

A practical guide to assessing economic loss

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These notes have been written for the Australian Lawyers Alliance, Seminar "A Practical Guide to Assessing Economic Loss" held in Victoria on 12 November 2008 as an introduction to the various components of economic loss, the principles of valuation and the practical issues surrounding them.

It is necessarily a high-level overview of the topic and individual circumstances can differ from the scenarios discussed in these notes, therefore it is recommended that you consult with Cumpston Sarjeant before preparing economic loss estimates.

More detail on these topics can be found on our website (<http://www.cumsar.com.au>).

1. Earnings losses

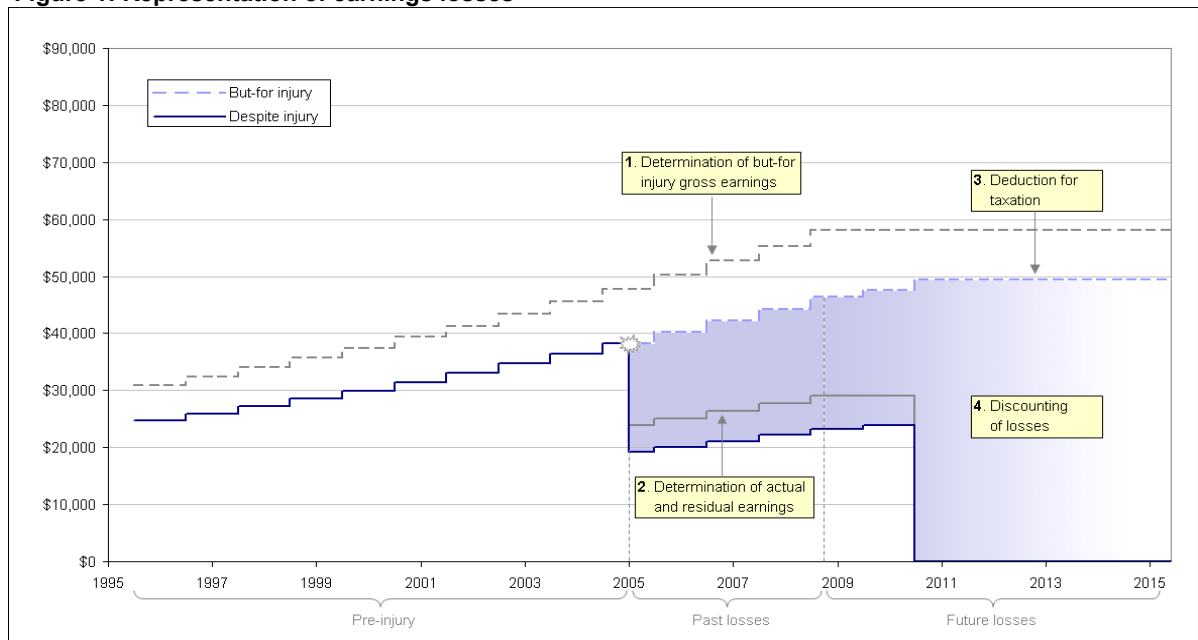
1.1 Introduction

The fundamental principle of compensation is known as *restitutio in integrum* (restoration to the original position) whereby plaintiffs should be awarded such sums of money as will restore them to the positions that they would have been in if there had been no wrong committed.

Losses of earnings are therefore assessed as the difference between two scenarios:

- the net earnings they would have had, had they not been injury (i.e. their "but-for injury earnings"); and
- the net earnings they have had, and will now continue to have (i.e. their "despite injury earnings").

Figure 1: Representation of earnings losses



1.2 But-for injury gross earnings

When establishing earnings path projections, the general concept is to extrapolate the individual's pre-injury earnings in a reasonable and justifiable manner, allowing for movements in gross earnings that would have occurred up to the date of calculation.

Earnings up to the date of calculation incorporate movements in general wage inflation and increases due to promotion. Earnings beyond the date of calculation must be expressed in current values (i.e. not allow for future general wage increases but can allow for promotion and /or projected increases in award wages)

Inflated, pre-injury earnings

If the individual demonstrated stable pre-injury earnings, in an equivalent occupation and career path, then pre-injury earnings may be inflated in line with a suitable data series:

- Average earnings for all full-time persons (or males / females) in Australia (or any particular state)¹
- Average earnings for persons of certain occupation or occupational groups²

For example, three possible indexation scenarios for an injury occurring in 03-04 and a calculation date of December 2008 are:

Date from	AWE (Australian persons)	Earnings (\$ pa)	AWE (Victorian males)	Earnings (\$ pa)	AWE (Male elec- tricians)	Earnings (\$ pa)	
1-Jul-00	634.7	46,000	739.6	46,000	949.9	46,000	Pre-injury
1-Jul-01	662.6	48,000	761.1	48,000	959.8	48,000	
1-Jul-02	686.9	50,000	836.1	50,000	969.6	50,000	
1-Jul-03	724.9	52,766	888.6	53,140	992.2	51,163	But-for injury
1-Jul-04	746.3	54,324	912.8	54,587	1,014.7	52,326	
1-Jul-05	789.7	57,483	964.9	57,702	1,146.4	59,115	
1-Jul-06	826.9	60,191	983.4	58,809	1,278.0	65,903	
1-Jul-07	863.4	62,848	1,022.9	61,171	1,334.4	68,812	
1-Jul-08	888.5	64,675	1,048.6	62,708	1,373.2	70,813	

Indicative current earnings

If evidence exists as to the individual's current earnings potential (i.e. via a vocational assessment, or a comparable employee) then this amount can be used directly with intermediate earnings estimated by interpolation.

