

#01 Discounted Cash Flow

DEFINITION

Discounted cash flow (DCF) is a method to estimate the value of an investment based on its expected future cash flows

STEP 01: Calculate Weighted Average Cost of Capital (WACC)

Step 1: Calculating WACC ²		
	Market Value	Market Value / E + D
Amount of Equity (E)		#DIV/0!
Amount of Debt (D)		#DIV/0!
Beta (β) ³		
Annual Return of the Market (R _m)		
Risk-free Rate (R _f) ⁴		
Cost of Equity (R _e)		0.00%
Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)		0%
WACC ²	#DIV/0!	Assumption: WACC stays the same for the next 3 years.

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	Market Value	Market Value / E + D
Amount of Equity (E)	200	67%
Amount of Debt (D)	100	33%
Beta (β) ³		
Annual Return of the Market (R _m)		
Risk-free Rate (R _f) ⁴		
Cost of Equity (R _e)	0.00%	
Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)	0%	
WACC ²	0.000%	Assumption: WACC stays the same for the next 3 years.

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Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)	0%	
WACC ²	0.000%	Assumption: WACC stays the same for the next 3 years.

Beta

Beta is a measure of the volatility returns comparing to the market as a whole.

Risk-free Rate

The risk-free rate is the rate of return of an investment with zero risk.

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Amount of Equity (E)	200	67%
Amount of Debt (D)	100	33%
Beta (β) ³	1	
Annual Return of the Market (R _m)	9.20%	
Risk-free Rate (R _f) ⁴	1.75%	
Cost of Equity (R _e)	9.20%	
Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)	0%	
WACC ²	6.133%	Assumption: WACC stays the same for the next 3 years.

Beta

Beta is a measure of the volatility returns comparing to the market as a whole.

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Annual Return of the Market (R _m)	9.20%	
Risk-free Rate (R _f) ⁴	1.75%	
Cost of Equity (R _e)	9.20%	
Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)	0%	
WACC ²	6.133%	Assumption: WACC stays the same for the next 3 years.

Beta

Beta is a measure of the volatility returns comparing to the market as a whole.

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Annual Return of the Market (R _m)	9.20%	
Risk-free Rate (R _f) ⁴	1.75%	
Cost of Equity (R _e)	9.20%	
Effective Interest Rate		
Corporate Tax Rate (T)		
Cost of Debt (R _d)	0%	
WACC ²	6.133%	Assumption: WACC stays the same for the next 3 years.

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Amount of Debt (D)	100	33%
Beta (β) ³	1	
Annual Return of the Market (R _m)	9.20%	
Risk-free Rate (R _f) ⁴	1.75%	
Cost of Equity (R _e)	9.20%	
Effective Interest Rate	5%	
Corporate Tax Rate (T)	17%	
Cost of Debt (R _d)	4%	
WACC ²	7.282%	Assumption: WACC stays the same for the next 3 years.

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Discounted cash flow (DCF) is a method to estimate the value of an investment based on its expected future cash flows

Step 02: Calculate Forecasted Cash Flow

Step 2: Calculating Forecasted Cash Flow					
	2020	2021	2022	2023	Total
Beginning Balance					\$0.00
CASH INFLOWS					
Cash Sales					\$0.00
Accounts Receivable					\$0.00
Total Cash Inflows	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CASH OUTFLOWS					
Investing Activities					
New Fixed Asset Purchases					\$0.00
Additional Inventory					\$0.00
Cost of Goods Sold					\$0.00
Operating Activities					
Operating Expenses					\$0.00
Payroll					\$0.00
Taxes					\$0.00
Financing Activities					
Loan Payments					\$0.00
Owners Distribution					\$0.00
Line of Credit Interest					\$0.00
Line of Credit Repayments					\$0.00
Dividends Paid					\$0.00
Total Cash Outflows	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NET CASH FLOWS⁵	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ENDING OPERATING CASH BALANCE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

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Step 02: Calculate Forecasted Cash Flow

