

CHAPTER 3: MEASURING TAX EXPENDITURES

This chapter describes the approaches used to measure tax expenditures and provides guidance for interpreting the estimates reported in the TES.

3.1 Approaches to measuring tax expenditures

There are three main methods used to measure tax expenditures.

- The *revenue forgone approach* – this approach measures the difference in tax paid by taxpayers who receive a particular concession relative to similar taxpayers who do not receive that concession. It compares the current/prospective treatment to the benchmark treatment, assuming taxpayer behaviour is unchanged.
- The *revenue gain approach* – this approach measures how much revenue could increase if a particular tax concession was removed. Accurate estimation of this cost requires estimates of the secondary behavioural effects associated with such a change.
- The *outlay equivalence approach* – this approach estimates how much direct expenditure would be needed to provide a benefit equivalent to the tax expenditure. This approach measures the direct expenditure required, in before-tax dollars, to achieve the same after-tax dollar benefit as the tax expenditure where the direct expenditure receives the tax treatment appropriate for that type of income in the hands of the recipient.

The three methods can yield significantly different estimates of the value of a tax expenditure.

Consistent with most tax expenditures statements published in OECD countries, Australia uses the revenue forgone approach.¹ This is the most reliable method for estimating the level of assistance the tax system provides to taxpayers.

¹ The approaches adopted by various OECD countries to measure tax expenditures are reported in *Tax Expenditures – Shedding Light on Government Spending through the Tax System, Lessons from Developed and Transition Economies*, The World Bank, Washington DC (2003).

3.2 Interpretation of tax expenditure estimates

Caution should be exercised when using the estimates in this statement for wider purposes, such as estimating the budgetary impact of tax concessions. This section provides an overview of the main issues relating to interpretation of the estimates.

BEHAVIOURAL EFFECTS

The introduction of a tax expenditure tends to increase concessionally taxed activity. Accordingly, the same activity would be expected to contract should the related tax expenditure be abolished, with consequential implications for potential revenue flows. Other responses may follow. For example:

- the removal of one concession may result in increased use of other concessionally taxed activities, lowering tax revenue elsewhere;
- under a progressive income tax system, the removal of a tax expenditure may result in some taxpayers facing a higher average tax rate, increasing tax revenue; and
- as tax concessions may alter resource allocation and direct scarce resources from one activity to another, removal of those concessions may affect economic efficiency and the overall level of economic activity. This change in activity could affect tax revenues.

In most cases, the net effect of these influences on revenue is unclear. Furthermore, in cases where the level of activity is highly sensitive to a concession, the increase in revenue from removing the tax expenditure could be very small. In these cases, reporting tax expenditure estimates as the cost to revenue (that is, using the revenue gain approach) would give the impression that the tax expenditure has little material effect when actually the recipients derive quite large financial benefits.

REVENUE FORGONE AND COMPARISON WITH BUDGET ESTIMATES

The estimates of tax expenditures in this statement are prepared under the revenue foregone approach which calculates the value of tax expenditures in terms of the benefit to the taxpayer of the tax provisions concerned, measured relative to a non-concessional tax benchmark, rather than in terms of the budgetary cost of those provisions.

Revenue forgone estimates differ from budget revenue estimates because they are estimated relative to different benchmarks. The benchmark for estimates of the cost of new policy proposals used in the budget is the revenue that the Government expects to collect, in the absence of each new policy proposal, in its revenue forward estimates.

The forward estimates are estimates of future tax collections and take account of factors such as taxpayer behaviour and levels of compliance with the tax law.

By contrast, estimates calculated by the revenue forgone approach identify the financial benefit of tax concessions to taxpayers receiving those concessions relative to taxpayers that do not. It does not necessarily follow that there would be an equivalent increase to government revenue from the abolition of a tax expenditure. This is because of behavioural responses by the recipients of tax expenditures and overlaps in the coverage of different tax expenditures.

