Sum to reduce Debt.

Purpose and introduction

Section 249 of the *Protection of the Environment Operations Act 1997* (**POEO Act**) enables the court to order an offender to pay, as part of the penalty for committing an offence, an amount representing the monetary benefit the offender acquired by committing the offence.

Monetary benefit means monetary, financial or economic benefits.

Clause 101A of the Protection of the Environment Operations (General) Regulation 2009 prescribes this Protocol as the method for determining a monetary benefit for the purposes of section 249 of the POEO Act.

This paper contains two parts:

1. Section 1 contains the Preamble which outlines the principles underpinning the calculation method.
2. Section 2 contains the calculation method which outlines step-by-step the equations and relationships to be applied to complete a calculation of a monetary benefit (**the Method**).

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Section 1 - Preamble

Key principles

The Method is based on the principle that by avoiding compliance with environmental legal obligations (**Legal Obligations**), a business may gain monetary benefits by being able to:

- avoid or delay obligations to incur expenditure that is necessary to comply with its Legal Obligations; or
- make sales that do not comply with its Legal Obligations.

The Method quantifies the marginal or incremental benefits that a business may obtain from these events.

The Method is a method for assessing the monetary benefits of avoided or delayed expenditure, or non-compliant sales. The Method is not affected by the reasons for the non-compliance. The Method does not consider or evaluate the reasons that lead to avoided or delayed expenditure or non-compliant sales because that is not its purpose.

Period over which monetary benefits may be obtained

The monetary benefits from a breach of Legal Obligations are taken to arise over a continuous period (**Assessment Period**) that:

- begins at the date at which a business is taken to begin to gain monetary benefits from non-compliance with its Legal Obligations (**Date of Non-Compliance)**; and
- ceases at a known or deemed date (**Date for Assessment**), either in the past or in the future.

Where a business may be intermittently compliant, the Method requires that the monetary benefits are calculated separately for each instance of non-compliance.

The amount of monetary benefits

Monetary benefits are made up of:

- the monetary value of each Principal Sum (detailed below) that a business is able to retain or gain as a result of non-compliance; and
- the Time Value of the Principal Sum (detailed below).

Explanation of terms

A **Principal Sum** is either:

- an amount of expenditure that has been avoided; or
- an amount of expenditure that has been delayed until such time as it is incurred; or

- the Gross Margin obtained from sales that have been made but are not compliant with a business's Legal Obligations, where:

  $GM = S - DC$

  and:

  - GM is the Gross Margin;
  - S is the revenue arising from the non-compliant sales; and
  - DC is the **Direct Cost of Sales** being the costs that are directly attributable to making those non-compliant sales (i.e. the costs that are wholly and exclusively incurred as a result of the sale having been made).

The **Time Value of the Principal Sum** is the total of:

- the compounded returns that the business is able to earn by investing the share of the Principal Sum, which is not applied to reduce the total of current and non-current liabilities for borrowings with terms of more than one year (**Debt**); and
- any compounded interest costs that a business is able to avoid by applying any remaining share of a Principal Sum to reduce Debt.

Recognition of monetary benefits

Monetary benefits are calculated on the basis of cash flows, not accounting accruals.

NOTE: This is because a business can benefit from the possession of cash by utilising it to make investments or to reduce borrowings. An accounting book entry in isolation from a corresponding cash flow does not of itself provide a business with the opportunity to realise those benefits.

For example, a business may deliver goods or services for which it issues an invoice, which typically is not paid until sometime after the delivery of the goods or services. At the time the goods or services are delivered, the business would account for a sale and a debtor (an amount receivable). However, passing that book entry does not provide the business with cash that it could invest or use to repay borrowings. The business will only be in a position to do those things when the debt owing to it is paid.

