

How to use EVA to check a DCF Valuation



How to use EVA to check a DCF Valuation

- ❖ We can use EVA to provide us with another way of valuing a business and comparing this value to a DCF calculation
- ❖ This is where EVA can move from evaluation to valuation

How to use EVA to check a DCF Valuation

- ❖ Here we have a DCF for a fictional company
- ❖ The WACC is 11.4%
- ❖ The Exit Multiple for the TV is 8.0x
- ❖ The model calculates the discount factor for each of the five years

DCF						
WACC	11.4%					
Exit Multiple	8.0					
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
Free Cash Flows	US\$300.00	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$3040.00
Discounted FCF	US\$265.80	US\$251.20	US\$236.47	US\$221.84	US\$207.47	US\$1659.75
Sum of FCF and TV = EV	US\$2842.53					
Interest Bearing Debt	US\$1500.00					
Equity Value	US\$1342.53					

How to use EVA to check a DCF Valuation

- ❖ We have the FCF for each year and the model calculates the Discounted FCF

DCF						
WACC	11.4%					
Exit Multiple	8.0					
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
Free Cash Flows	US\$300.00	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$3040.00
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Sum of FCF and TV = EV	US\$2842.53					
Interest Bearing Debt	US\$1500.00					
Equity Value	US\$1342.53					

How to use EVA to check a DCF Valuation

- ❖ We sum the total discounted FCF and TV to get our Enterprise Value
- ❖ The total interest bearing debt is deducted to arrive at an Equity Value

DCF						
WACC	11.4%					
Exit Multiple	8.0					
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
Free Cash Flows	US\$300.00	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$3040.00
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How to use EVA to check a DCF Valuation

❖ The Equity Value is
\$1342.53

DCF						
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Exit Multiple	8.0					
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Equity Value	US\$1342.53					

How to use EVA to check a DCF Valuation

- ❖ Now we want to calculate the Equity Value using EVA rather than DCF...

How to use EVA to check a DCF Valuation

- ❖ The Discount Factor and Exit Multiple for the TV are the same

EVA Calculation						
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
Net Operating Assets	US\$2500.00	US\$2600.00	US\$2700.00	US\$2800.00	US\$2900.00	
NOPAT	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$400.00	
Finance Charge	US\$285.00	US\$296.40	US\$307.80	US\$319.20	US\$330.60	
EVA	US\$35.00	US\$43.60	US\$52.20	US\$60.80	US\$69.40	US\$555.20
Discounted EVA	US\$31.01	US\$34.23	US\$36.31	US\$37.47	US\$37.89	US\$303.12
Sum EVA + TV	US\$480.02					
NOA	US\$2500.00					
Interest Bearing Debt	US\$1500.00					
Equity Value	US\$1480.02					

How to use EVA to check a DCF Valuation

- ❖ We need to know the Net Operating Assets / Capital Invested

EVA Calculation						
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
Net Operating Assets	US\$2500.00	US\$2600.00	US\$2700.00	US\$2800.00	US\$2900.00	
NOPAT	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$400.00	
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Sum EVA + TV	US\$480.02					
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How to use EVA to check a DCF Valuation

- ❖ We calculate NOPAT from the Net Income with interest added back
- ❖ We make what ever accounting adjustments we deem appropriate - note that technically there are over 160 adjustments we could make

EVA Calculation						
Year End	1	2	3	4	5	TV
Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
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How to use EVA to check a DCF Valuation

- ❖ The Finance Charge or Hurdle Rate is calculated from the Net Operating Assets / Capital Invested x WACC

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How to use EVA to check a DCF Valuation

- ❖ We then calculate the EVA by deducting the Finance Charge from NOPAT and apply the discount factor to get the PV of the Discounted EVA

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Discount Factor	88.60%	78.50%	69.55%	61.62%	54.60%	54.60%
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NOPAT	US\$320.00	US\$340.00	US\$360.00	US\$380.00	US\$400.00	
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How to use EVA to check a DCF Valuation

- ❖ The Terminal Value is calculated by applying the Exit Multiple to the Final Year EVA and applying the discount factor

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How to use EVA to check a DCF Valuation

- ❖ The Sum of the Discounted EVA and TV are added to the NOA / Capital Invested to produce an EV
- ❖ Interest Bearing Debt is then deducted to arrive at an Equity Value

EVA Calculation						
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- ❖ In this case, the EVA method arrives at an Equity Value of \$1480

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- ❖ We can compare the two valuations
- ❖ This contributes to our value range assessment of the value of our company

DCF		
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Exit Multiple	8.0	
Year End	1	
Discount Factor	88.60%	
Free Cash Flows	US\$300.00	
Discounted FCF	US\$265.80	
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