For example, assuming current earnings of \$80,000, two possible scenarios are:

Date from	Earnings (\$ pa)		
	(Constant growth)	(Promotion in 2006)	
1-Jul-00	46,000	46,000	Pre-injury
1-Jul-01	48,000	48,000	
1-Jul-02	50,000	50,000	
1-Jul-03	54,074	52,000	But-for injury
1-Jul-04	58,480	54,080	
1-Jul-05	63,246	56,243	
1-Jul-06	68,399	73,964	
1-Jul-07	73,972	76,923	
1-Jul-08	80,000	80,000	

1 <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6302.0May%202008?OpenDocument>

2 <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6306.0May%202006?OpenDocument>

Award earnings, or average occupational earnings

Some individuals may be covered by specific award wages or may closely follow industry average wages. In such cases, earnings capacity can be assessed in absolute amounts, as opposed to growth relative to pre-injury amounts:

For example:

Date from	Award wages (\$ pw)	Earnings (\$ pa)		AWE (Male electricians)	Earnings (\$ pa)	
		Ordinary	Total			
1-Jul-00		38,500	46,000		46,000	Pre-injury
1-Jul-01		40,000	48,000		48,000	
1-Jul-02		42,000	50,000		50,000	
1-Jul-03	827.1	43,158	51,379	992.2	51,770	But-for injury
1-Jul-04	848.4	44,270	52,702	1,014.7	52,947	
1-Jul-05	867.5	45,266	53,888	1,146.4	59,817	
1-Jul-06	867.5	45,266	53,888	1,278.0	66,686	
1-Jul-07	874.7	45,644	54,338	1,334.4	69,630	
1-Jul-08	882.0	46,022	54,788	1,373.2	71,654	
1-Jul-09	889.3	46,403	55,241			
1-Jul-10	896.6	46,787	55,698			
1-Jul-11	904.1	47,174	56,159			

Average occupational earnings by age group

In the case of an individual being injured at a young age, before they have established a stable earnings capacity, average earnings by age group³ may be useful

For example:

Age	AWE (full-time males)		ABS (male electricians)		ATO (male electricians)		
	(\$ pw)	(\$ pa)	(\$ pw)	(\$ pa)	(\$ pw)	(\$ pa)	
18	499	26,038	457.4	23,869	717.0	37,414	But-for injury
20	806	42,057	838.4	43,747	717.0	37,414	
25	1,025	53,485	1,211.8	63,233	1,205.3	62,894	
30	1,230	64,181	1,270.3	66,285	1,205.3	62,894	
35	1,384	72,217	1,282.3	66,912	1,275.8	66,572	
40	1,349	70,391	1,264.3	65,972	1,275.8	66,572	
45	1,379	71,956	1,211.8	63,233	1,223.5	63,844	
50	1,413	73,730	1,177.3	61,433	1,223.5	63,844	
55	1,304	68,043	1,133.8	59,164	1,007.8	52,585	
60	1,254	65,434	1,075.4	56,112	1,007.8	52,585	

Self employed / business earnings

Where an individual earns income through a business entity, it is important to identify all earnings generated by that individual. In addition to salary income, this may also include retained company profits, directors fees and nominal wages paid to family members for the purposes of income splitting (i.e. *Husher v Husher*⁴).

For example:

Date from	AWE (Australian persons)	Direct wages (\$ pa)	Directors fees (\$ pa) To self	To wife	Company profits (\$ pa)	Total (\$ pa)	
1-Jul-00	634.7	21,000	10,000	10,000	-2,500	38,500	Pre-injury
1-Jul-01	662.6	23,000	12,000	12,000	5,000	52,000	
1-Jul-02	686.9	25,000	14,000	14,000	10,000	63,000	
1-Jul-03	724.9					66,485	But-for injury
1-Jul-04	746.3					68,448	
1-Jul-05	789.7					72,428	
1-Jul-06	826.9					75,840	
1-Jul-07	863.4					79,188	
1-Jul-08	888.5					81,490	

Volatile pre-injury earnings

Where an individual's pre-injury earnings fluctuate from year to year (i.e. self-employed individuals), their earnings capacity may be assessed relative to an inflation adjusted average taken over several years.