Calculation of total monetary benefits

Total monetary benefits are calculated by:

- for avoided expenditure, adding:
  - the Principal Sum of avoided expenditure; and
  - the Time Value of the Principal Sum of avoided expenditure over the Assessment Period;
- for delayed expenditure, adding:
  - the Time Value of the Principal Sum of delayed expenditure, calculated over the period:
  - starting at the Date of Non-Compliance; and
  - ending at the date on which the non-compliance that gave rise to the monetary benefits is taken to have ended (**Date of Compliance**); and
  - the value that further arises over the period between the Date of Compliance and the Date for Assessment from:
  - the compounded returns that the business is able to earn by investing the share of the Time Value of the Principal Sum of delayed expenditure, which had arisen at the Date of Compliance, which is not applied to reduce Debt over the period between the Date of Compliance and the Date for Assessment; and
  - any compounded interest costs that a business is able to avoid by applying any remaining share of the Time Value of the Principal Sum of delayed expenditure, which had arisen at

the Date of Compliance, to reduce Debt over the period between the Date of Compliance and the Date for Assessment; and

- for Gross Margins, for each year in which a Gross Margin was earned, adding:
  - the Principal Sum of the Gross Margin; and
  - the Time Value of the Principal Sum of the Gross Margin over the Assessment Period.

The Rate of Return

The principles described above require values to be determined by reference to the marginal return that a business would gain from retaining a Principal Sum over an Assessment Period. This marginal return is calculated by multiplying a Principal Sum by the weighted average of:

- the percentage annual return that the business is able to earn on the share of a Principal Sum, which is not applied to reduce Debt; and
- the annual rate of interest on any Debt that a business is able to avoid by applying any remaining share of a Principal Sum to reduce Debt

(**Rate of Return**), for an Assessment Period.

Where the Method is being used to calculate monetary benefits before income taxation effects, the Method applies a weighted average cost of capital approach to estimate a pre-tax Rate of Return, which is expressed as a percentage and is provided by the expression:

$$\mathrm{RoR}_{\,Pre-tax} = \mathrm{K_e} \times \frac{\mathrm{E}}{(\mathrm{D+E})} + \mathrm{K_d} \times \frac{\mathrm{D}}{(\mathrm{D+E})}$$

where:

- RoR $_{Pre\text{-}tax}$ is the pre-tax[1] weighted average cost of capital;
- D is the average amount of Debt that a business bears over the Assessment Period;
- E is the average amount of **Shareholder Equity**, being the shareholder capital and reserves invested in the business, over the Assessment Period;
- K_d is the average annual rate of interest, before any income tax deductions for interest payments, payable on Debt over the Assessment Period; and
- K_e is the average annual percentage return before income tax, on Shareholder Equity over the Assessment Period.

The Rate of Return will vary from business to business. The assessment of the appropriate Rate of Return will often be informed by expert opinion rather than be determined by an algorithm, particularly if information from financial statements or records is not available to determine an historical rate with reasonable certainty. In such instances, the Method may require the calculation of monetary benefits to be based on a reasonable range of estimates of the Rate of Return rather than a single determined rate.

NOTE: The use of a weighted average cost of capital approach to determining the Rate or Return is consistent with the definition of the Time Value of the Principal Sum. It enables both of the following to be accounted for:

- a return that the business is able to earn by investing part of the Principal Sum; and
- any cost that the business is able to avoid by applying the remainder of the Principal Sum to reduce Debt.

[1] For the purposes of the Protocol when pre-tax and post-tax rates of return are referred to, the term ‘tax’ means ‘income tax’

The effect of income tax

Monetary benefits may be calculated before and after the associated costs of income tax. The following paragraphs describe the principles that are to be used if the Method is to be applied to calculate benefits after associated costs of income tax.

The Method calculates the marginal benefits that arise from non-compliance with Legal Obligations. Accordingly where post-tax benefits are to be calculated this is done by applying the marginal rate of income tax that a business would pay or avoid on the marginal pre-tax benefit or cost of non-compliance.

A business or trade is conducted by a legal entity (i.e. person, see glossary) such as an individual or a corporation (**Entity**). Income tax is levied on the Entity rather than on the businesses or trades that the Entity may conduct. Therefore the appropriate marginal rate of income tax is that of the Entity which owns the business that has enjoyed a monetary benefit of non-compliance.

Post-tax rates of return

Where the Method is being used to calculate monetary benefits after income taxation effects, the Method applies a weighted average cost of capital approach to estimate a post-tax Rate of Return, to reduce the benefit of the Time Value of the Principal Sum by the income tax payable by the business on that benefit. The post-tax Rate of Return is expressed as a percentage and is provided by the expression:

$$\mathrm{RoR}_{Post-tax} = K_{e\ Post-tax} \times \frac{\mathrm{E}}{(\mathrm{D+E})} + K_{d\ Post-tax} \times \frac{\mathrm{D}}{(\mathrm{D+E})}$$

