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Use the DCF Model to Value the Company of NEXT

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Abstract: NEXT is a very common large clothing company in Britain, whose clothes are deeply in the hearts of contemporary young people. In the valuation of NEXT Company, the author found the formula of financial statements and selected a lot of useful data, and the DCF model was adopted. A variety of company data and many factors can affect the valuation results. So, many Excel sheets need to be created to summarize and calculate all this data. The final estimated market value is about 14.15 billion, while the actual market value is 8.66 billion. So, the results differ from NEXT's internal estimates, but the overall trend is similar. There are many reasons for this difference, involving some disadvantages of the DCF model and valuation problems. This paper enabled people to: have a certain understanding of the market development trend; learn a lot of valuation methods and become proficient in using them; more clearly understand the advantages and disadvantages of the DCF model; and have a more accurate understanding of the NEXT Company.

Keywords: NEXT, DCF model, financial statements, enterprise value

1. Introduction

NEXT is a very common large clothing company in Britain, whose clothes are deeply in the hearts of contemporary young people. So, the author is very interested in the future development plan of this company. Therefore, the valuation of NEXT Company was carried out, and the common DCF model valuation method was applied. The author Creates many Excel sheets to summarize and calculate all the data and uses many economic formulas, theorems, and ratios to calculate and judge trends. It's a little tortuous because it involves a lot of computation. Finally, the valuation is obtained. This study makes some important contributions to help the company's leadership, customers, and employees understand the company's strengths and weaknesses. Provide reference value for the better development of the company.

2. Theoretical Framework and Data Sources

2.1. DCF Model

The DCF model is a valuation method that estimates future cash flows. The discounted cash flow model is used to estimate future cash flows [1]. The DCF valuation method is suitable for: those companies with volatile dividends but relatively stable cash flow growth. Companies whose cash flows are a good reflection of their profitability [2]. So, it fits into NEXT's valuation.

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2.2. Data Sources

Most of the data comes from the company's three financial statements over the years: Balance sheet, the income statement, and the cash flow. There are also some data obtained from Internet searches, such as the inflation rate, market premium, UK risk-free rate, and so on. It will also be annotated in the reference.

3. Business Valuation

3.1. Introduction to NEXT

NEXT is a British multinational clothing, footwear, and home products retailer, which has its headquarters in Enderby, England. NEXT is the largest clothing retailer by sales in the United Kingdom. It has stores in the United Kingdom, Europe, Asia, and the Middle East. Next has three main channels: NEXT retail, NEXT online, and NEXT international stores, including their own brand, Lipsy.

3.2. Application of DCF Model in NEXT's Valuation

Input. The first part is input, which is divided into four main parts: assets, revenues, costs, and financing (Table 1-4).

Table 1: Fixed assets of NEXT [3].

Value of FA EoY 2021	£m/y	1574.6
PP&E (EOY)	£m/y	601.1
Depreciation	£m/y	202.36
Depreciation rate	%	12.85%
CAPEX Investment rate	%	3.8%

For assets, find fixed assets, PP&E, and accumulated depreciation (Table 1).

Table 2: Total sales of NEXT [3].

Retail	£m/y	1432.4
Online	£m/y	3103.8
Other income		
Other business activity	£m/y	325.6

Moving to the revenue section (Table 2), look for the next revenue source through the report and then list three basic elements - online, retail, and other business activities.

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Table 3: Cost/expense of NEXT [3].

operating expense	£m/y	3727.8
wage and salaries	£m/y	703.2
Warehouse, distribution, and central cost	£m/y	240
Finance costs	£m/y	86.5
social security costs	£m/y	50
Other pension costs	£m/y	40.2
Share-based payment expense	£m/y	19.7

About costs, it includes staff costs, operating costs, warehouse costs, and financing costs (Table 3).

Table 4: Financing and BS items of NEXT [3].