The revenue forgone approach is the principal approach used to estimate tax expenditures in this statement and in the tax expenditure statements of most other countries. This approach is preferred because:

- the revenue forgone approach requires only a single consistent assumption regarding behavioural responses to removing a concession (no behavioural change) which allows the value of a tax concession to be based on the actual (or projected) level of transactions; and
- the results under the revenue forgone approach can be interpreted consistently in terms of the benefit to the taxpayer of the existence of a tax concession.

REVENUE GAIN ESTIMATES OF TAX EXPENDITURES

The *revenue gain* approach has often been proposed as an alternative to the *revenue forgone* approach used in this statement as a way of producing tax expenditure estimates that are more comparable to budget revenue estimates. In particular, the ANAO audit report '*Preparation of the Tax Expenditures Statement*' recommended that Treasury and the Australian Taxation Office 'identify opportunities to develop estimates of large or otherwise significant tax expenditures using the revenue gain approach²'.

There are considerable practical difficulties in producing estimates of the value of tax expenditures on a revenue gain approach for all 324 tax expenditures identified in this statement.

- Estimating revenue gain requires information about the behavioural responses of taxpayers to policy changes for each estimate. In most cases this information is not available and assumptions need to be made to arrive at an estimate.

2 Australian National Audit Office, Performance Audit Report No. 32 2007-08 – Preparation of the Tax Expenditures Statement. Recommendation 5, p 22.

Tax Expenditures Statement

- Revenue gain estimates also require assumptions about the policy specifications for removing each identified tax expenditure, particularly application dates and transitional arrangements.
- Calculating comprehensive revenue gain estimates that provide a reliable estimate of aggregate tax expenditures would require the specification of assumptions regarding the order in which tax expenditures are removed and how activity would flow to alternative concessions.

It is, however, possible to prepare revenue gain estimates for selected tax expenditures, in a similar way to how estimates are prepared for budget measures each year in order to assist readers to understand the differences between budget estimates and tax expenditure estimates.

The tax expenditures listed below have been estimated using both the revenue gain and revenue forgone approaches. The revenue gain estimates all assume that the tax expenditures concerned are removed with effect from 1 July 2008 and apply prospectively to transactions entered into after that date. The estimates highlight that the biggest differences in estimates arise in those cases with the largest expected behavioural changes from removing the tax expenditure.

B82: Accelerated depreciation for software								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	10	-55	-95	-165	-	-	-	-
Reason for difference	The accelerated depreciation of software was removed in the 2008-09 Budget. Therefore, there is no revenue gain from removing this concession. The revenue forgone estimates reflect the unwinding of the previous concessions, with negative tax expenditures arising in respect of assets acquired before 13 May 2008 as these assets become fully depreciated before the end of their effective lives.							
F6: Exemption from excise for 'alternative fuels'								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	830	900	960	910	770	830	890	840
Reason for difference	If the exemption from excise for 'alternative fuels' were removed, an expected behavioural response would result in around \$70 million less revenue compared to the current revenue forgone estimate.							
F11: Concessional rate of excise levied on draught beer								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	165	165	170	175	130	135	140	145
Reason for difference	If the concessional rate of excise levied on draught beer were removed, an expected behavioural response would result in around \$30 million less revenue compared to the current revenue forgone estimate.							

H12: GST - Education								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	2,250	2,300	2,500	2,650	1,800	1,840	2,000	2,120
Reason for difference	In the absence of the GST exemption for education the expected revenue gain is estimated to be 80 per cent of the revenue forgone estimate. This is primarily due to an expected fall in demand for private education and 'discretionary courses'.							
C1: Capital gains tax small business retirement exemption								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	390	390	410	420	270	270	290	290
Reason for difference	In the absence of the capital gains tax on small business retirement exemption, the expected revenue gain is estimated to be 70 per cent of the current concession. This is because there are other small business concessions which taxpayers may take advantage of, for example the 50 per cent active asset reduction and the small business rollover measure.							
H6: GST – Child care								
Estimates	Revenue Forgone Estimate (\$m)				Revenue Gain Estimate (\$m)			
	2008-09	2009-10	2010-11	2011-12	2008-09	2009-10	2010-11	2011-12
	400	430	460	490	360	390	410	440
Reason for difference	Demand for child care is likely to be relatively inelastic to changes in price. Removing the GST exemption on child care is assumed to only reduce demand by around 10 per cent. This is reflected in the revenue gain estimates being 10 per cent less.							