- $RoR_{Post\text{-}tax}$ is the post-tax weighted average cost of capital;
- $K_{e\ Post\text{-}tax}$ is the average annual percentage return after income tax, on Shareholder Equity over the Assessment Period, where:

$$K_{e\ Post-tax} = K_{e\ Pre-tax} \times (1 - \mathrm{T\%})$$

- T% is the average marginal rate of income tax for the Entity over the Assessment Period;
- D is the average amount of Debt that a business bears over the Assessment Period;
- E is the average amount of Shareholder Equity over the Assessment Period; and
- K_d is the average annual rate of interest, after any income tax deductions for interest payments, payable on Debt over the Assessment Period such that:

$$K_{d\ Post-tax} = K_{d\ Pre-tax} \times (1 - \mathrm{T\%})$$

Only the tax attributable to non-compliance is taken into account

Where the Method is used to calculate post-tax benefits or costs it only accounts for income tax benefits or costs that arise as a direct consequence of non-compliance.

For example, assume that a business:

- has income tax losses brought forward;
- receives a benefit from being able to make sales that are not compliant with its Legal Obligations; and
- is liable to income taxation on that benefit.

In these circumstances, the Method:

- does not reduce the income tax liability on the non-compliant sales by available, unrealised income tax losses brought forward from the periods prior to non-compliance; and hence
- does not increase the monetary benefit of non-compliance attributable to the business from it being able to utilise brought forward income tax losses.

This is because the income tax losses are a benefit that arise from transactions that pre-date non-compliant transactions. For non-compliant trading to cause income tax losses to arise, the non-compliant trading would need to generate losses.

While non-compliance may allow the benefits of income tax losses brought forward to be realised sooner than might otherwise be the case, the principal amount of that income tax benefit is unconnected with non-compliance.

NOTE: The Method offsets losses and benefits arising from non-compliance where for example, non-compliance may cause a business to incur losses in the early years following a Date of Non-Compliance, but to earn profits in later years as a result of say, changing costs or market conditions.

For example, assume that a business makes non-compliant sales over a four-year period as follows:

Year	1	2	3	4	Total
Gross margin / (loss)	$(80)	$(40)	$100	$120	$100
(**Cost of tax) / Tax benefit** – Assumed to be 30% for the purposes of illustration	$24	$12	$(30)	$(36)	$30
Post-tax benefit / (loss)	**$(56)**	**$(28)**	**$70**	**$84**	**$70**

The Method accounts for both losses and benefits arising from non-compliance throughout the period of non-compliance, to account in this example, for a post-tax benefit of $70.

Goods and services tax (GST)

For a business that is registered for GST, the Method requires all monetary amounts to be stated exclusive of applicable GST.

For a business that is not registered for GST, the Method requires all monetary amounts to be stated inclusive of applicable GST.

Where expenditure is avoided or delayed, a business that is registered for GST will forego the cost of financing recoverable GST on the expenditure, for a period of less than a year, between:

- the Date of Non-Compliance; and
- the date on which the GST on that expenditure would have been recoverable by the business from the Australian Tax Office.

Similarly, where a business that is registered for GST gains additional Gross Margins that it would not have been entitled to earn had it met its Legal Obligations, it foregoes the benefit of retaining the net GST it has collected on the Gross Margin until such time as that GST would have been paid by the business to the Australian Taxation Office.

The Method does not account for these costs and benefits foregone as a result of non-compliance.

NOTE: If the EPA or the court accepts these amounts are material, the principles set out above can be applied to calculate the Time Value benefits and cost that may accrue to retaining or incurring GST as a direct consequence of non-compliant activities.

The effects of inflation or deflation

The Method requires that Principal Sums are recorded as "nominal amounts". That is to say that they are to be recorded in the "dollars of the day" of the year in which the monetary sum arose.

For example, if expenditure was avoided in 2010, then the amount should be recorded as the amount incurred in 2010 dollars, not the equivalent amount of that expenditure that would be

incurred today. This is because it is assumed that expenditure will change from one year to another because of the effects of inflation or deflation.

In practical terms, it may not always be possible to determine a Principal Sum in nominal dollars.

For example, a business may avoid in 2010, the expenditure of an item of capital equipment whose cost can be determined at the current time (say 2015) but not at 2010.

In this circumstance, the Method needs to apply an index to estimate the amount that would have been avoided in 2010, based on 2015 observed amounts.

