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EQUITY VALUATION

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ØTHETA 45

How does Theta 45 evaluate the equity of a company?

The Theta 45 Valuation Model

Theta 45 uses a discounted cash flow (DCF) model, that values a company by comparing the opportunity cost of investing in an alternative financial security, such as a government bond.

Why would you invest in a company that would provide less return than a government bond?

Price vs Value

A company has a market price, determined by the forces of demand and supply in the stock market. A company also has a value, as determined by either its stockholder equity (total assets - total liabilities), or the free cash flow an investor would receive, adjusted for the time value of money (see below).

Premium vs Discount

When the share price is greater than the share value, the company is said to be trading at a premium. However, when the share price is less than the share value, the company is said to be trading at a discount.

Investors buy shares in the company when its trading at a discount in the short-term, hoping to profit in the long-term when the share price returns to share value.

The Question

What value would you place on a company, that is projected to generate \$10,000,000 in free cash flow, in 10 years?

The Time Value of Money

You have heard of the expression, "time is money". This is because, instead of doing nothing, you could utilize what time you have to work and earn money.

Just as there is a "monetary value to time", there is also a "time value of money". This is because, instead of your cash doing nothing, you could utilize what cash you have to invest in a risk free financial security, such as a high interest bank account, or government bond.

The Opportunity Cost

As a rational investor, why would you invest in another security that would earn you less return than a risk free financial security. In other words, there would be an opportunity cost if you invested in an asset that generated less return than the risk free rate.

The Discount Rate

The discount rate is the minimal return required by the investor, to compensate for the opportunity cost of investing in an alternative financial security.

The Discount Rate Types Used

The Theta 45 DCF model can analyse the opportunity cost between investing in this company and 4 other alternative financial securities:

Risk Free Rate:Compares this investment to purchasing a government bond that matures in 10 years.Risk Premium Rate:Adds a risk premium to the risk free rate, to compare this investment to a corporate bond.Currently Trading Rate:Equates the discount rate to the current share price, to compare this investment against another company.Optional Discount Rate:Either compares this investment to another bond or equates this discount rate for further analysis.

Cash Flow Projection

The Theta 45 DCF model uses historic data from financial statements to provide a conservative projection of free cash flow for the next 10 years.

10

2%

\$10,000,000

The Equation

To calculate the value, V, of the equity in a company, we need to know:

The Investment Horizon, in T years The Total Cash Flow, C, Predicted in T years The Discount Rate, d

The Answer

Let's calculate the maximum amount you would pay for a company that is predicted to generate \$10,000,000 in free cash flow in 10 years.

 $V=\frac{C}{(1+d)^T-1}$

The Value of This Investment, V: \$45,663,264

The maximum amount you would pay for this company, is calculated by comparing this investment to a risk free investment such as a government bond. In this example, we will assume the discount rate is equal to the 10 US Treasury Bond, 2%

Financial Disclaimer

Theta 45 is not a financial advisor. The information provided by Theta 45 is not financial advice. You must seek the advice of a financial advisor before investing. Your capital is at risk when investing in an equity. Past performance is not an indicator of the future.

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Company Name Ticker Symbol Market Currency Monetary Units Cash Flow History Year Free Cash Flow Change Change fom Start Average Growth Latest Quarter Free Cash Flow Projected Cash Flow Projected Cash Flow Cash Flow Projection Year 0 1 2 3 4 5 6 6	Alphabet Inc. GOOG NasdaqGS USD 1000 31/12/2018 22,832,000 52,832,000 55,828,000 55,828,000 55,828,000 67,012,000 68,352,240 69,719,285 71,113,670 72,535,944 73,986,663 75,466,396 76,975,724	Shares Outstanding Share Price Share Price Date Market Capitalizatio Investment Horizor 31/12/2019 30,972,000 36% 36% 36% 36% 36% 20% 2% 2% 2% 2% 2% 2% 2% 2%	on n (years) 31/12/2020 42,843,000 38% 88% 37% 3 0 2	67,012,000 56% 194% 43%
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2 3 4 5 6	69,719,285 71,113,670 72,535,944 73,986,663 75,466,396	2% 2% 2% 2% 2%	80,000,000 70,000,000 60,000,000 50,000,000	
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5	73,986,663 75,466,396	2% 2%	50,000,000	
5	75,466,396	2%		
			40,000,000	
7	76 975 774			
/	10,313,124	2%	30,000,000	
3	78,515,238	2%	20,000,000	
9	80,085,543	2%	10,000,000	
10	81,687,254	2%		4 5 6 7 8 9 10
Total Cash Flow	748,437,958	270	0 1 2 3	4 5 6 7 8 9 10
Discount Rates				
Risk Free Rate	3.51%	3.51%	3.51%	3.51%
Risk Free Security	10 Year US Treasury Rate	10 Year US Treasury Rate	10 Year US Treasury Rate	
Rate on Date	20/09/2022	20/09/2022	20/09/2022	
Risk Premium	0.00%	1.09%	1.38%	
Risk Premium Type Discount Rate	None 3.51%	Corporate Bond I 4.60%	Currently Trading 4.89%	Apple Inc (AAPL 3.69%
Equity Valuations				
Company Value	1,816,763,445	1,317,917,177	1,222,931,200	1,713,814,784
Share Value	149.40	108.38	100.57	140.94
Share Price	100.57	100.57	100.57	
Difference	-32.69%	-7.21%	0.00%	
Frading At	Discount	Discount	Premium	Discoun
Bond Cash Flow				
Year	Risk Free Rate	Corporate Bond I	Currently Trading	Apple Inc (AAPL
) 1	63,768,397	60 624 100	59,808,743	62 220 76
		60,624,190		63,239,76
2	66,006,668	63,412,903	62,733,753	
3	68,323,502	66,329,896	65,801,813	
1	70,721,657	69,381,072	69,019,920	
	73,203,987	72,572,601	72,395,413	
5	75,773,447	75,910,941	75,935,987	
7	78,433,095	79,402,844	79,649,716	78,598,00
3	81,186,096	83,055,375	83,545,070	
)	84,035,728	86,875,922	87,630,930	
, LO	86,985,382	90,872,214	91,916,613	
Total Cash Flow	748,437,958	748,437,958	748,437,958	

Notes

Corporate Bond I: Alphabet Inc. 1,1% 20/30 ISIN: US02079KAD90 Apple Inc. (AAPL) Currently trading at a discount rate of about 3.69%



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