

Appendix A: Cash Flow and TCA comparison

	Deposit at		3%	Loan at		8%	Overall		
	1	2	3	4	5	6	7	8	9
	Cash in flow	Cash flow method GST	TCA GST	Cash in flow	Cash flow method GST	TCA GST	Cash in flow	Cash flow method GST	TCA GST
Year 1	1000	100		-1000	-100		0	0	
Year 2	-30	-3	2	80	8	3	50	5	5
Year 3	-1030	-103	2	1080	108	3	50	5	5
Present value	37.19	3.72	3.72	55.78	5.58	5.58	92.97	9.30	9.30
Risk-free rate	5%								
GST rate	10%								

This appendix shows an example of the cash flow and TCA systems for illustrative purposes. The example is taken from Tax by Design¹ and is altered in Appendix A to reflect Australian GST rates and currency.

The example involves a depositor and borrower of the same bank.

- The depositor and borrower are not registered for GST.
- The depositor deposits \$1,000 in year one and the borrower borrows \$1,000 in year 1.
- The depositor receives interest in year 2 (@ 3%) and withdraws the \$1,000 deposit plus interest in year 3.

¹ Chapter 8, *Tax by Design*, The final report from the Mirrlees Review, Institute of Fiscal Studies, Oxford University Press, September 2011.

- The borrower repays the loan in year 2 plus interest (@ 8%).
- The GST rate is 10% and the “risk-free” rate of return is 5%.

Under a cash-flow GST (column 2):

- The \$1,000 deposit is treated as a taxable sale by the bank, generating a \$100 liability.
- The \$30 and \$1,030 paid out to the depositor are treated as creditable input purchases, generating GST refunds at the 10% tax rate.
- The GST payable for each year is 10% of \$50 – being the difference between interest paid and interest earned.

Column 3 shows liability under a TCA approach under which a ‘risk-free’ return is assumed to be 5%.

- The deposit and withdrawal of principal have no tax consequences.
- The shortfall in interest paid below the 5% normal return is taxed. An 5% return on \$1,000 would be \$50; since only \$30 is actually paid, the remaining \$20 (the 2% point gap between the actual interest rate paid and the ‘normal’ rate of return) is attributed to financial service and taxed at 10%, giving a tax liability of \$2 in each year for which it is paid.

In present value terms and the 5% normal rate:

- The interest and principal returned to the depositor are worth only \$1022.81 in year 1 terms: the bank is implicitly charging \$37.19 for its services.
- The cash-flow GST, since it taxes all cash flows as they occur, naturally generates payments with a present value of 10% of this, or \$3.72;
- \$3.72 is the present value of the payments under a TCA too.