Debt	£m	2106
Interest rate	%	5.33%
equity	£m	1010
cash	£m	199.9
non-distributed profit	£m	515.8

Changing to the financing portion, it requires the calculation of equity, cash, and debt; In addition, several averages based on pre-pandemic firms were searched through the Internet (Table 4).

Table 5: Tax [3].

employer tax	%	12.8%
profit tax	%	17.69%
property tax	%	3.15%

The other section explores some taxes and tax rates to help with the estimation of some future data (Table 5).

Table 6: Working [3].

customer and other receivable	£m/y	1280.9
customer and other receivable days	days	94.25030805
Trade Payables and Other Liabilities	£m/y	350
Trade Payables and Other Liabilities days	days	33

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From the information in the annual report, it is possible to calculate the number of days unpaid (DPO) and days unpaid on sales (DSO) for the company's future customers, other receivables, trade, and other payables (Table 6).

Table 7: Valuation Inputs [4, 5].

UK risk free rate	%	3.25%
Market Premium	%	6.1%
Beta		1.37
company D/E		2.09
Growth rate	%	3.2%
inventory increase rate	%	5.38%
country premium	%	0.6%
size premium	%	4.8%

Assume that the risk-free rate will fall to 3.25% after the flu pandemic, with a market risk premium of 6.10%. The average data level from 2015 to 2019 is calculated to estimate the inventory growth rate. By searching Google's corporate beta, and NYU's national premium. Stern, 1.37%, and 0.6%, respectively (Table 7).

Then, it is to estimate future development. The first is the predicted increase in apparel sales (Table 8-10).

Table 8: Clothes sales growth (predicted).

Clothes sales growth		2021	2022	2023	2024	2025	2026	2027
Retail	%	-48%	4%	2%	0.5%	0.25%	0.2%	0.15%
Online	%	10%	3%	1%	0.3%	0.15%	0.13%	0.1%

The clothing sales channel is divided into two categories in the table. The first is the retail model. In the company's financial statements, 2021 was down 48% from the previous year. Perhaps because of COVID-19, people are more likely to shop online.

Then there are projections for the next few years. Retail sales are set to increase as the COVID-19 pandemic recedes and more people look to buy goods offline. As for online shopping, it will continue to grow at a slower rate than online purchases and without environmental impact. In the next few years, the growth rate of both sales will be very small. This is a simple income assumption (Table 8).

Table 9: Inflation rate and Price indices [6].

inflation rate		2021	2022	2023	2024	2025
inflation	%	2.5%	6.4%	5.7%	2.9%	1.3%
wage	%	3.3%	4.75%	3.25%	2.75%	1.2%
Price indices						
inflation		100%	106.4%	112.46%	115.73%	117.23%
wage		100%	104.75%	108.15%	111.13%	112.46%

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Based on five years of UK inflation and wage inflation found online, the price index can continue to be calculated according to the formula.

$$\text{Price indices of inflation} = \text{inflation (previous year)} \times (1 + \text{inflation rate})$$

Wages are calculated in the same way (Table 9).

Table 10: Debt (predicted).

debt		2021	2022	2023	2024	2025
debt	£m	2106	2106	2106	2106	2106

The debt can be found in the financial statements, assuming that the following years are in line with the 2022 debt (Table 10).

3.3. Operation.

Table 11: Revenue.

revenue		2021	2022	2023	2024	2025
Retail revenue	£m	1432.4	1585.04	1818.26	2114.73	2485.31
Online revenue	£m	3103.8	3401.52	3525.59	3602.69	3644.07
Other business activity revenue	£m	325.6	346.44	389.62	450.89	528.59

The formula for calculate revenue is:

$$\text{revenue(previous year)} \times (1 + \text{clothes sales growth}) \times \text{inflation}$$

Table 12: Total revenue (predicted).

revenue		2021	2022	2023	2024	2025
commission based sales	£m	-308.7	-324.14	-340.34	-357.36	-375.23
other statutory income	£m	72.8	73.53	74.26	75.01	75.76
total revenue	£m	4625.9	5082.38	5467.39	5885.96	6358.49

The commission-based sales are expected to increase by 5% over the previous year, and other statutory income is expected to increase by 1% over the previous year. Add the revenue together and minus the commission-based sales to find the total revenue (Table 12).