For example:

Date from	AWE (Australian persons)	Total (\$ pa)	Inflation adjusted (\$ pa)	
1-Jul-00	634.7	45,000	51,395	Pre-injury (average inflation adjusted amount is \$49,178)
1-Jul-01	662.6	30,000	32,821	
1-Jul-02	686.9	60,000	63,319	
1-Jul-03	724.9	49,178		But-for injury
1-Jul-04	746.3	50,630		
1-Jul-05	789.7	53,575		
1-Jul-06	826.9	56,098		
1-Jul-07	863.4	58,574		
1-Jul-08	888.5	60,277		

1.3 Despite injury gross earnings

Actual, post-injury earnings for the individual are obtainable from a number of sources:

- Lodged taxation returns - salary plus allowances less work-related deductions
- Notices of assessment - taxable earnings
- Group certificates - salary only
- Payslips and time sheets - salary only

When assessing such post-injury capacity, the following sources of income are excluded:

- Non-personal exertion income (i.e. rent, capital gains and trust distributions)
- Weekly compensation payments (i.e. WorkCover, TAC and Centrelink benefits)
- Lump sum entitlements (i.e. long service leave and ETPs)
- Insurance benefits (i.e. Income protection payments)

Actual earnings information should be available up to the date of calculation, after which residual earnings (if appropriate) needs to be determined. For example:

Date from	But-for injury (\$ pa)	Despite injury earnings (\$ pa)			
		Total incapacity	Partial capacity	Return to work	
1-Jul-00	46,000	46,000	46,000	46,000	Pre-injury
1-Jul-01	48,000	48,000	48,000	48,000	
1-Jul-02	50,000	50,000	50,000	50,000	
1-Jul-03	52,800	0	0	0	Post-injury (actual)
1-Jul-04	54,300	0	0	0	
1-Jul-05	57,500	5,900	5,900	5,900	
1-Jul-06	60,200	14,500	14,500	14,500	
1-Jul-07	62,800	29,900	29,900	29,900	
1-Jul-08	64,700	0	29,900	37,000	Post-injury (assumed)
1-Jul-09	64,700			44,100	
1-Jul-10	64,700			51,100	
1-Jul-11	64,700			58,200	

1.4 Taxation

Before losses can be determined, gross earning amounts must be converted to net earnings amounts with reference to historical taxation rates⁵. Budgeted tax rates are also incorporated into future net losses⁶.

Tax calculations also include allowances for:

- Medicare levy⁷
- Low Income Tax Offsets⁸ (or Senior Australian Tax Offsets if applicable)

The following rates include both the low income rebate and Medicare arrangements:

2008-09 taxation year		
Start of band	Tax & levy	
	in band	band start
14,000	15.0%	0
17,309	25.0%	496
20,364	16.5%	1,260
30,000	20.5%	2,850
34,000	35.5%	3,670
60,000	31.5%	12,900
80,000	41.5%	19,200
180,000	46.5%	60,700

An example of a taxation calculation:

Assumed gross earnings from 1 July 2008	(a)	65,000
less start of applicable taxation band	(b): see table	60,000
Earnings within taxation band	(c) = (a) - (b)	5,000
multiplied by tax and levy rate in band	(d): see table	31.5%
Taxation payable on income within the taxation band	(e) = (c) x (d)	1,575
plus tax and levy to start of band	(f): see table	12,900
Initial taxation payable per annum	(g) = (e) + (f)	14,475
Annual after-tax earnings	(h) = (a) - (g)	50,525
Net earning rate \$ per week	(i) = (h) / 52.18	968.3

Family Tax benefits and other allowances are excluded unless specifically requested.

1.5 Mortality

In some jurisdictions, probabilities of death before age 65 are able to be incorporated directly into future earnings losses (see 3.2). However, our practice for the last 18 months has been to exclude all allowances for mortality and direct the reader to an appropriate deduction for vicissitudes that is inclusive of mortality.

Such a method was chosen for simplicity, consistency with published \$1 pw factors and consistency between the various jurisdictions.

5 <http://www.ato.gov.au/individuals/content.asp?doc=/content/73969.htm>

6 <http://www.ato.gov.au/individuals/content.asp?doc=/content/12333.htm>

7 <http://www.ato.gov.au/individuals/content.asp?doc=/content/40500.htm&page=2>

8 http://www.austlii.edu.au/au/legis/cth/bill_em/tlaitrb2008491/memo_0.html

1.6 Discount rates

Future economic losses must be brought to present values by reference to a discount rate. The statutory discount rates prescribed under the various Australian jurisdictions are:

Jurisdiction	Workers' compensation	Transport accidents	Professional and public liability
New South Wales	5% ¹	5% ²	5% ³
Northern Territory	n.a	n.a ⁴ 5% ⁴	5% ⁵
Queensland	5% ⁶	5% ⁷	5% ⁸
South Australia	3% ⁹	5% ¹⁰	5% ¹⁰
Tasmania	3%	7% ¹¹ 5% ¹²	7% ¹¹ 5% ¹²
Victoria	3% ¹³ n.a ¹³ 6% ¹³	6% ¹⁴	5% ¹⁵ 3% ¹⁶
Western Australia	6% ¹⁷	6% ¹⁷	6% ¹⁷

