Protocol for calculating monetary benefits

EPA acknowledges Aboriginal people as the first peoples and Traditional custodians of the land and water on which we live, work and depend. We pay respect to Aboriginal Elders, past and present.

As Victoria's environmental regulator, we pay respect to how Country has been protected and cared for by Aboriginal people over many tens of thousands of years.

We acknowledge the unique spiritual and cultural significance of land, water and all that is in the environment to Traditional Owners, and recognise their continuing connection to, and aspirations for Country.

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Purpose and introduction

From 1 July 2021, section 329(1) of the *Environment Protection Act 2017* (EP Act) enables a court to order a person to pay the amount of the monetary benefit the person acquired as a result of non-compliance with the EP Act. Such an order may be in addition to, or instead of, any other penalty the court imposes.

Section 329(3)(a) of the EP Act allows us to submit an estimate of the monetary benefit to the court in accordance with a prescribed protocol. The Environment Protection Regulations prescribes this protocol without modification.

This protocol sets out the method we will use to calculate a monetary benefit. It contains two parts.

1. Section 1 outlines the principles underpinning the calculation method.

2. Section 2 describes the step-by-step equations.

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*.
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* as a result of 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 have begun to gain *monetary benefits* as a result of 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	Costs that are wholly and exclusively incurred as a result of a sale having been made.
Entity	The legal entity (or '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 38 of the *Interpretation of Legislation Act 1984* (Vic) to include 'a body politic or corporate as well as an individual'.
EP Act	*Environment Protection Act 2017*
Gross margin	The net amount of revenue arising from non-compliant sales less the associated *direct cost of sales*.
GST	The goods and services tax.
Income tax	This term refers to both individual *income tax* and company tax, whichever is applicable.
Legal obligations	Any obligations, duties and other responsibilities under the **EP Act**.
Method	The equations and relationships to be applied to complete a calculation of a *monetary benefit*, set out in Section 2 of this protocol.
Monetary benefit	Monetary, financial or economic benefits.

Non-compliance period	The period between the *date of non-compliance* and the *date of compliance*.
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*.

Terms in **bold italics** throughout this document are defined in the glossary.

Section 1 – Key principles

The **method** set out in this publication is based on the principle that, by avoiding compliance with environmental **legal obligations**, a **business** may gain **monetary benefits** by:

- avoiding or delaying obligations that incur expenditure; or
- making sales that do not comply with its obligations.

The **method** quantifies the marginal or incremental benefits that a **business** may obtain from these events. The **method** does not consider or evaluate the reasons behind the non-compliance.

Period over which monetary benefits may be obtained

The **monetary benefits** from a breach of **legal obligations** are taken to:

- begin at the **date of non-compliance**, and
- cease at the **date for assessment**.

Where a **business** has been intermittently compliant, the benefits must be 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** that a **business** is able to retain or gain as a result of non-compliance, and
- the **time value of the principal sum**.

Recognition of monetary benefits

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

This is because a **business** can benefit from the possession of cash by using it to make investments or 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 **debt** (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 in the following manner.

- In the case of avoided expenditure, by adding:

  - the **principal sum** of avoided expenditure, and

  - the **time value of the principal sum** of avoided expenditure over the **assessment period**.

- In the case of delayed expenditure, by adding:

  - the **time value of the principal sum** of delayed expenditure, calculated over the period:

    o starting at the **date of non-compliance**, and

    o ending at the **date of compliance,** and

  - the value that further arises over the period between the **date of compliance** and the **date for assessment** from:

    o 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

    o 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**.

- In the case of **gross margins**, by adding (for each year in which a **gross margin** was earned):

  - 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 **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:

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

where:

- RoR $_{Pre-tax}$ 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**

- 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 of 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**.

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[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 both before and after the associated costs of **income tax**. The following paragraphs describe the principles to be used when calculating 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 calculated 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 such as an individual or a corporation. **Income tax** is levied on legal entities rather than on the businesses or trades that an **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** from 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:

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

- RoR $_{Post-tax}$ is the post-tax weighted average cost of capital

- K$_{e\ Post-tax}$ is the average annual percentage return after **income tax**, on **shareholder equity** over the **assessment period**, where:

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

- 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:

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

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 tax** 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

- 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, 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 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. In this example, that adds up to 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** 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 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, they are to be recorded in the 'dollars of the day' of the year in which the monetary sum arose. This is because it is assumed that expenditure will change from one year to another because of the effects of inflation or deflation.

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 expenditure that would be incurred today.

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 Melbourne as its index of historical changes in prices; and

- forecasts of consumer price inflation published in the Reserve Bank of Australia's quarterly Statement on Monetary Policy as its index of forecast changes in prices.

NOTE: An exception may be made to the application of these measures if there is evidence justifying the use of alternative measures – for example, a change in pricing on a particular item of expenditure, contrary to general inflation movement.

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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***.

$$PV = HV \times (1 + i)^P \hspace{3cm} \text{.......................... A}$$

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 a 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 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 should *not* be applied.

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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 ≤ 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 during the year after the year in which the liability was incurred. Therefore, they are delayed by one year. 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. No further tax depreciation would accumulate over the period between the date on which the asset's tax life expired 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:

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

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.

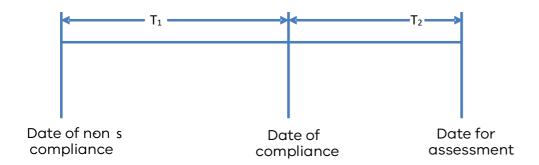## Step 3: Delayed capital expenditure

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**.

$$PV = (HV \times (1+i)^{T1} - HV) \times (1+i)^{T2} \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots F$$

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** 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** = $T_1 + T_2$.

T_1	T_2
Date of non s compliance	Date of compliance
	Date for assessment

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

- *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 benefit over the period T_2. This gives the expression:

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

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,

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

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 $T_1 > L$:

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

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**.

$$PV = HV \times (1+i)^P \qquad\qquad \ldots\ldots\ldots\ldots\ldots\ldots K$$

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 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 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:

$$TCF_T = HV_{T-1} \times T\% \qquad\qquad\qquad …………….L$$

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:

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

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**.

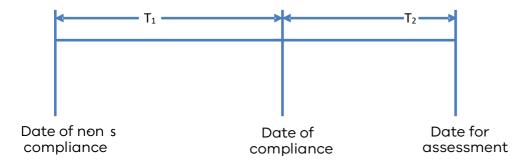In the second case, the **method** applies the following steps:

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**.

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

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** = $T_1 + T_2$.

| Date of non s compliance | Date of compliance | Date for assessment |

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 should be applied

- *before* the effect of tax, i should be a *pre*-tax nominal **rate of return** and steps 5.2 and 5.3 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:

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

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:

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

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**.

$$PV = HV \times (1 + i)^P \qquad\qquad .... Q$$

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 steps 6.2 and 6.3 should be applied

- *before* the effect of tax, i should be a pre-tax nominal **rate of return** and step 6.2 and 6.3 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:

$$TCF_T = \text{Additional } \textbf{\textit{gross margin}}_{T-1} \times T\% \qquad .... R$$

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:

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

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 margi*