The Method uses:

- the Australian Bureau of Statistics All Groups Consumer Price Index ABS 6401.0 for Sydney, as its index of historical changes in prices; and
- forecasts of Consumer Price Inflation published in the Reserve Bank of Australia's Quarterly Statements on Monetary Policy as its index of forecast changes in prices.

NOTE: An exception may be made to the application of these measures, if the EPA or Court accepts that there is evidence justifying the use of alternative measures such as where there may be specific evidence of a change in pricing on a particular item of expenditure, contrary to general inflation movement.

The relationship between the amount at the time a benefit first arose (T_o) and the amount observed at a later date (T_c) is provided by the expression:

$$\$T_o = \$T_c \times \frac{IT_o}{IT_c}$$

where:

- $\$T_o$ is the amount expressed in the dollars of the time T_o at which the benefit arose;
- $\$T_c$ is the equivalent amount expressed in the dollars of a different, observed time T_c;
- IT_o is the inflation index at time T_o; and
- IT_c is the inflation index at time T_c.

Section 2 – The Method

To calculate a monetary benefit in accordance with the principles and matters set out above, the Method applies the following steps.

Where the Method uses the term "tax", it means income tax.

Step 1: Identify the nature of the Principal Sum

If it is:

- avoided capital expenditure, go to Step 2;
- delayed capital expenditure, go to Step 3;
- avoided operating expenditure, go to Step 4;
- delayed operating expenditure, go to Step 5; or
- an additional sale, go to Step 6.

Step 2: Avoided capital expenditure

Step 2.1 – Calculate pre-tax benefit

The Method uses the following equation to calculate the pre-tax benefit obtained by a business at the Date for Assessment.

$PV = HV \times (1 + i)^{P}$ .... A

where*:*

– PV is the present value of the pre-tax benefit at the Date for Assessment;
– HV is the historical value of the avoided expenditure at the Date of Non-Compliance;
– P is the Assessment Period (in years) expressed as decimal. For example, 18 months would be expressed as 1.5 years; and
– i is the annual nominal Rate of Return for the Assessment Period.

If benefits are being calculated:

- after the effect of tax, i should be a post-tax nominal Rate of Return and Steps 2.2 and 2.3 of the Method should be applied; or
- before the effect of tax, i should be a pre-tax nominal Rate of Return and Steps 2.2 and 2.3 of the Method should not be applied.

Step 2.2 – Calculate taxation on avoided capital expenditure

Step 2.2a – Calculate tax depreciation of the asset

For a period PL, being the shorter of:

- the Assessment Period; and
- the period L, the tax life of the asset.

The Method calculates TCF, the annual tax cash flow resulting from the tax depreciation in each year within the period PL as:

$$TCF = \frac{(T\% \times HV)}{L} \qquad \text{..................B}$$

where:

- T% is the average marginal rate of tax of the Entity, for the period PL;
- HV is the historical cost of the asset; and
- L is the tax life of the asset.

Step 2.2b – Calculate the present value of tax depreciation

The Method calculates, then adds together, the present values of each year (T)'s tax depreciation over period PL.

Where $P \le L$, this gives the expression:

$$\sum_{T=1}^{T=P} TCF \times (1 + i)^{T} \qquad \text{..................C}$$

where i is a post-tax nominal Rate of Return.

Tax cash flows are taken to arise in the year after the year in which the liability is incurred. Therefore, they are delayed by one year and hence it is necessary to discount this total present value by one year.

Accordingly,

$$PV_{TCF} = \frac{\left(\sum_{T=1}^{T=P} TCF \times (1 + i)^{T} \right)}{(1 + i)} \qquad \text{..................D}$$

Where $P > L$, the asset would become fully written off or depreciated against taxation liabilities and no further tax depreciation would accumulate over the period between the date on which the asset's tax life expires and the Date for Assessment.

Nonetheless, the benefit foregone from lost tax deductions will continue to compound, after the depreciable tax life of the asset has expired.

Accordingly, where P > L:

$$PV_{TCF} = \frac{\left(\sum_{T=1}^{T=L} TCF \times (1+i)^{T} \right) \times (1+i)^{(P-L)}}{(1+i)} \quad \text{..................E}$$

Step 2.3 – Calculate post-tax benefits of avoided capital expenditure

This is done by:

- subtracting from the pre-tax benefit quantified in Step 2.1 by expression **A**;
- the avoided tax benefit quantified in Step 2.2, by either expression **D** or **E** above.