1 Workers Compensation Act 1987, section 151J applies to assessments on or after 1 February 1990

2 Motor Vehicles (Third Party Insurance) Act 1942, section 35B applies to personal injuries and deaths where damages are payable out of the Transport Accidents Compensation Fund from 1 July 1984

Motor Accidents Act 1988, section 71 applies to accidents occurring on or after 1 July 1987 and prior to 8 July 1999

Motor Accidents Compensation Act 1999, section 127 applies to accidents occurring on or after 8 July 1999

Transport Administration Act 1988, section 121 extends the Motor Accidents Compensation Act 1999 to public transport

3 Health Care Liability Act 2001, s11(2) applies to medical negligence cases commenced between 1 July 2001 and 20 March 2002

Civil Liability Act 2002, section 14(2)(b) applies to cases commenced on or after 20 March 2002

4 Motor Accidents (Compensation) Act, section 5(1) abolishes award of damages to residents of the Northern Territory and section 4(1) applies to injuries to a person who, at the time of the accident, was not a resident of the Territory

5 Personal Injuries (Liabilities and Damages) Act 2002, section 22 applies to all assessments of damages on or after 1 May 2003

6 Supreme Court Act 1995, section 16(1) (formerly Common Law Practice Act 1867 (Qld), section 5) applies to assessments of damage on or after 13 November 1981

7 Motor Accident Insurance Act 1994, s55B applies to all assessments of damages between 1 October 2000 and 9 April 2003

Civil Liability Act 2003, section 57 applies to all assessments of breaches of duty on or after 9 April 2003

8 Personal Injuries Proceedings Act 2002, section 52 applies to breaches of duty between 18 June 2002 and 9 April 2003

Civil Liability Act 2003, section 57 applies to all assessments of breaches of duty on or after 9 April 2003

9 Workers Rehabilitation and Compensation (General) Regulations 1999, section 13(1) applies to all assessments of damages on or after 1 December 1999.

Workers Rehabilitation and Compensation Act 1986, section 42 states that such assessments are performed only for redemption of liabilities by agreement. South Australia does not have common law settlements for workers compensation

10 Civil Liability Act 2003, section 55 (formerly section 35A of the Wrongs Act 1936) in conjunction with the definition of prescribed discount rate in section 3 applies to accidents occurring on or after 8 February 1987

11 Common Law (Miscellaneous Actions) Act 1986, section 4(1) applies to injuries occurring on or after 18 December 1986

12 Civil Liability Act 2002, section 28A applies to causes of actions accrued on or after 15 December 2005

13 Accident Compensation Act 1985, s135A(14) & s135C apply to "serious injuries" and deaths arising from employment prior

to 12 November 1997, s134A(1) applies to injuries arising from employment on or after 12 November 1997 but prior to

20 October 1999, s134AB(32) applies to "serious injuries" arising from employment on or after 20 October 1999

14 Transport Accident Act 1986, s173 applies to injuries where damages are payable out of compulsory insurance funds prior to 1 January 1987 and section 93(13) applies to "serious injuries" arising from a transport accident on or after 1 January 1987

15 Wrongs Acts 1958, section 28(2) applies to assessments of breaches of duty arising on or after 23 October 2002

16 Wrongs (Part VB) (Dust and Tobacco-Related Claims) Regulations 2006, section 3 excludes dust and tobacco related awards for damages from Part VB (and section 28) of the Wrongs Act 1958.

17 Law Reform (Miscellaneous Provisions) Act 1941, section 5(1) applies to assessments of damages on or after 18 August 1986

\$1pw factors under these various discount rates can be found on our website⁹

2. Superannuation losses

2.1 Introduction

Similarly to earnings losses, superannuation losses are assessed as the difference between "but-for injury" and a "despite injury" scenarios. However, as opposed to earnings that are received weekly, superannuation benefits are deferred until retirement.

2.2 Defined benefit schemes

Defined benefit schemes are superannuation schemes, common in the public sector, where benefits are based on a set formula rather than on investment returns. In general:

- the longer an individual is a member of such a scheme, the higher their benefit;
- the higher an individual's salary, the higher their benefit.

These two common characteristics would ordinarily imply that an injured individual, whose career is shortened and whose earnings capacity is impaired, would receive a lower superannuation benefit and therefore incur an economic loss.

