

Chapter B11 – STANDARD FOR INCLUSION OF TAXATION EFFECTS (AUSTRALIA)

Purpose The purpose of this standard is to ensure that valuations derived by the Expectation Value approach using discounted cashflow analysis contain provision for tax cashflows, and that:

- the provision is determined according to defined conventions; and
- a user of the valuation may adjust or disregard the provision knowing the assumptions upon which it is based.

Scope This standard applies to all valuations prepared according to these standards and guidelines.

Why include tax? The inclusion of provision for tax cashflows is required to:

- achieve articulation with the derivation of discount rates; and
- properly reflect market value given that transactions take place in a tax paying environment.

Note: Where post-tax cashflows are used, ensure that an appropriate discount rate is applied to maintain consistency.

STANDARD B11.1 Convention The form of the asset to be recognised will impact on how taxation is treated and the ultimate value of the asset, e.g. the asset may be shares in a forest owning company or the underlying assets. Where the transaction involves shares rather than underlying forestry assets, Capital Gains Tax (CGT) rules under Income Tax Assessment Act 1997 (including Parts 3-1 and 3-3, and Division 855 where relevant) may apply in addition to timber income tax provisions.

All values derived from DCF analysis are preferably calculated from post-tax cashflows. The post-tax cash flow may be expressed in nominal or real dollars.

In determining taxation, the valuer should follow these conventions or state clearly the departures, as follows:

- tree crop value should be determined from the perspective of the purchaser in a transaction between a willing buyer / willing seller;
- tax should be calculated on taxable income at the applicable marginal tax rate current at the date of valuation;
- tax cashflows should assume the average tax position of a notional purchaser;
- taxable income should be determined in accordance with the provisions of the Income Tax Assessment Act 1936, Income Tax Assessment Act 1997, Taxation Administration Act 1953, Taxation Ruling TR 95/6 and other extrinsic guidance;



- valuers should have specific regard to sections 70-85 and 70-120 of the Income Tax Assessment Act 1997 and also Taxation Ruling TR95/6 and take advice on appropriate tax treatments;
- provision should be included for cost of standing timber arising on the purchase of the Crop with valuers adopting a convention, such that:
 - the total cost of standing timber expensed does not exceed the estimated market value of the crop
 - the cost of standing timber expensed in any period does not exceed the estimated revenue on stump from the sale of timber in the period and
 - the cost of standing timber expensed is calculated in accordance with section 70-120 of the Income Tax Assessment Act 1997, both in respect of production thinning incomes and final clear fell. Deductions under s70-120 are only available if the purchaser is “carrying on a business of forestry operations” as defined in TR 95/6;
- valuers should assume that the purchase is funded based on the average capital structure of the notional purchaser (mix of debt and equity funding);
- valuers should assume no change in tax law or rates in the future; and
- valuers should assume perpetual ownership after acquisition by the purchaser.

STANDARD B11.2
Presentation and disclosure

With respect to presentation and disclosure:

- the valuation report should include detail of all tax calculations and assumptions;
- all sources should be cited;
- valuers should seek instruction from the client as to an independent review of tax calculations; and
- state whether tax effects have been reviewed or not by a tax practitioner.



GUIDANCE NOTES ON WHETHER TO INCLUDE TAX

To model tax or not?

When a comparable sales approach is used for estimating market valuation the role of a discounted cash flow model is to adjust for differences between the forests for which transaction evidence is available and the target forest. In this context, a standardised, discounted cash flow model is essentially a predictive model with parameters, for example implied discount rate, estimated using transaction evidence. If an explicit representation of taxation helps to explain variation in the transaction evidence, then there is some justification for including taxation in the model. Otherwise, a simpler model may be sufficient and easier to manage.

GUIDANCE NOTES ON DEDUCTIBILITY OF EXPENSES

Introduction

The present forestry taxation regime is based on sections 6-5, 70-85 and 70-120 of the *Income Tax Assessment Act 1997*. Key forestry tax concepts are elaborated on in Taxation Ruling TR 95/6. For completeness, note that GST does not generally affect forestry cashflow valuations for GST-registered entities, as GST is a pass-through tax.

These sections and TR 95/6 deal with:

- the extent to which receipts derived from the sale of timber constitute assessable income;
- whether or not taxpayers are engaged in the forest industry;
- allowable deductions;
- tax consequences of transactions entered into by persons engaged in a business of forest operations; and
- tax treatment of transactions related to timber which are not entered into in the course of carrying on a business of forest operations.

This Guidance Note is not intended to be a comprehensive guide to forestry taxation, rather a summary of key points.

Sources of Information

- The Federal Register of Legislation (Legislation Register) is the authorised whole-of government website for Commonwealth legislation and related documents (<https://www.legislation.gov.au>) ; and
- Australian Taxation Office Legal database. (<https://www.ato.gov.au/Law/#Law>)

Allowable deductions

Allowable deductions from forest operations may include:

- purchase price paid to acquire a plantation or forest;
- amount paid for the right to fell standing timber;



- value of existing trees introduced into a new business;
- costs of establishing a plantation or forest (for taxpayer carrying on a business of forest operations);
- costs of tending a plantation or forest;
- costs of felling and transporting timber; and
- costs of construction of an access road.