Step 3: Delayed capital expenditure

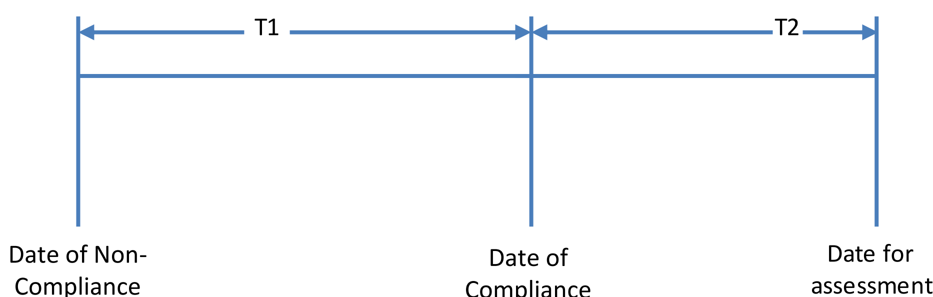
Step 3.1 – Calculate pre-tax benefit

The Method uses the following equation to calculate the pre-tax benefit obtained by a business at the Date for Assessment.

$$PV = (HV \times (1+i)^{T1} - HV) \times (1+i)^{T2} \quad \text{..................F}$$

where:

- PV is the present value of the pre-tax benefit at the Date for Assessment;
- HV is the historical value of the delayed expenditure at the Date of Non-Compliance;
- i is the annual nominal Rate of Return for the Assessment Period;
- T_1 is the period between the Date of Non-Compliance and Date of Compliance (**Non-Compliance Period**) expressed in years in decimal form; and
- T_2 is the period between the Date of Compliance and Date for Assessment, expressed in years in decimal form, such that the Assessment Period = $T_1 + T_2$.



The Method treats the expenditure at the Date of Compliance as being equal to the expenditure avoided at the Date of Non-Compliance, adjusted for inflation over the period T_1.

If benefits are being calculated:

- after the effect of tax, i should be a post-tax nominal Rate of Return and Steps 3.2 and 3.3 of the Method should be applied; or
- before the effect of tax, i should be a pre-tax nominal Rate of Return and Steps 3.2 and 3.3 of the Method should not be applied.

Step 3.2 – Calculate taxation on delayed capital expenditure

Step 3.2a – Calculate tax depreciation of the asset

For a period T_1L, being the shorter of:

- the period T_1, the Non-Compliance Period over which the capital expenditure was delayed; and
- the period L, the tax life of the asset

the Method calculates TCF, the annual tax cash flow resulting from the tax depreciation in each year within the period T_1L as:

$$TCF = -\frac{(T\% \times HV)}{L} \qquad \text{..................G}$$

for each year 1 to L, where:

- T% is the average marginal rate of tax of the Entity, for the period T_1L;
- HV is the historical cost of the asset; and
- L is the tax life of the asset.

Step 3.2b – Calculate the present value of tax depreciation

The Method calculates, then adds together, the present values of each year's tax depreciation over period T_1 and then further compounds that avoided benefit over the period T_2. This gives the expression:

$$PV_{TCF} = \left(\sum_{T=1}^{T=T_1} TCF \times (1+i)^T \right) \times (1+i)^{T2} \qquad \text{..................H}$$

i is a post-tax nominal Rate of Return.

Tax cash flows are taken to arise in the year after the year in which the liability is incurred. Therefore, they are delayed by one year and hence it is necessary to discount this total present value by one year.

Accordingly,

$$PV_{TCF} = \frac{\left(\sum_{T=1}^{T=T_1} TCF \times (1+i)^T \right) \times (1+i)^{T2}}{(1+i)} \qquad \text{..................I}$$

Where $T_1 > L$, the asset would become fully written off or depreciated against taxation liabilities and no further tax depreciation would accumulate over the period between the date on which the asset's tax life expires and the Date for Assessment.

Nonetheless, the benefit foregone from lost tax deductions will continue to compound, after the depreciable life of the asset has expired.

Accordingly, where $T_1 > L$:

$$PV_{TCF} = \frac{\left(\sum_{T=1}^{T=L} TCF \times (1+i)^{T} \right) \times (1+i)^{(P-L)}}{(1+i)} \quad \ldots\ldots\ldots\ldots\ldots J$$

Step 3.3 – Calculate the post-tax benefit of delayed capital expenditure

This is done by:

- subtracting from the pre-tax benefit quantified in Step 3.1 by expression **F**;
- the avoided tax benefit quantified in Step 3.2, by either expression **I** or **J** above.