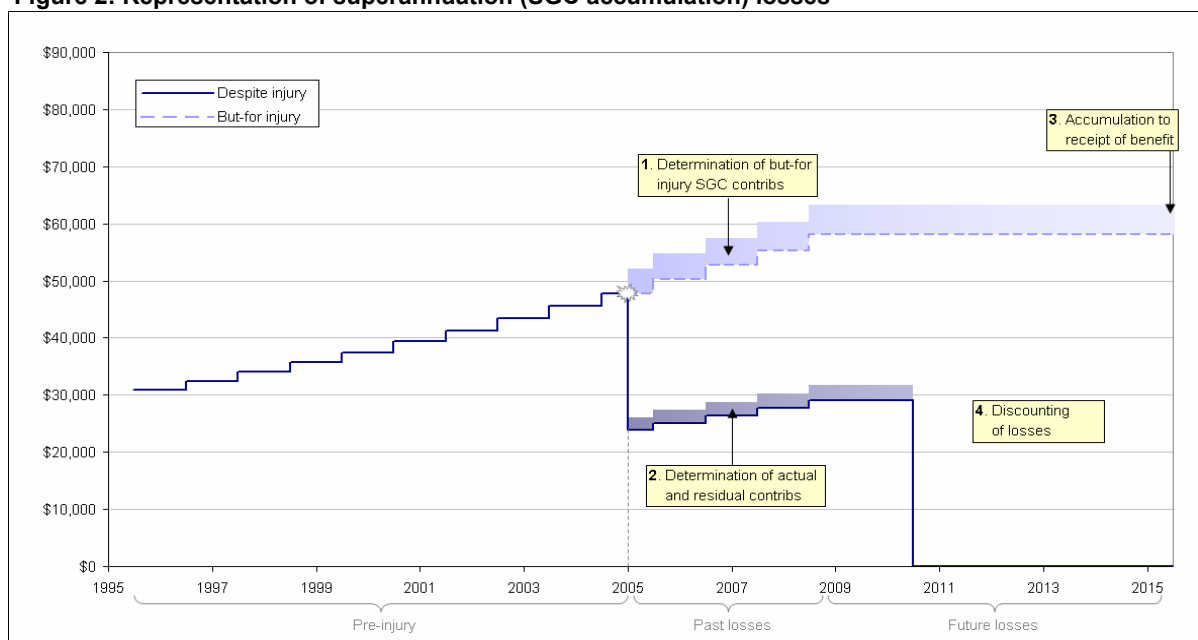
However, most defined benefit schemes have a specific clause stating that if an individual is seriously injured, they receive an incapacity benefit equivalent to their retirement benefit had they continued to work until age 65. Because of this clause, injured members of defined benefit schemes often incur no superannuation losses.

2.3 Accumulation schemes

Accumulation schemes involve contributions being invested in a fund until retirement. Compulsory contributions are paid by the employer on top of earnings in accordance with Superannuation Guarantee Charges (SGC).

Any impact on an individual's earnings therefore impacts the SGC contributions paid into the individual's superannuation account and subsequent investment earnings and therefore a loss is usually incurred.

Figure 2: Representation of superannuation (SGC accumulation) losses



2.2 Superannuation Guarantee Charges

An employer provides a minimum rate of superannuation support based on a percentage of the employee's "notional earnings base". Since July 2002, this rate has been 9%.

The employee's "notional earnings base" is usually at least equal to their ordinary time earnings, or any applicable award base if less. There is a maximum notional earnings base, above which SGC contributions are capped.

2.3 Contributions as part of earnings capacity

In some jurisdictions, superannuation contributions are treated as though they are wages¹⁰. In other jurisdictions however, this approximation can understate the superannuation loss as it doesn't take into consideration the investment earnings on contributions (see 2.4) and the taxation advantages (see 2.5) of superannuation benefits.

Nevertheless, deeming contributions to be earnings capacity may be appropriate for contributions that are non-regular and not compulsory. Such contributions are effectively a voluntary investment choice paid from the individual's salary and the "unwinding" of such choice may provide a more stable basis of assessment.

2.4 Accumulation of contributions

Because superannuation benefits are not paid until retirement, they must be accumulated forward at appropriate crediting rates. Typical crediting rates on past contributions are those of a typical balanced superannuation fund:

Date from	Rate (%)
02-03	0.10%
03-04	13.20%
04-05	13.10%
05-06	14.20%
06-07	14.90%
07-08	-6.40%
08-09	0.00% ⁽²⁾

⁽¹⁾ Super Ratings SR50 Balanced Index from www.superratings.com.au

⁽²⁾ Crediting rate for 08-09 is assumed to be nil in light of current market volatility.

Future crediting rates are chosen based on the expected return of a comparable balanced portfolio. In *RTA v Cremona*, an 11% rate was assumed¹¹

Currently, we assume a long term superannuation return of 9% pa¹²

2.5 Superannuation simplification

The Superannuation Legislation Amendment (Simplification) Act 2007, introduced on 15 March 2007, abolished taxation on superannuation benefits taken after age 60. This has two major ramifications:

- it increases the tax-effectiveness of superannuation, usually resulting in superannuation losses bearing proportionally less tax than earnings counterparts
- losses can be calculated based on nominal differences in contributions without reference needing to be made to pre-injury account balances

¹⁰ For example, Workers Compensation Act 1987, paragraph 174(9)(b4)

¹¹ Paragraph 81 of *RTA v Cremona* [2001] NSWCA 338

¹² Unpublished article. Details to come

3. Deductions for vicissitudes

3.1 Introduction

When making awards for loss of future earnings and superannuation, Australian courts usually make some deduction for the risks that earnings would not have continued until the assumed retirement age (i.e. due to death, illness, unemployment and strike).