TAX EXPENDITURE AGGREGATES

Unless otherwise indicated, tax expenditure estimates are calculated on an individual basis and do not take account of potential overlaps with other tax expenditures. While aggregate tax expenditures can provide a guide to trends in tax expenditures over time, overlaps between the coverage of different tax expenditures and likely behavioural responses to their removal mean that such aggregates are not a reliable indicator of the overall budgetary impact of tax concessions.

ESTIMATES AND PROJECTIONS

Tax expenditure estimates are separated into estimates (for historical years) and projections (for future years). The estimates for 2007-08 are preliminary and subject to revision upon receipt of further tax data.

3.3 Reliability of estimates

Tax expenditure estimates in this statement aim to represent the best estimates that can be made given the available data. The estimates vary in their reliability, depending upon the quality and detail of the underlying data that is used in the estimates, the frequency of that data, the extent to which calculations are based on assumptions, the sensitivity of the results to those assumptions and whether future taxpayer behaviour is reasonably predictable. Future taxpayer behaviour is a factor in determining the reliability of tax expenditure projections, where taxpayer behaviour affects the future level of use of tax concessions. In many cases, there is insufficient data to produce a reliable estimate for a tax expenditure item, in which case the estimate will be shown as being unquantifiable.

The reliability of quantified tax expenditures is shown in Table 3.1. The table shows that of the 324 tax expenditures identified, estimates are available for 211. Of the quantified tax expenditures, 56 per cent are rated as having medium or higher reliability, accounting for 56 per cent of the total identified value of tax expenditures. Table 3.1 utilises the reliability indicators from the ANAO audit report into the Preparation of the Tax Expenditures Statement.³

Preliminary estimates of the value of the capital gains tax exemption for owner occupied dwellings can be found at Appendix C. These estimates have been provided in the interest of furthering discussion and consideration of the methodology for estimating the magnitude of assistance provided to investments in owner occupied housing. However, because of the greater than usual degree of uncertainty attached to the estimates they remain, for the time being, categorised as unquantifiable in Chapter 6 of the TES.

3 Australian National Audit Office, Performance Audit Report No. 32 2007-08 – Preparation of the Tax Expenditures Statement, p 69.

Table 3.1: Reliability of quantified tax expenditures

Reliability rating	Indicators for rating at this level	Number	Aggregate estimates (\$m)
High	<ul style="list-style-type: none"> High quality tax data. Modelling with few or no assumptions. Well established tax expenditure with stable and predictable taxpayer behaviour. 	8	6
Medium — High	<ul style="list-style-type: none"> High quality tax data. Modelling with few or no assumptions. May involve a new or changed tax expenditure for which future taxpayer behaviour is fairly predictable. 	26	8,398
Medium	<ul style="list-style-type: none"> Incomplete data, often from other high quality secondary sources, with a number of verifiable assumptions. New or changed tax expenditure with considerable behavioural changes or dependent on factors outside of the tax system. 	84	29,325
Medium — Low	<ul style="list-style-type: none"> Basic data only, mainly from sources other than tax. Includes important reasonable assumptions that cannot be readily checked. Significant new tax expenditures or existing tax expenditures for which taxpayer behaviour is hard to predict. 	33	5,250
Low	<ul style="list-style-type: none"> Little data, much of it low quality, with important unverifiable data assumptions. Taxpayer behaviour is volatile or very dependent on factors outside the tax system. 	51	24,454
Very low	<ul style="list-style-type: none"> Very little data and of poor quality, model relying heavily on data assumptions. Almost no information on potential taxpayer behaviour. 	9	11

3.4 Accrual estimates

The tax expenditure estimates are prepared on the same revenue recognition basis as the budget estimates. Since the 2006-07 Budget, the basis for reporting revenue in the budget has changed. The changes are outlined in the box below and apply to estimates in the TES from 2006-07. All estimates relating to periods prior to 2006-07 are reported in the TES on the Tax Liability Method basis.