Step 4: Avoided operating expenditure

Step 4.1 – Calculate pre-tax benefit

For each year in which expenditure is avoided, the Method uses the following equation to calculate the pre-tax benefit obtained by a business at the Date for Assessment.

$$PV = HV \times (1+i)^{P} \quad \ldots\ldots\ldots\ldots\ldots\ldots K$$

where*:*

- PV is the present value of the pre-tax benefit at the Date for Assessment;
- HV is historical value of the avoided expenditure at the Date of Non-Compliance;
- P is the Assessment Period (in years) expressed as decimal. For example, 18 months would be expressed as 1.5 years; and
- i is the annual nominal Rate of Return for the Assessment Period.

If benefits are being calculated:

- after the effect of tax, i should be a post-tax nominal Rate of Return and Steps 4.2 and 4.3 of the Method should be applied; or
- before the effect of tax, i should be a pre-tax nominal Rate of Return and Steps 4.2 and 4.3 of the Method should not be applied.

Step 4.2 – Calculate taxation on avoided operating expenditure

The Method calculates tax cash flows associated with avoided operating expenditure for a year T as:

$$TCF_T = HV_{T-1} \times T\% \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots L$$

where:

- TCF_T is the tax cash flow in year T;
- HV_{T-1} is the historical value of operating expenditure avoided in the prior year, T-1, in which the Date of Non-Compliance arose; and
- T% is the average marginal rate of tax of the Entity, for the Assessment Period.

Expression **L** treats a tax deduction on operating expenditure as being realised one year after the expenditure was avoided.

Accordingly, the present value at the Assessment Date, of the tax benefit foregone is:

$$PV_{TCF} = TCF_T \times (1 + i)^{(P-1)} \qquad \text{.................M}$$

where:

- P is the Assessment Period (in years) expressed as decimal. For example, 18 months would be expressed as 1.5 years; and
- i is a post-tax nominal Rate of Return for the Assessment Period.

Step 4.3 – Calculate the post-tax benefit of avoided operating expenditure

This is done by:

- subtracting from the pre-tax benefit quantified in Step 4.1 by expression **K**
- the avoided tax benefit quantified in Step 4.2, by expression **M** above

for each year in which expenditure should have been incurred but was avoided.

Step 5: Delayed operating expenditure

Delayed operating expenditure may comprise expenditure for which:

- there is no "catch up" or "make good" by the business to achieve compliance before the Date for Assessment (for example a delayed response to a continuing obligation to make expenditure). Accordingly, the Method applies the equations set out in Step 4 above except that the word "avoided" is read as "delayed"; or
- a Date of Compliance occurs before the Date for Assessment. In this case the Method applies the following steps:

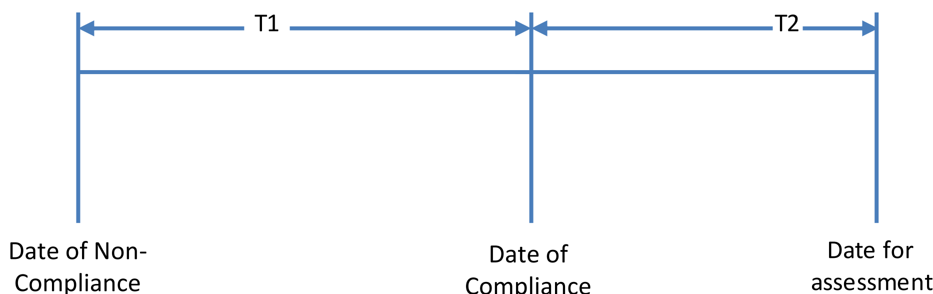
Step 5.1 – Calculate pre-tax benefit

The Method uses the following equation to calculate the pre-tax benefit obtained by a business at the Date for Assessment.

$$PV = (HV \times (1 + i)^{T1} – HV) \times (1 + i)^{T2} \qquad \text{..................N}$$

where:

- PV is the present value of the pre-tax benefit at the Date for Assessment;
- HV is the historical value of the delayed expenditure at the Date of Non-Compliance;
- i is the annual nominal Rate of Return for the Assessment Period;
- T_1 is the Non-Compliance Period expressed in years in decimal form; and
- T_2 is the period between the Date of Compliance and Date for Assessment, expressed in years in decimal form, such that the Assessment Period = $T_1 + T_2$.