Although there is general agreement that risks affecting particular plaintiffs have to be considered, appeal courts show no consistent pattern. Quantitative analysis suggests the standard 15% deduction applied in many jurisdictions are too severe, especially when no allowances are made for favourable contingencies such as promotion, completion of higher qualifications, obtaining a better job or starting a business.

3.2 Currently applied deductions

Jurisdiction	Mortality allowed in \$1pw factors	Deduction for vicissitudes
New South Wales	No	15%
Victoria	Yes	15%
Queensland	No	15% - 25%
South Australia	Yes	15% - 30%
Western Australia	No	2% - 6%
Tasmania	No	10% - 15%
Northern Territory	Yes	15%
ACT	No	15%

3.3 Calculated deductions for death, unemployment, sickness & strikes

Occupation	Age 25	Age 35	Age 45	Age 55
Males				
Managers & administrators	5%	5%	6%	7%
Professionals	5%	6%	7%	7%
Associate professionals	6%	6%	7%	8%
Tradespersons & related workers	7%	8%	10%	11%
Advanced clerical & service workers	6%	7%	8%	8%
Intermediate clerical, sales & service workers	7%	8%	9%	9%
Intermediate production & transport workers	8%	9%	11%	11%
Elementary clerical, sales & service workers	6%	6%	8%	8%
Labourers & related workers	10%	11%	13%	13%
Females				
Managers & administrators	3%	4%	5%	6%
Professionals	3%	4%	5%	6%
Associate professionals	4%	4%	5%	6%
Tradespersons & related workers	5%	6%	7%	9%
Advanced clerical & service workers	4%	5%	6%	7%
Intermediate clerical, sales & service workers	4%	5%	6%	7%
Intermediate production & transport workers	5%	6%	8%	9%
Elementary clerical, sales & service workers	3%	4%	5%	5%
Labourers & related workers	5%	6%	8%	9%

Source: <http://www.cumsar.com.au/PDF/DeductionsForVicissitudes.pdf>

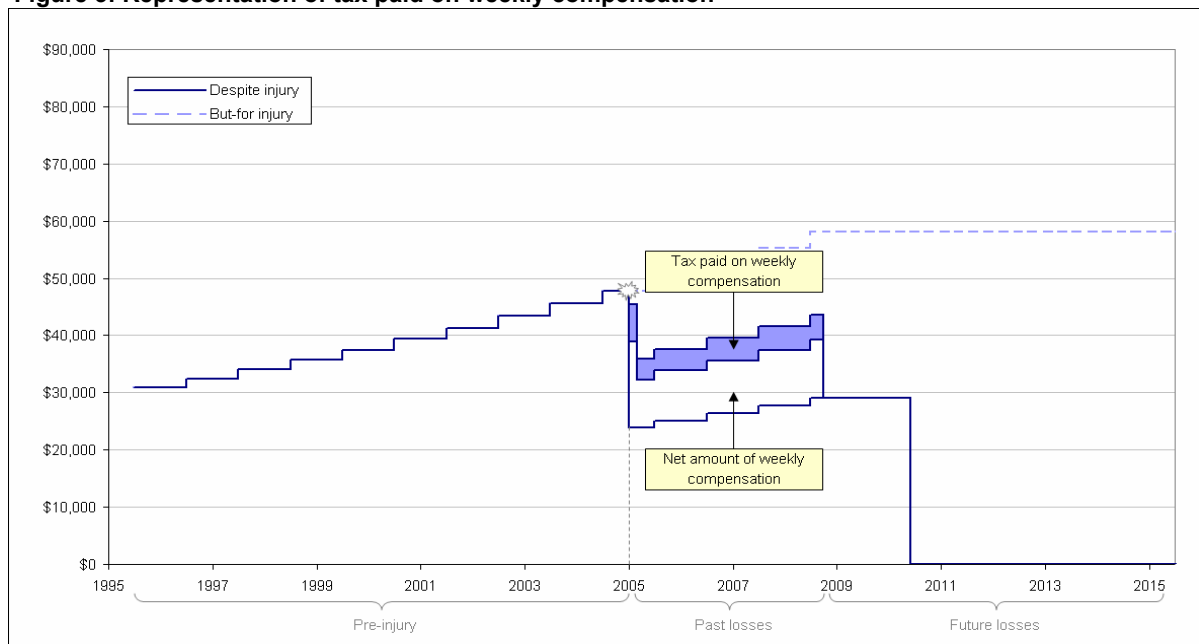
4. Taxation paid on weekly compensation

4.1 Introduction

A lump sum award of damages is not taxed. Some periodical payments of weekly benefits, on the other hand, are subject to income tax. Where no-fault benefits are repaid following settlement, the individual would lose the amount of this tax (i.e. the *gross* benefits are repaid even though the individual had only received the *net* amounts after income tax).