Table 13: Expenses.

expenses		2021	2022	2023	2024	2025
operating expenses	£m	3727.8	3966.38	4192.46	4314.04	4370.13
Finance cost	£m	86.5	92.04	97.28	100.1	101.4
Other expense	£m	145.6	145.6	145.6	145.6	145.6
Total expenses	£m	3959.9	4204.02	4435.34	4559.75	4617.13

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Total expenses are defined as follows: operating expenses plus financial costs and other expenses.

$$\text{operating expenses(every years)} = \text{operating expense(base year)} \times \text{corresponding inflation}$$

Finance costs are using the same way to calculate (Table 13).

Table 14: Operating profit.

Operating profit	£m	898.1	1116.01	1274.93	1571.91	1988.36
Gross profit margin	%	43.25%	45.04%	46%	48.38%	51.6%
Cost of sales	£m	2625.3	2793.32	2952.54	3038.16	3077.66

Operating profit is equal to total revenue minus operating expenses. Operating expenses include the cost of sales, distribution costs, and administrative expenses (Table 14). This data is also used to calculate gross margin.

$$\text{gross profit margin} = \frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

This profit margin helps business owners evaluate the financial health of the company [7]. At the same time, it also helps consultants better understand their profitability during the period. The higher the ratio, the better. So it can be seen that NEXT PLC has a good profit.

3.4. PP&E.

Table 15: NEXT PP&E.

PP		2021	2022	2023	2024	2025
PP&E(EOY)	£m	601.1	716.98	832.6	949.26	1068.89
depreciation	£m	202.9	77.25	92.14	107	121.99
CAPEX	£m	175.78	193.13	207.76	223.67	241.62
Property tax	£m	18.93	22.58	26.23	29.9	33.67

Then there is the valuation of the company's fixed assets. First, the depreciation of the company in 2021 can be found in the financial statements, which is £202.9. Then can estimate the depreciation of the company for the next few years by multiplying the depreciation rate by the PP&E of the previous year. The CAPEX can also be calculated by multiplying the total revenue per year by the CAPEX investment rate. Then the fixed assets of the company can be estimated. The fixed assets in 2021 can be found in the financial statements. The fixed assets of the following year can be calculated by deducting the depreciation of the previous year and adding the CAPEX of the current year. Finally, the property tax is calculated, and the fixed assets of the year are multiplied by the property tax rate to obtain the final data (Table 15).

3.5. Working Capital.

Table 16: NEXT Working capital.

Working capital		2021	2022	2023	2024	2025
customer and other receivable	£m	1280.9	1377.09	1480.5	1592.78	1719.22
Trade Payables and Other Liabilities	£m	350	252.55	266.94	274.68	278.25

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Table 16: (continued)

working capital	£m	930.9	1124.54	1213.56	1318.1	1440.96
changes in WC	£m		193.64	89.02	104.54	122.87

DSO and DPO based on accounts receivable and payable in 2021.

$$\text{DSO} = \frac{\text{Accounts Receivable} * \text{Number of Days in a year}}{\text{Total Credit Sales}}$$

DSO, outstanding sales days, is the average number of days required for a company to collect sales payments. The formula of DSO is accounts receivable multiply the number of days divided by total credit sales [8]. A high DSO figure indicates a company is paying late, which can lead to cash flow problems [9]. Companies working with Next need a 94-day major change to pay out the cash. In recent years, the average DSO for clothing and footwear was 98 days. Therefore, the next DSO is a "good" number.

$$\text{DPO} = \frac{\text{Accounts payable} * \text{Number of Days in a year}}{\text{COGS}}$$

DPO is a financial ratio that represents the average number of days a company must pay notes and invoices to its trade creditors. The formula of DSO is accounts payable multiply the number of days divided by the cost of good sales. This ratio is usually calculated annually [10]. A higher DPO means the company takes longer to pay its bills to maximize profits [11]. Second, it only takes 38 days to pay the bill, indicating high liquidity.

