NORTH SOUTH UNIVERSITY

Summer

Finance 440 Section 8

Individual Assignment

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Date of submittion: 9 September ,2022

Introduction

We need to evaluate the project and undertaken based on given cash flows (CF) scenario. We will define how a project becomes viable based on NPV and payback period. In here, I have tried to define how a project becomes value based on NPV and payback period. From the company scenario, I have tried to evaluate the company's NPV in both MACRS and straight-line method to understand which one give me more acceptable Net present value so that we are suggesting that method for the company to future application.

FOR Question 1

- We are using the OCF (Operating cash flow)
- We are using the NWC (Net working capital)
- We are using the capital spending
- Projected income statements with the annual depreciation.
- Comparison between statements MACRS method and Stateline method to calculate total project cash.
- Objective how the same project can have different NPV with different approaches and when one is to follow or accept to get more benefits.

For Question 2

- Using the Return Equity (ROE)
- Using RD
- WACC calculation (weight average cost of capital)
- SML (Security market line approach)
- CAPM (capital Assets pricing model)
- Objective: Form using WACC and OCF which one is giving better or larger amount NPV.

Methodology

Operating cash flow (OCF)

Operating cash flow (OCF)is a measure of the amount of cash generated by a company's normal business operations. Operating cash flow indicates whether a company can generate sufficient positive Cash flow to maintain and grow its operations, otherwise, it may require external financing for capital expansion.

The importance of operating cash flow (OCF): we will say that, why operating cash flow is important. Operating cash flow is an important benchmark to determine the financial success of a company's core business activities as it measures the amount of cash generated by a company's normal business operations.

Formula of operating cash flow (OCF): The formula of operating cash flow is (operating income +Depreciation – taxes + change in net working capital. In this way we can calculate the operating cash flow.

Net working capital

Net working capital (NWC): is the difference between a business' short-term assets and its short-term debts and liabilities. It is ideal to have a positive net working capital, as this signifies that the company's financial obligations are met, and it can invest in other operational requirements.

Importance of Net working capital: It indicates a company's liquidity and whether it has enough cash on hand to meet its immediate obligations, net working capital is significant. The business can meet its existing obligations if net working capital is zero or higher.

Formula of Net working capital: The formula of net working capital is (Current assets-Current liabilities)

Capital spending

Capital spending means : Capital expenditure is the money spent by the government on the development of machinery, equipment, building, health facilities, education, etc. It also includes the expenditure incurred on acquiring fixed assets like land and investment by the government that gives profits or dividend in future.

Importance of Capital spending: From the standpoint of long-term financial planning, analysis aids decision-makers in determining if an asset delivers an alluring rate of return. In this manner, businesses can strike a balance between investing in expansion while maintaining current property and equipment.

Formula of Capital spending: The formula of capital spending is deducting the total depreciation or liabilities from the total amount paid for all the fixed assets.

Sate line method: The following are the advantages of the straight-line method of calculating depreciation: It is simple to understand and apply. The asset value can be completely written off using this method. Asset value can be made zero value at the end of useful life.

However, we can also observe that the MACRS method is giving a better NPV (through it is negative but compared to straight line method, this is giving less amount of loss) because in MRCRS method the depreciation amount get change .

In the straight line method we can see that the company is increasing more loss than that of the MACRS methods Because in the straight line method the depreciation amount remains same regardless of any situation of the company.

Year	Unit price	Unit sales	Revenues
1	8.1	35586	288246.6
2	8.1	34650	280665
3	8.1	34891	282617.1
4	8.1	35236	285411.6
5	7.209	35149	253389.141
6	7.209	35528	256121.352
7	7.209	35957	259214.013
8	7.209	35432	255429.288

When we will multiply the unit price and unit seals, we will get revenue. Now, we will tell why revenue is important. A business must bring in money to turn a profit. If a company has less revenue, all else being equal, it's going to make less money. After that, we will calculate the annual depreciation.

Year	Macrs percentage	Depreciation	Ending book value
1	14.29	185292.2076	1111364.249
2	24.49	317551.1662	793813.0826
3	17.49	226785.2142	567027.8684
4	12.49	161952.3914	405075.477
5	8.93	115791.4216	289284.0554
6	8.92	115661.7559	173622.2995
7	8.93	115791.4216	57830.87796
8	4.46	57830.87796	1.96451E-10

In here, we have calculated annual depreciation and Ending book value.