Revenue recognition methodology

Accrual accounting was introduced by the Australian Government in the 1999-2000 Budget. The Australian Accounting Standards and Government Finance Statistics standards for accrual accounting require that taxation revenue be recognised in the reporting period in which the taxpayer earns the income that is subsequently subject to taxation – this is known as the Economic Transactions Method (ETM). But the standards also permit government reporting using an alternative approach when the ETM approach would generate unreliable measures of taxation revenues.

Because ETM is an unreliable measure for several significant revenue heads – and these account for the majority of total revenue – all taxation revenue was recognised in all accrual budget-related documentation from the 1999-2000 Budget to the *Mid-Year Economic and Fiscal Outlook 2005-06* using the Tax Liability Method (TLM). Under TLM, taxation revenue is accounted for at the time a taxpayer makes a self-assessment or when an assessment of a taxation liability is raised by the relevant authority.

Commencing with the 2006-07 Budget, the Australian Government adopted ETM revenue recognition for all revenue heads where the measurement issues are not material, but retained TLM revenue recognition where ETM measurement issues may be material. The taxation revenues that continue to be recognised on a TLM basis are:

- individuals and other withholding taxation;
- company income taxation; and
- superannuation taxation.

3.5 Technical notes

TREATMENT OF IMPUTATION

The value of some concessions reported in this statement is partially offset as a result of the imputation system. For example, concessions that reduce company tax may be *clawed-back* through the subsequent taxation of dividends in the hands of shareholders. The estimates in this statement generally make no allowance for this clawback owing to the practical difficulties of doing so.

CAPITAL GAINS TAX ESTIMATES

Under the CGT benchmark, nominal capital gains are fully taxable upon realisation (for further details see Chapter 4). The most significant tax expenditure against this benchmark is the 50 per cent discount for capital gains realised by individuals and trusts which affects most capital gains realised by these entities.

Individuals and trusts may also be eligible for other CGT concessions. The revenue forgone methodology that is generally used in this statement implies that estimates for these other CGT concessions should be calculated against the benchmark of full taxation of nominal capital gains.

To avoid double counting, the values of tax expenditures for other CGT concessions are reduced by the CGT discount component and the discount component of these other concessions is included in the tax expenditure for the CGT discount. This modification to the tax expenditure methodology provides more realistic estimates of the value of the benefits taxpayers receive from capital gains concessions in aggregate, though it has the effect of understating the value of individual CGT tax expenditures other than the discount.

SUPERANNUATION

The estimates of the tax expenditures in the forward projections are not necessarily indicative of the cost of the superannuation concessions over the long term. In this context, the current tax concessions will help to reduce budgetary expenses in future years, particularly age pension payments, through encouraging private provision for retirement.

Further, the estimates cannot be interpreted as a time series of the ongoing revenue savings that could be obtained if the superannuation concessions were eliminated. This is because the increase in tax revenue arising from the elimination of the tax expenditure with respect to a particular year would cause the superannuation tax base to be smaller for the next year. For example, if contributions and fund earnings in 2004-05 had been taxed according to the superannuation benchmark, superannuation fund assets and fund earnings in 2005-06 would be lower than if the concessional tax treatment had applied in the previous year.

In addition, changes to the taxation of superannuation could be expected to have behavioural impacts, to the extent that people may alter their saving behaviour as a result. The estimated cost of the superannuation tax expenditures assumes no behavioural change involving either the portfolio composition of savings or the saving rate more generally.

Tax Expenditures Statement

Each year there are also variations arising from the revision of earnings and contributions estimates. In particular, taxable earnings of superannuation funds are not readily predictable. A major reason is that it lies within the discretion of a fund manager to decide when any accrued capital gains of a fund are realised. In addition, the earnings series is intrinsically volatile, reflecting fluctuations in interest rates, dividends and asset prices. Fund earnings have been 'smoothed out' for the forward projections.