This component is also termed a *Fox v Wood* component and is equal to the marginal rate of tax paid on the weekly compensation payments received to date.

Figure 3: Representation of tax paid on weekly compensation



5. Penalty interest

5.1 Introduction

All jurisdictions except Tasmania have legislation permitting the award of interest on damages to compensate plaintiffs for the detriment in being kept out of money that was due to them.

Courts in Victoria are limited to awarding interest from the commencement of proceedings though in other jurisdictions interest may be awarded from the date when the cause of action arose. In all jurisdictions however, compounding of interest is disallowed.

5.2 Penalty interest factors (excerpt)

Victorian penalty interest rates are from section 2 of the Penalty Interest Rates Act 1983:

Date from	Rate	Date from	Rate
	(% pa)		(% pa)
1-Jul-83	15.80%	1-Jul-88	12.50%
1-Jan-84	13.30%	1-Oct-88	11.80%
1-Apr-84	14.70%	1-Jan-89	23.50%
1-Jul-84	14.00%	1-Feb-89	11.90%
1-Oct-84	14.00%	1-Apr-89	13.60%
8-Oct-84	13.70%	1-Jul-89	13.70%
1-Jan-85	13.60%	1-Nov-89	19.60%
1-Apr-85	13.50%	12-Jul-90	18.50%
10-Jul-85	14.20%	19-Dec-90	16.10%
1-Oct-85	14.10%	1-May-91	15.00%
1-Jan-86	15.10%	30-Oct-91	13.20%
1-Apr-86	13.80%	23-Feb-98	12.30%
1-Jul-86	13.20%	17-Apr-01	11.50%
1-Oct-86	13.90%	4-May-02	12.25%
1-Jan-87	13.50%	25-Aug-02	12.00%
1-Apr-87	14.00%	18-Dec-02	11.50%
1-Jul-87	12.50%	24-Mar-03	11.00%
1-Oct-87	12.30%	26-Jun-03	11.25%
1-Jan-88	13.20%	1-Jul-04	12.00%
1-Apr-88	13.20%	1-Oct-05	11.00%
7-Apr-88	12.50%	1-Oct-06	12.00%

6. Dependency losses

6.1 Introduction

Legislation exists in all Australian jurisdictions to provide for causes of action for the benefit of the estate of a person who has died. The principle behind any such loss is that the members of the estate would have derived some material benefit from the deceased had the latter lived.

A common circumstance involves the death of a working parent of a household. The family's dependency may be calculated by taking the probably earnings of the deceased after allowing for tax and deducting what would have been spent on the deceased for things such as food, clothing and entertainment. This total loss can then be apportioned between the claimants.

In addition to the loss of expectation of benefits derived from the deceased earnings, the family is also entitled to loss of the value of the deceased's unpaid domestic services.

6.2 Dependency percentages

Estimated dependency percentages for the surviving parent and children, and for the surviving family as a whole, are:

Net income of spouse (as % of deceased)	No. of children	Parent	Child	Family
0%	0	65.6%	-	65.6%
0%	1	43.8%	28.1%	71.9%
0%	2	34.4%	20.8%	76.0%
0%	3	28.9%	16.7%	79.0%
0%	4	25.1%	14.0%	81.1%
0%	5	22.3%	12.1%	82.8%
100%	0	31.2%	-	31.2%
100%	1	23.9%	19.8%	43.7%
100%	2	20.8%	15.6%	52.0%
100%	3	18.5%	13.1%	57.8%
100%	4	16.6%	11.4%	62.2%
100%	5	15.1%	10.1%	65.6%

Intermediate cases can be determined via interpolation.

7. Cost of future expenditure

7.1 Introduction

The earnings capacity lost by the injured individual is only one type of economic loss. The other types mainly result from the creation of new needs and future expenditure that would otherwise have not been incurred.

Losses involving recurring future expenditure are calculated individually by multiplying the unit cost of each need by a multiplier calculated in respect of the statutory discount rate, recurring frequency and duration of need (for example: a multiplier in respect of \$1 spent every 3 years from 1/1/2018 to 31/12/2065).