The Method treats the expenditure at the Date of Compliance as being equal to the expenditure avoided at the Date of Non-Compliance, adjusted for inflation over the period T_1.

If benefits are being calculated:

- after the effect of tax, i should be a post-tax nominal rate of return and Steps 5.2 and 5.3 of the Method should be applied; or
- before the effect of tax, i should be a pre-tax nominal rate of return and Steps 5.2 and 5.3 of the Method should not be applied.

Step 5.2 – Calculate taxation on delayed operating expenditure

The Method calculates tax cash flows associated with delayed operating expenditure as:

$$TCF_T = HV_{T-1} \times T\% \quad \text{..................O}$$

where:

- TCF_T is the tax cash flow in year T;
- HV_{T-1} is the historical value of operating expenditure delayed in the prior year, T-1, in which the Date of Non-Compliance arose; and
- T% is the marginal rate of tax of the Entity, for the year T-1.

The tax cash flows are delayed over the Non-Compliance Period T_1 but the cost to the business of that delay needs to be expressed in present terms at the Date for Assessment.

Accordingly, the present value at the Date for Assessment of the tax benefit foregone is:

$$PV = (TCF_T \times (1 + i)^{T1} – TCF_T) \times (1 + i)^{(T2-1)} \quad \text{..................P}$$

Expression **P** treats a tax deduction on operating expenditure as being realised one year after the expenditure was delayed, where:

- i is the annual nominal Rate of Return for the Assessment Period;
- T_1 is the Non-Compliance Period expressed in years in decimal form; and
- T_{2-1} is a period of one year less than the period between the Date of Compliance and Date for Assessment, expressed in years in decimal form, such that the Assessment Period $= T_1 + T_2$.

Step 5.3 – Calculate the post-tax benefit of delayed operating expenditure

This is done by:

- subtracting from the pre-tax benefit quantified in Step 5.1 by expression **N**
- the value of the avoided tax benefit quantified in Step 5.2, by expression **P**

for each year for which operating expenditure has been delayed.

Step 6: Additional sales

Step 6.1 – Calculate pre-tax benefit

For each year in which additional Gross Margin is earned, the Method uses the following equation to calculate the pre-tax benefit obtained by a business at the Date for Assessment.

$$PV = HV \times (1 + i)^P \quad \text{..................Q}$$

where*:*

- PV is the present value of the pre-tax benefit at the Date for Assessment;
- HV is the historical value of the Gross Margin at the time it was earned;
- P is the Assessment Period (in years) expressed as decimal. For example, 18 months would be expressed as 1.5 years; and

– i is the annual nominal Rate of Return for the Assessment Period.

If benefits are being calculated:

- after the effect of tax, i should be a post-tax nominal Rate of Return and Step 6.2 and Step 6.3 of the Method should be applied; or
- before the effect of tax, i should be a pre-tax nominal Rate of Return and Step 6.2 and Step 6.3 of the Method should not be applied.

Step 6.2 – Calculate taxation on additional Gross Margin

The Method calculates tax cash flows associated with the Gross Margin earned from additional sales for a year T as:

$$TCF_T = \text{Additional Gross Margin}_{T-1} \times T\% \qquad \text{..................R}$$

where:

- TCF_T is the tax cash flow in year T;
- Additional Gross Margin $_{T-1}$ is the additional Gross Margin earned in the prior year, T-1; and
- T% is the average marginal rate of tax of the Entity, for the Assessment Period.

Expression **R** treats a tax payment on additional Gross Margin as being made one year after the additional amount was earned.

Accordingly, the present value of the additional tax payment is:

$$PV_{TCF} = TCF_T \times (1 + i)^{(P-1)} \qquad \text{..................S}$$

where:

- P is the Assessment Period (in years) expressed as decimal. For example, 18 months would be expressed as 1.5 years; and
- i is a post-tax nominal Rate of Return for the Assessment Period.

Step 6.3 – Calculate the post-tax benefit of additional Gross Margin

This is done by:

- subtracting from the pre-tax benefit quantified in Step 6.1 by expression **Q**
- the additional tax cost quantified in Step 6.2, by expression **S** above

for each year in which additional Gross Margin is earned.