Note that permanent access roads are generally treated as capital works under Division 43 and deductible at 2.5% per annum, whereas temporary roads constructed for specific harvesting activities, with no enduring benefit, may be immediately deductible depending on the facts and circumstances.

Purchase of a plantation or forest

Where a purchase of land includes standing timber or where a right is acquired to fell standing timber, and the trees are felled for sale or use in manufacturing to produce income, a tax deduction is allowable.

The amount of the deduction is the proportion of the price paid for the trees that is attributable to the timber felled during the particular year of income.

The proportion may be based on volume or tree numbers. The basic calculation formula is:

$$A/B * C$$

where:

A = the number of trees or volume felled

B = the total number of trees at the time of purchase or volume purchased

C = the total purchase price excluding the value of the land, or the right attributable to standing timber at the time of purchase.

Note that care needs to be taken when applying the basic calculation above to ensure that the deduction calculated is limited to the amount paid to acquire the trees that were felled in a given income year. To ensure deductions are accurately calculated, due regard should be given to the volume divided by the number of trees acquired and the percentage of the acquired volume divided by the number of trees felled in a given a year.

Where forest land and trees are acquired, the amount paid will need to be separately allocated to the land and standing timber that exists at the time of acquisition to allow this calculation to be accurately performed.

Note that trees felled as either thinning to waste or where they are diseased and are not felled for sale or use in manufacture are excluded from both A and B.

Cost of Standing Timber can be deductible from insurance proceeds and/or salvage proceeds following losses of timber.



GUIDANCE NOTES ON TAXATION MODEL

Introduction

Once woodflows and cashflows have been generated, calculation of the NPV of the forest requires incorporation of the following:

- 'sale' of land;
- taxation; and
- discounting at the selected discount rate.

Tax deductible costs

The tax deductibility of costs is a complex subject that should only be attempted by persons well versed in the relevant legislation. This example deals only with one method for treating the tax impact of tax on revenue and the write-off of the cost of standing timber account that is created on purchase of a forest asset.

Example

Consider the pre-purchase example in Table 11-1 (with footnotes) using a post-tax nominal cash flows. In brief:

- inclusion of the tax impact of the 'Standing Timber' account created at the time of planned purchase creates some circularity in calculations;
- the value that a potential purchaser might place on the forest is determined by the purchaser's likely tax liability, and yet that liability is in turn influenced by the purchase price;
- the post-tax valuation model employs an iterative procedure to handle the circularity; and
- a 'complication' is created by the 'tax shield' provided by the purchase price, which can only be carried forward for eventual offset at its historic value - accordingly, the post-tax valuation model needs to recognise the erosive effect of inflation on the real value of the 'Cost of Standing Timber' account.



EXAMPLE POST-TAX NPV CALCULATION

Table 11-1: Example of a pre-purchase tree crop valuation using a post-tax nominal cash flow

A	B	C	D	E	F	G	H	I	J
2	Inflation forecast	2%							
3	Expected purchase Price (\$)	9,164,642							
4	Land value in year of purchase (\$)	2,000,000							
5	Tree crop value in year of purchase (\$)	7,164,642							
6	Standing volume at purchase (m³)	200,000							
7	Area at purchase (ha)	1,000							
8	Depletion rate (\$/m³)	(36)							
9	Land holding rate	5%							
10	Discount rate (for nominal post-tax cash flow)	8%							
11	Tax rate	30%							
12	Overhead costs (\$/ha)	(110)							
13	Log Price (\$/m³ 2021)	100							
14	Production Costs (\$/m³ 2021)	(30)							
15	Transport Costs (\$/m³ 2021)	(10)							
16	Operation Costs (\$/m³ in 2021)	(5)							
17	Clearfell volume (m³/ha)	200							
18	Thinning volume (m³/ha)	60							
19									
20	Current Rotation Cash Flow (nominal)	2021	2022	2023	2024	2025	2026	2027	2028
21	Clearfell Area (ha)	0	0	150	250	250	200	150	0
22	Thinning Area (ha)	0	150						
23	Area at start of period (ha)	1,000	1,000	1,000	850	600	350	150	0
24	Volume harvested (m³)	0	9,000	30,000	50,000	50,000	40,000	30,000	0
25	Discounting and Inflation Period	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50
26	Inflation Factor	1.01	1.03	1.05	1.07	1.09	1.12	1.14	1.16
27	Discounting Factor	0.96	0.89	0.82	0.76	0.71	0.65	0.61	0.56
28	(cash flows in '000)								
29	Revenue	0	927	3,152	5,359	5,466	4,460	3,412	0
30	Production Costs	0	(278)	(946)	(1,608)	(1,640)	(1,338)	(1,024)	0
31	Transport Costs	0	(93)	(315)	(536)	(547)	(446)	(341)	0
32	Operating Margin	0	556	1,891	3,215	3,280	2,676	2,047	0
33									
34	Operational Expenditure	0	(46)	(158)	(268)	(273)	(223)	(171)	0
35	Area Based SG&A Expenditure	(111)	(113)	(116)	(100)	(72)	(43)	(19)	0
36	Investment Cash Flow before Non-Cash Charges	(111)	397	1,618	2,847	2,934	2,410	1,858	0
37	Depletion of Standing Timber (not inflated)	0	(322)	(1,075)	(1,791)	(1,791)	(1,433)	(1,075)	0
38	Taxable Income (before use of tax losses)	(111)	74	543	1,056	1,143	977	783	0
39	Tax loss used	0	(74)	(37)	0	0	0	0	0
40	Taxable Income	(111)	0	507	1,056	1,143	977	783	0
41	Tax payable								
42									
43	Tax losses carried forward (opening balance)	0	111	37	0	0	0	0	0
44	Tax losses (increase/decrease)	111	(74)	(37)	0	0	0	0	0
45	Tax losses carried forward (closing balance)	111	37	0	0	0	0	0	0
46									
47	Net Cashflow after tax	(111)	397	1,466	2,530	2,591	2,117	1,623	0
48	Non-Cash Freehold Land Use Charge	(101)	(103)	(105)	(91)	(66)	(39)	(17)	0
49	Net Cashflow after tax plus land use charge	(212)	294	1,361	2,439	2,526	2,078	1,606	0
50									
51	NPV of Tree crop	7,165							



