

Ø THETA 45

EQUITY VALUATION

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ON THETA 45's EQUITY VALUATION REPORT

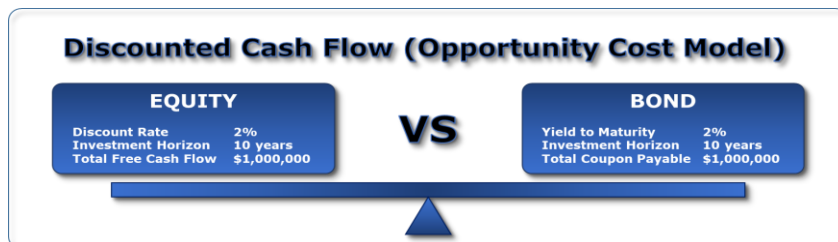
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ON THETA 45's EQUITY VALUATION MODEL

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.

The Equation

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

The Investment Horizon, in T years	10
The Total Cash Flow, C, Predicted in T years	\$10,000,000
The Discount Rate, d	2%

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

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.

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.

Company Information

Company Name	Alphabet Inc.	Shares Outstanding	12,160,000,000
Ticker Symbol	GOOG	Share Price	100.57
Market	NasdaqGS	Share Price Date	22/09/2022
Currency	USD	Market Capitalization	1,222,931,200
Monetary Units	1000	Investment Horizon (years)	10

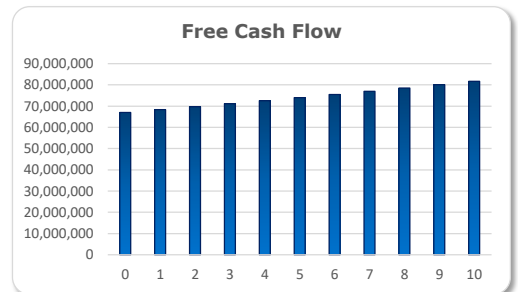
Cash Flow History

Year	31/12/2018	31/12/2019	31/12/2020	31/12/2021
Free Cash Flow	22,832,000	30,972,000	42,843,000	67,012,000
Change		36%	38%	56%
Change fom Start		36%	88%	194%
Average Growth		36%	37%	43%

Latest Quarter	1	2	3	4
Free Cash Flow	15,320,000	12,594,000	0	0
Projected Cash Flow	55,828,000	based on	2	quarters reported

Cash Flow Projection

Year	Free Cash Flow	Change
0	67,012,000	
1	68,352,240	2%
2	69,719,285	2%
3	71,113,670	2%
4	72,535,944	2%
5	73,986,663	2%
6	75,466,396	2%
7	76,975,724	2%
8	78,515,238	2%
9	80,085,543	2%
10	81,687,254	2%
Total Cash Flow	748,437,958	


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	10 Year US Treasury Rate
Rate on Date	20/09/2022	20/09/2022	20/09/2022	20/09/2022
Risk Premium	0.00%	1.09%	1.38%	0.18%
Risk Premium Type	None	Corporate Bond I	Currently Trading	Apple Inc (AAPL)
Discount Rate	3.51%	4.60%	4.89%	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	100.57
Difference	-32.69%	-7.21%	0.00%	-28.64%
Trading At	Discount	Discount	Premium	Discount

Bond Cash Flow

Year	Risk Free Rate	Corporate Bond I	Currently Trading	Apple Inc (AAPL)
0				
1	63,768,397	60,624,190	59,808,743	63,239,766
2	66,006,668	63,412,903	62,733,753	65,573,313
3	68,323,502	66,329,896	65,801,813	67,992,968
4	70,721,657	69,381,072	69,019,920	70,501,909
5	73,203,987	72,572,601	72,395,413	73,103,429
6	75,773,447	75,910,941	75,935,987	75,800,946
7	78,433,095	79,402,844	79,649,716	78,598,001
8	81,186,096	83,055,375	83,545,070	81,498,267
9	84,035,728	86,875,922	87,630,930	84,505,553
10	86,985,382	90,872,214	91,916,613	87,623,808
Total Cash Flow	748,437,958	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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