

Section 4: Calculating the Net present Value

$$NPV = \sum R^t / (1+i)^t$$

An institution makes a total of \$125,000 in 3-year loans at 8.5% and a total of \$75,000 in 4-year loans at 8.5%. The Discount rate is 3%.

	Year	Expected Cash Flow*	Actual Cash Flow (R) using 60% Collection Rate	Discounted Cash Flow
3-year Loans	1	47340.00	28404.00	$28404 / (1+.03)^1 = 27576.70$
	2	47340.00	28404.00	$28404 / (1+.03)^2 = 26773.49$
	3	47340.00	28404.00	$28404 / (1+.03)^3 = 25993.68$

NPV or Sum of the discounted cash flows for 3-year loans = 80343.87

	Year	Expected Cash Flow*	Actual Cash Flow (R) using 60% Collection Rate	Discounted Cash Flow
4-year Loans	1	22183.44	13310.06	$13310.06 / (1+.03)^1 = 12922.39$
	2	22183.44	13310.06	$13310.06 / (1+.03)^2 = 12546.01$
	3	22183.44	13310.06	$13310.06 / (1+.03)^3 = 12180.59$
	4	22183.44	13310.06	$13310.06 / (1+.03)^4 = 11825.82$

NPV or Sum of the discounted cash flows for 4-year loans = 49474.81

Total NPV for all loans = 129818.68

* Expected cash flow represents the total amount of payments due on the loans for the fiscal year.