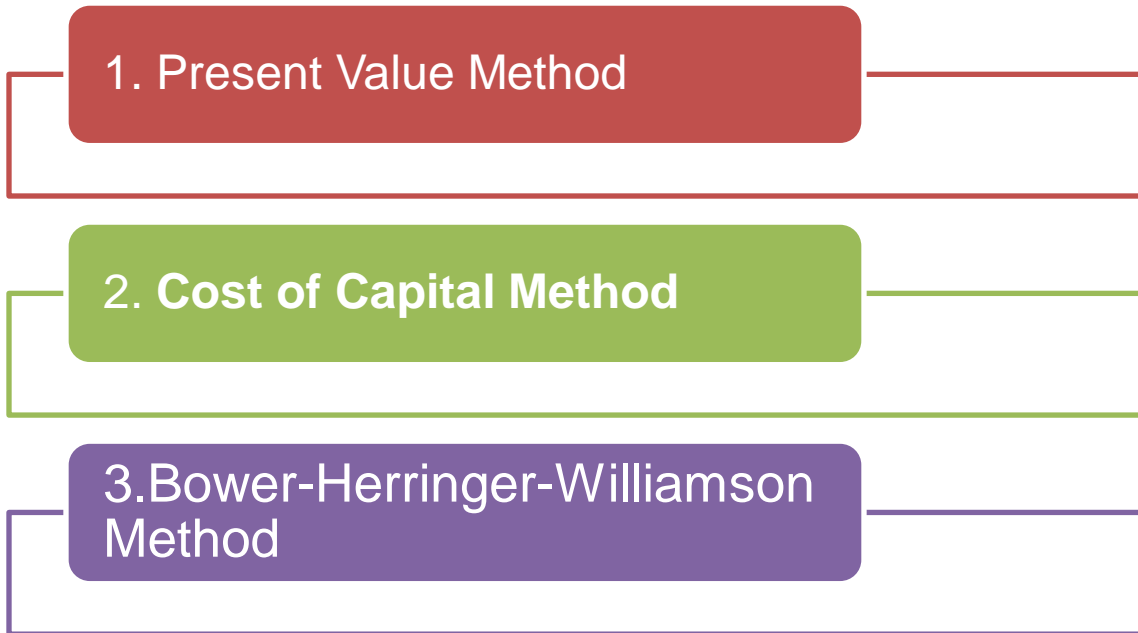


Evaluation of Lease Decision: 3 Methods

The methods used in evaluation of lease decision are as follows:-



1. Present Value Method:

Under this method the present value of lease rentals are compared with the present value of the cost of an asset acquired on outright purchase by availing a loan. In leasing, the tax advantage in payment of lease rentals will reduce the cash outflow.

In case an asset is purchased by borrowing a loan, the repayment of principal and interest charges on loan is considered as cash outflow and it is reduced by tax advantage of depreciation claim and interest charge. The present value of the net cash outflows over the period of lease is considered to ascertain the present value over the lease/loan period. The alternative with low total present value of cash outflow will be selected.

2. Cost of Capital Method:

Under this method, the rate of cost of capital is calculated for the payments of installments and then it is compared with the cost of capital of the other available sources of finance such as fresh issue of equity capital, retained earnings, debentures, term loans etc. The lease option is chosen if the rate is lower than the cost of equity capital etc. This method does not require the prior selection of any discounting rate.

3. Bower-Herringer-Williamson Method:

Under this method, the financial and tax aspects of lease financing are considered separately.

The following steps are involved in evaluation of lease decision:

Step 1:

Make a comparison of the present value of cost of debt with the discounted value of gross amount of lease rentals. The rate of discount applicable is being the gross cost of debt capital. Then, obtain the total present value of a financial advantage/disadvantage of leasing.

Step 2:

Again compute the comparative tax benefit during the lease period and discount it at an appropriate cost of capital. The total present value is the operating advantage/disadvantage of leasing. Step 3 – When the present value of operating advantage of lease is more than its financial disadvantage, then select the leasing. When the present value of financial advantage is more than operating disadvantages, then select the leasing.

Illustration:

Vindhya Papers Ltd. planning to install a captive generator set at its plant. Its Finance Manager is asked to evaluate the alternatives either to purchase or acquire generator on lease basis.

<i>Buying</i>	<i>Initial cost Rs.5,00,000</i>	<i>Residual Value Rs. 1,60,000</i>
<i>Leasing for 5 years</i>	<i>Annual lease rental Rs.1,50,000 to lessee in 5 years time</i>	<i>Residual value Rs. 90,000 returned</i>

Depreciation @ 20% p.a. on written down value. Corporate tax rate 40%. After tax cost of debt is 14%.

The time gap between the claiming of the tax allowance and receiving the benefit is one year.

Evaluate the lease or buy decision based on the above information.

Solution:

Alternative (1) : Buying

Year	Cost or W.D.V.	Depreciation @ 20%	Corporate tax @40%
1	5,00,000	1,00,000	40,000
2	4,00,000	80,000	32,000
3	3,20,000	64,000	25,600
4	2,56,000	51,200	20,480
5	2,04,800	-	-
Less: Residual value	1,60,000	-	-
	44,800	44,800	17,920

Calculation of Net Present Value

Year	Cost (Rs.)	Tax relief (Rs.)	Net cashflow (Rs.)	P.V. factor @ 14%	P.V. (Rs.)
0	(5,00,000)	-	(5,00,000)	-	(5,00,000)
1	-	-	-	0.8772	-
2	-	40,000	40,000	0.7695	30,780
3	-	32,000	32,000	0.6750	21,600
4	-	25,600	25,600	0.5921	15,158
5	1,60,000	20,480	1,80,480	0.5194	93,741
6	-	17,920	17,920	0.4556	8,164
					NPV = (3,30,557)

Alternative (2) : Leasing

Year	Lease rentals (Rs.)	Tax relief (Rs.)	Net cashflow (Rs.)	P.V. @ 14%	P.V. (Rs.)
0	(1,50,000)	-	(1,50,000)	-	(1,50,000)
1	(1,50,000)	-	(1,50,000)	0.8772	(1,31,580)
2	(1,50,000)	60,000	(90,000)	0.7695	(69,255)
3	(1,50,000)	60,000	(90,000)	0.6750	(60,750)
4	(1,50,000)	60,000	(90,000)	0.5921	(53,289)
5	90,000	60,000	1,50,000	0.5194	77,910
6	(Share residual value)	60,000	24,000	0.4556	10,934
	Tax on residual value	(36,000)			
					NPV = (3,76,030)

Analysis:

From the above analysis, by applying the discounted cashflow technique, we can observe that the net present value of cash outflow is higher in case of leasing decision i.e., Rs. 3,76,030 as compared to buying decision it is only Rs. 3,30,557. The company may go for purchase of the generator instead of acquiring on lease basis.