
MGT-482 Principles of Finance

Assignment 5

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1 Part 1 - current stadium and current player strategy

This part is mainly getting our hands on the data and understanding the basics of enterprise value estimation (NPV) using DCF.

In order to perform DCF, we need to estimate free cash flows for the following years using exhibit 4 and 5.

The free cash flow can be computed so (see figure 1). EBIT and Depreciation are in exhibit 5, we can then easily subtract tax rate (35%) over EBIT. Change in working capital must be computed following figure 2. Cash mentioned in exhibit 4 is invested to earn a market rate of return and hence should not be used in the computation (thank to the TA to point that out). Inventory, Receivables and Payables are available in exhibit 4 and we can estimate these for the future years using the growth rate of revenues. Capital expenditures are given in the pdf, it is 3.3 M£ which are growing with a 4% rate. Sales of capital assets, realized capital gains/losses are zero here.

Using this free cash flow we can compute the NPV or Enterprise value of it. We need to discount those free cash flows and add the terminal value (see figure 3).

Finally by adding Cash and removing Debt we can compute the market value of equity (see Figure 4).

(a) Enterprise value = £134M

(b) Value Equity = £117M
Price per share = £12.6

Hence, the current valuation of Tottenham Hotspurs FC of £13.8 is higher than this valuation.

2 Part 2 - build the new stadium only

This time we will evaluate the NPV using DCF when Tottenham decides to build a new stadium. Most of the computations are the same except that the EBIT will change

because of the increase of attendance revenues (starting at year 2010) and the increase of stadium operation expenses (at year 2010 and 2011). Obviously we also need to depreciate the £250M of construction costs (we assumed equally) over a 10-year period following completion of the stadium.

In the end we have NPV of around £108M, which is less than part1, hence not a good idea.

3 Part 3 - sign a new striker only

This time we will evaluate the the NPV using DCF when Tottenham decides to sign a new striker.

The total points are closely related to the net goals increase. In fact, using a simple excel solver, we can estimate that for an increase of 3 in net goals, the number of points increase by roughly 2 points. (0.67 pts per net goal increase).

EBIT and working capital will change because of the greater revenue from the increase in net goals by 12 and the increasing costs for hiring a new striker. Sidelining of players is also considered in computing the revenue. Note that Tottenham would be able to capture one-quarter of the anticipated revenue improvements without a larger stadium.

In the end we have NPV of around £124M, which is less than part1, hence not a good idea.

4 Part 4 - build stadium and sign a new striker

This time we will evaluate the the NPV using DCF when Tottenham decides to build a new stadium and to sign a new striker simultaneously.

Most of the changes in the revenue and the cost are the same as aggregating Part 2 and Part 3. However, revenue improvement by player acquisition after building new stadium gets higher than Part 3. Tottenham can obtain whole anticipated revenue improvements after building the large stadium.

In the end we have NPV of around £163M, which is more than part1. Implementing two strategies simultaneously makes an important difference as we can see that part 2 and 3 had worse NPV, this is thanks to the revenue improvements of the player inside the new stadium. Hence, this is the best idea out of the 4.

Free cash flow =	EBIT
–	EBIT × Tax rate
–	Change in working capital
+	Depreciation and amortization
–	Capital expenditures
+	Sales of capital assets
–	Realized capital gains
+	Realized capital losses

Figure 1: Free cash flow computation

$$\begin{aligned}
 \text{Net Working Capital} &= \text{Current Assets} - \text{Current Liabilities} \\
 &= \text{Cash} + \text{Inventory} + \text{Receivables} - \text{Payables}
 \end{aligned}$$

Figure 2: Net Working Capital computation

$$\text{Value}_t = \frac{E[FCF_{t+1}]}{r - g}$$

Figure 3: Terminal Value computation

$$\textit{Market value of equity} = \textit{Enterprise value} - \textit{Debt} + \textit{Cash}.$$

Figure 4: Market value of equity computation