Run Excel's Solver to maximise the NPV of the tree crop by changing Expected Purchase Price, subject to the NPV of the Treecrop = Treecrop value in year of purchase.

Solver Parameters

Set Objective:

To: ☒ Max ☐ Min ☐ Value Of:

By Changing Variable Cells:

Subject to the Constraints:

☒ Make Unconstrained Variables Non-Negative

Select a Solving Method:

Solving Method
Select the GRG Nonlinear engine for Solver Problems that are smooth nonlinear. Select the LP Simplex engine for linear Solver Problems, and select the Evolutionary engine for Solver problems that are

Buttons: Add, Change, Delete, Reset All, Load/Save, Options, Help, Solve, Close

Calculation formula are available as follows:

19	B	C	D
20	Current Rotation Cash Flow (nominal)	2021	=C20+1
21	Clearfell Area	0	0
22	Thinning Area	0	150
23	Area at start of period	=C7	=C23-C21
24	Volume harvested	=C21*\$C\$17+C22*\$C\$18	=D21*\$C\$17+D22*\$C\$18
25	Discounting and Inflation Period	0.5	=C25+1
26	Inflation Factor	=(1+\$C\$2)^C25	=(1+\$C\$2)^D25
27	Discounting Factor	=1/(1+\$C\$10)^C25	=1/(1+\$C\$10)^D25
28			
29	Revenue	=C\$26*C24*\$C\$13	=D\$26*D24*\$C\$13
30	Production Costs	=C\$26*C24*\$C\$14	=D\$26*D24*\$C\$14
31	Transport Costs	=C\$26*C24*\$C\$15	=D\$26*D24*\$C\$15
32	Operating Margin	=SUM(C29:C31)	=SUM(D29:D31)
33			
34	Operational Expenditure	=C\$26*\$C\$16*C24	=D\$26*\$C\$16*D24
35	Area Based SG&A Expenditure	=C\$26*C23*\$C\$12	=D\$26*D23*\$C\$12
36	Investment Cash Flow before Non-Cash Charges	=SUM(C32:C35)	=SUM(D32:D35)
37	Depletion of Standing Timber (not inflated)	=C24*\$C\$8	=D24*\$C\$8
38	Taxable Income (before use of tax losses)	=SUM(C36:C37)	=SUM(D36:D37)
39	Tax loss used	=IF(C38>0,-MIN(C38,C43),0)	=IF(D38>0,-MIN(D38,D43),0)
40	Taxable Income	=SUM(C38:C39)	=SUM(D38:D39)
41	Tax payable	=IF(C40<0,0,-C40*\$C\$11)	=IF(D40<0,0,-D40*\$C\$11)
42			
43	Tax losses carried forward (opening balance)	0	=C45
44	Tax losses (increase/decrease)	=IF(C38<0,C38*-1,C39)	=IF(D38<0,D38*-1,D39)
45	Tax losses carried forward (closing balance)	=SUM(C43:C44)	=SUM(D43:D44)
46			
47	Net Cashflow after tax	=C36+C41	=D36+D41
48	Non-Cash Freehold Land Use Charge	=-C23/\$C\$23*C26*\$C\$9*\$C\$4	=-D23/\$C\$23*D26*\$C\$9*\$C\$4
49	Net Cashflow after tax plus land use charge	=C47+C48	=D47+D48
50			
51	NPV of Treecrop	=SUMPRODUCT(C27:J27,C49:J49)	



Revision History

Original Standard	NZIF. Released in May 1999
Revision in September 2020	FA. Main changes are: Developed an Australian version of the standard to be consistent with Australian tax law.
Revision in August 2025	FA. Main changes are: Minor updates to tax law.
Revision in December 2025	FA/NZIF. Released as part of Australia New Zealand Forest Valuation Standard.