	1	2	3	4	5	6	7	8
Unit price	8.1	8.1	8.1	8.1	7.209	7.209	7.209	7.209
Unit seals	35586	34650	34891	35236	35149	35528	35957	35432
Revenues	288246.6	280665	282617.1	285411.6	253389.141	256121.352	259214.013	255429.288
Variable costs	160137	155925	157009.5	158562	158170.5	159876	161806.5	159444
Fixed cost	31499.6753	53983.69825	38553.48642	27531.90654	19684.54166	19662.4985	19684.54166	9831.249252
Depreciation	185292.2076	317551.1662	226785.2142	161952.3914	115791.4216	115661.7559	115791.4216	57830.87796
EBIT	-56654.88291	-215609.8644	-108329.2006	-30922.29794	22694.53678	24551.74558	26330.53678	91781.87279
Taxes	-18979.38578	-72229.30458	-36290.28222	-10358.96981	7602.669821	8224.834771	8820.729821	30746.92739
Net income	-37675.49714	-143380.5598	-72038.91843	-20563.32813	15091.86696	16326.91081	17509.80696	61034.94541

In here, we are calculating the Net income

Year	Revenue	Net work capital	cash flow
0		43236.99	-43236.99
1	288246.6	100886.31	-57649.32
2	280665	99369.99	1516.32
3	282617.1	99760.41	-390.42
4	285411.6	100319.31	-558.9
5	253389.141	93914.8182	6404.4918
6	256121.352	94461.2604	-546.4422
7	259214.013	95079.7926	-618.5322
8	255429.288	94322.8476	756.945

We are calculating the net working capital and cash flow as well.

	Year								
	0	1	2	3	4	5	6	7	8
Oparating cash flow									
EBIT		-56654.88291	-215609.8644	-108329.2006	-30922.29794	22694.53678	24551.74558	26330.53678	91781.87279
Depreciation		185292.2076	317551.1662	226785.2142	161952.3914	115791.4216	115661.7559	115791.4216	57830.87796
Taxes		-18979.38578	-72229.30458	-36290.28222	-10358.96981	7602.669821	8224.834771	8820.729821	30746.92739
OCF		147616.7105	174170.6063	154746.2958	141389.0633	130883.2885	131988.6667	133301.2285	118865.8234
Net working capital									
Initial NWC	-43236.99								
Change in NWC		-57649.32	1516.32	-390.42	-558.9	6404.4918	-546.4422	-618.5322	756.945
NWC recovery									94322.8476
Total change in NWC	-43236.99	-57649.32	1516.32	-390.42	-558.9	6404.4918	-546.4422	-618.5322	95079.7926
Capital spending									
Initial outlay	-1296656.456								
After tax salvage									1441449.761
Capital spending	-1296656.456	0	0	0	0	0	0	0	1441449.761

Calculated the capital spending

	Year								
	0	1	2	3	4	5	6	7	8
Operating cash Flow		147616.7105	174170.6063	154746.2958	141389.0633	130883.2885	131988.6667	133301.2285	118865.8234
Change in NWC	-43236.99	-57649.32	1516.32	-390.42	-558.9	6404.4918	-546.4422	-618.5322	95079.7926
Cpital spending	-1296656.456								1441449.761
Total project cash	-1339893.446	89967.39048	175686.9263	154355.8758	140830.1633	137287.7803	131442.2245	132682.6963	1655395.377
	NPV	-402263.6449							

At the last stage, we are calculating the NPV. This is NPV of MRCRS Method. The value of NPV is negative. We know that, if the value of NPV is negative, it is bad project for company. On the other hand, If the value of NPV is positive It is better for method. Now I am showing another company NPV. This is

	Year								
	0	1	2	3	4	5	6	7	8
Operating cash Flow		128637.3247	101941.3018	118456.0136	131030.0935	138485.9583	140213.5015	142121.9583	149612.7507
Change in NWC	-43236.99	-57649.32	1516.32	-390.42	-558.9	6404.4918	-546.4422	-618.5322	95079.7926
Cpital spending	-1296656.456								1441449.761
Total project cash	-1339893.446	70988.0047	103457.6218	118065.5936	130471.1935	144890.4501	139667.0593	141503.4261	1686142.304
	NPV	-479959.3772							

So, we are seeing this the first one better than second one.