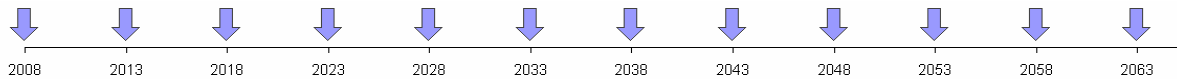
Possible sources of these unit costings are:

- Occupational therapist reports
- Medical experts (physiotherapist, speech pathologist, etc)
- Architectural or engineering quotations
- Fund managers

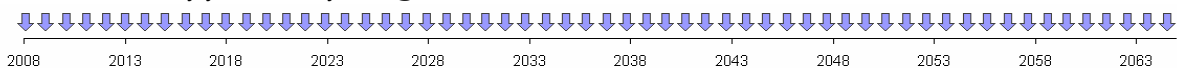
7.2 Frequency of payment

Even if the dollar amounts of multipliers are the same, the frequency of payment can affect the value of the multiplier:

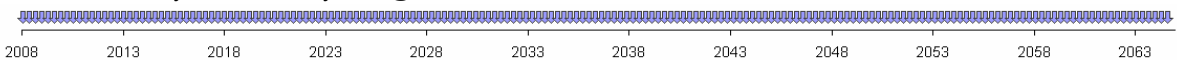
Value of \$260 every 5 years for 60 years @ 5% discount = \$1,137



Value of \$52 every year for 60 years @ 5% discount = \$1,034



Value of \$1 every week for 60 years @ 5% discount = \$1,013



7.3 Life expectancy vs probability of death

As discussed in sections 1.5 and 3.2, some jurisdictions exclude mortality from future multipliers. Such jurisdictions value lifetime expenditure with reference to the individual's life expectancy rather than individual probabilities of death in each year.

There are two broad methods employed in calculating multipliers which allow for mortality:

- (i) life annuity methods - this calculates the probability of each future payment occurring by reference to the probability of survival at each future date. Payments further in the future have a lower probability of occurrence as the probability of survival is lower. They are also subject to a greater degree of discounting. The multiplier is then the sum of all the probabilistic future discounted cash flows.

- (ii) life expectancy methods - this calculates the life expectancy (based on probabilities of survival) and assumes that future payments will be made up to this expectation of life, but not thereafter. The multiplier is then the sum of all the 'certain' discounted cash flows.

Our practice for the last 18 months has been to apply the life expectancy method to all jurisdictions, allowing for projected improvements in life expectancy¹³. The differences between these methods are usually minimal. For example, for a 7 year old male:

Duration	Prob of death	Life expectancy	Difference (%)
For life	1035.9	1045.7	0.9%
to age 70	1011.0	1020.0	0.9%
to age 60	982.0	988.9	0.7%
to age 50	933.2	938.2	0.5%
to age 40	852.6	855.7	0.4%
to age 30	719.8	721.3	0.2%
to age 20	502.0	502.3	0.1%
to age 10	145.6	145.6	0.0%

Complications can arise when large deferral periods or joint lives are involved, in which case, multipliers calculated from probabilities of death are often used directly.

¹³ [http://www.cumsar.com.au/PDF/\\$1pwfactors.pdf](http://www.cumsar.com.au/PDF/$1pwfactors.pdf)

8. Cost of investment management

8.1 Introduction

Serious injury claimants are often entitled to damages to cover the cost of investment fees that would be incurred upon the long-term management of their settlement funds.

The exact method for valuing such damages has been a source of contention. But common consensus is that:

- a projection should be performed to determine the present value of future costs of investment management
- drawings are a constant amount and are drawn regularly from the fund
- the fund is to decline to a zero balance over the interval of fund management
- uplift figures must be self-sufficient (i.e. they need to cover the management of both the initial lump sum as well as the additional amount awarded)
- the interval of fund management is the individual's projected life expectancy
- no explicit allowance for actual fund earnings, taxation or medical offsets are to be made; instead a statutory discount rate is employed.

8.2 Cost of investment management factors

Based on stepped commission rates that are indicative of commercial fund managers, estimated uplifts to allow for management costs over various timeframes are:

Initial fund (\$m)	Duration of management (years)						
	5	10	15	20	40	60	80
3% discount rate							
0.5	5%	9%	14%	18%	35%	51%	64%
1.0	4%	8%	12%	16%	31%	44%	54%
2.5	4%	7%	10%	14%	25%	35%	43%
5.0	3%	6%	9%	11%	21%	28%	33%
10.0	2%	5%	7%	9%	16%	21%	25%
5% discount rate							
0.5	5%	9%	13%	17%	30%	38%	44%
1.0	4%	8%	12%	15%	26%	33%	37%
2.5	3%	7%	10%	12%	21%	27%	30%
5.0	3%	6%	8%	10%	17%	21%	23%
10.0	2%	5%	6%	8%	13%	16%	17%
7% discount rate							
0.5	4%	8%	12%	15%	25%	29%	31%
1.0	4%	8%	11%	14%	22%	25%	27%
2.5	3%	6%	9%	11%	18%	21%	22%
5.0	3%	5%	8%	10%	14%	16%	17%
10.0	2%	4%	6%	7%	11%	12%	13%

Further explanation and figures for specific fund managers are available on our website¹³

14 <http://www.cumsar.com.au/News.php?By=Item&Item=002> and
<http://www.cumsar.com.au/PDF/InvestmentManagementTables.pdf>