Net working capital is calculated by distinguishing between accounts receivable and accounts payable to let investors know the fund's available funds for the next current and short-term liabilities.

3.6. Financing.

Table 17: NEXT debt (predicted).

debt		2021	2022	2023	2024	2025
Debt(EOY)	£m	2106	2106	2106	2106	2106
interest	£m	112.25	112.25	112.25	112.25	112.25
Debt change	£m		0	0	0	0

If the debt is known, the interest can be calculated by multiplying the debt by the interest rate. Assuming that debt and interest are fixed, the debt change is zero (Table 17).

3.7. Valuation.

Table 18: NEXT EFCF.

EFCF		2021	2022	2023	2024	2025
operating profit	£m	898.1	1116.01	1274.93	1571.91	1988.36
NOPLAT	£m	739.23	918.58	1049.39	1293.84	1636.62
D&A	£m	202.9	77.25	92.14	107	121.99
CAPEX	£m	175.78	193.13	207.76	223.67	241.62

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Table 18: (continued)

change in wc	£m	0	193.64	89.02	104.54	122.87
FCF	£m	766.34	609.07	844.76	1072.63	1394.13

First, the EFCF is calculated. Operating profit can be obtained from the above table, and NOPLAT is calculated using the formula based on the above data. Changes in D&A, capital expenditure, and working capital are also shown in the table above. Then the FCF can be calculated (Table 18).

Table 19: WACC of NEXT.

WACC		
UK risk free rate	%	3.25%
Market premium	%	6.1%
Company beta		1.37
Company D/E	%	59.4%
Growth rate	%	3.2%
Size premium	%	4.8%
Country premium	%	0.6%
Inflation rate	%	3.7%
Cost of equity	%	16.407%
Cost of debt	%	5.33%
WACC	%	11.93%

The WACC is then estimated. Data on the UK risk-free rate and the market premium have been ferreted out, and data on firm beta and firm D/E have also been found in the firm database. A growth rate is then chosen based on the prevailing market conditions. The cost of equity and WACC were calculated using the above data and fixed formulas (Table 19).

Table 20: Calculation of the enterprise Value.

valuation		2021	2022	2023	2024	2025
discount factor	£m		0.945	0.844	0.754	0.674
discount cash flow	£m		575.7	713.99	809.29	939.76
NPV Forecast period	£m		3038.14			
NPV Continuation Period	£m		11112.001			
Enterprise Value	£m		14150.144			

Finally, there is the valuation section, using the formula to calculate the discount factor for each year. Adding all these factors together and using the discount factor for each year are the NPV forecast horizon. And calculate the discounted cash flow for each year, and then the NPV continuation period can be calculated. Summing the two NPVS, enterprise value can be obtained (Table 20).

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4. Evaluation Result Analysis

Finally, the enterprise value calculated is about 14.15 billion, while the specific enterprise value of the company in 2022 is 8.66 billion, which is quite different. The reasons are that the capital expenditure forecast has risks, the cash flow forecast has uncertainty, etc [12].

5. Conclusion

The author applied the DCF model to the valuation of NEXT Company and modeled it with a table. The data in the company's 2021 report is adopted. Some estimates consider the market, environment, and other factors to estimate the later data, and a lot of estimation formulas are adopted to finally conclude. The enterprise value calculated is about 14.15 billion, while the specific enterprise value of the company in 2022 is 8.66 billion, which is quite different from the actual situation.

The limitations are: many of the increases and decreases in estimated ratios are based on The author's assumptions, which may be too idealistic to be realistic about the future. The company does not release full-year figures for 2022, and there is no way to make a precise estimate. The author will refine the valuation based on subsequent results.

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