Step 2: Calculating Forecasted Cash Flow					
	2020	2021	2022	2023	Total
Beginning Balance	\$50,000.00	\$18,790.37	\$28,570.75	\$30,000.00	\$127,361.12
CASH INFLOWS					
Cash Sales	\$300,000.00	\$450,000.00	\$550,000.00	\$800,000.00	\$2,100,000.00
Accounts Receivable	\$0.00	\$100,000.00	\$50,000.00	\$30,000.00	\$180,000.00
Total Cash Inflows	\$300,000.00	\$550,000.00	\$600,000.00	\$830,000.00	\$2,280,000.00
CASH OUTFLOWS					
Investing Activities					
New Fixed Asset Purchases	\$0.00	\$50,000.00	\$30,000.00	\$80,000.00	\$160,000.00
Additional Inventory	\$0.00	\$15,000.00	\$30,000.00	\$1,000.00	\$46,000.00
Cost of Goods Sold	\$5,000.00	\$10,000.00	\$20,000.00	\$40,000.00	\$75,000.00
Operating Activities					
Operating Expenses	\$3,000.00	\$5,000.00	\$10,000.00	\$8,000.00	\$26,000.00
Payroll	\$100,000.00	\$200,000.00	\$200,000.00	\$220,000.00	\$720,000.00
Taxes	\$500.00	\$600.00	\$600.00	\$1,000.00	\$2,700.00
Financing Activities					
Loan Payments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Owners Distribution	\$0.00	\$20,000.00	\$30,000.00	\$50,000.00	\$100,000.00
Line of Credit Interest	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Line of Credit Repayments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Dividends Paid	\$0.00	\$100,000.00	\$120,000.00	\$200,000.00	\$420,000.00
Total Cash Outflows	\$108,500.00	\$400,600.00	\$440,600.00	\$600,000.00	\$1,549,700.00
NET CASH FLOWS⁵	\$191,500.00	\$149,400.00	\$159,400.00	\$230,000.00	\$730,300.00
ENDING OPERATING CASH BALANCE	\$241,500.00	\$168,190.37	\$187,970.75	\$260,000.00	\$857,661.12

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STEP 03: Calculate Net Present Value

Step 3: Calculating Net Present Value					
Method 1: Via Terminal Value, Exit Multiples Method					
	2020	2021	2022	2023	Total
DCF	\$0.00	\$ -	\$ -	\$ -	\$ -
Terminal Value (TV) ⁶					
EBIT Multiples (or other metrics)					
EBIT in 2023					
Terminal Value in 2023					\$ -
Present Value of TV					\$ -
Net Present Value (NPV) - 2021					\$ -

Method 2: Cost of Initial Investment					
	2020	2021	2022	2023	Total
DCF	\$0.00	\$ -	\$ -	\$ -	\$ -
Cost of Investment					\$ -
Net Present Value (NPV) - 2021					\$ -

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STEP 03: Calculate Net Present Value

Step 3: Calculating Net Present Value					
Method 1: Via Terminal Value, Exit Multiples Method					
	2020	2021	2022	2023	Total
DCF	\$191,500.00	\$ 149,400.00	\$ 159,400.00	\$ 230,000.00	\$ 730,300
Terminal Value (TV) ⁶					
EBIT Multiples (or other metrics)					
EBIT in 2023					
Terminal Value in 2023					\$ -
Present Value of TV					\$ -
Net Present Value (NPV) - 2021					\$ 730,300.00

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Method 1: Via Terminal Value, Exit Multiples Method					
	2020	2021	2022	2023	Total
DCF	\$191,500.00	\$ 149,400.00	\$ 159,400.00	\$ 230,000.00	\$ 730,300
Terminal Value (TV)⁶					
EBIT Multiples (or other metrics)	-	-	-	-	10
EBIT in 2023	-	-	-	-	\$ 50,000
Terminal Value in 2023	-	-	-	-	\$ 500,000
Present Value of TV	-	-	-	-	\$ 500,000.000
Net Present Value (NPV) - 2021	-	-	-	-	\$ 1,230,300.00

Terminal Value

The value of an asset, business, or project beyond the stated forecast period.

Earnings Before Interest and Taxes (EBIT)

An indicator of a company's profitability. EBIT can be calculated as revenue minus expenses excluding tax and interest. EBIT is also referred to as operating earnings, operating profit, and profit before interest and taxes.

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Method 2: Cost of Initial Investment					
	2020	2021	2022	2023	Total
DCF	\$191,500.00	\$ 149,400.00	\$ 159,400.00	\$ 230,000.00	\$ 730,300
Cost of Investment					\$
Net Present Value (NPV) - 2021					\$ 730,300

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Method 2: Cost of Initial Investment					
	2020	2021	2022	2023	Total
DCF	\$191,500.00	\$ 149,400.00	\$ 159,400.00	\$ 230,000.00	\$ 730,300
Cost of Investment	\$50,000.00	\$0.00	\$0.00	\$0.00	\$ 50,000
Net Present Value (NPV) - 2021					\$ 680,300