APPENDIX C: CALCULATION OF FUTURE FREE CASH FLOWS

In this section we provide a detailed explanation of how we have obtained our predictions for future *free cash flows*.

We will talk about forecast drivers, or the assumptions required to forecast free cash flows into the future. It will be necessary to apply those forecast drivers to the free cash flow formula in order to obtain the dollar FCF over the 5-year horizon that we will need for our valuation project

So here's our free cash flow formula:

* **Revenue**

We're going to start by forecasting the dollar revenues according to our revenue forecast drivers. And we know that revenue equals market size, times market share, times price:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEARS | 0 (F2015) | 1 | 2 | 3 | 4 | 5 |
| REVENUE FORECASTS: |  |  |  |  |  |  |
| MARKET FORECASTS: |  |  |  |  |  |  |
| Initial Market Size (Units, million) |  | 114.999,800 SEK |  |  |  |  |
| Market Growth Rate |  | 6,74% |  |  |  |  |
| Market Size (Units, million) |  | 114.999,80 SEK | 122.750,79 SEK | 131.024,19 SEK | 139.855,22 SEK | 149.281,46 SEK |
| H&M MARKET SHARE: |  |  |  |  |  |  |
| Initial Market Share |  | 7,990% |  |  |  |  |
| Market Share Annual Growth Rate |  | 5,95% |  |  |  |  |
| Market Share |  | 7,990% | 8,465% | 8,969% | 9,502% | 10,068% |
| PRICING STRATEGY: |  |  |  |  |  |  |
| Initial Unit Price (€/unit) |  | 18,82 SEK |  |  |  |  |
| Bi-Annual Price Increases (€/unit) |  |  | 0 | 0 | 0 | 0 |
| Unit Price (€/unit) |  | 18,82 SEK | 18,82 SEK | 18,82 SEK | 18,82 SEK | 18,82 SEK |
| INCREMENTAL EARNINGS FORECAST |  |  |  |  |  |  |
| Sales |  | **172.918,12 SEK** | **195.554,88 SEK** | **221.155,03 SEK** | **250.106,50 SEK** | **282.848,02 SEK** |

For determining the market size, we have just considered the total volume of operations in the clothing/apparel sector where H&M belongs to. The projected growth rate is also taken from secondary information sources such as Factiva or agencies’ reports. The market share of H&M is just the sales revenue obtained by the firm divided by the total market size, that is the amount of the market that H&M currently captures. We have also to consider H&M growth in sales over the next 5 years, we have estimated future growth relying on past performance. Finally, we determine the average price dividing the sales revenue by the amount of units sold.

So for year 1, our revenue forecast is just going to be the year 1 initial market size, 114.999,8 million SEK, times our share, we're going to get 7,99% of that market. And then we're going to multiply it by our per unit price of $18,82 for a revenue forecast in year 1 at 172.918,12 million SEK. If we repeat that process for years 2 through 5, we'll get our revenue forecasts for all 5 years, and there they are.

* **Costs**

Now let's move on to costs. And we'll start with COGS, Cost of Goods Sold. You can see that our forecast drivers here are expressed as a percentage and in particular a percentage of sales. Thus we are going to need the forecasted revenue to get the COGS forecast. This is because we assume the company won’t make meaningful changes in its cost structure so both the percentage of COGS and the percentage of SG&A expense with respect to sales will remain approximately constant.

So if we look at year one, we can see that 42,56% of the sales are assumed to be cost of goods sold. So, we take our 172.918,12 million SEK revenue forecast, multiply it times that 42,56%, and out pops an estimate, or a projection of costs of goods sold in the first year of 73.593,75 million. If we repeat that process through years 2 through 5, we're going to get a full blown COGS forecast over the entire projection period. Regarding SG&A, the process is quite similar. We have multiplied the percentage of S&G (assumed constant) by our forecasted revenue. Finally moving on to R&D, there's really not much to do here because Hennes & Mauritz does not have any investment in R&D so it will be improbable to think about one over the next 5 years.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEARS | 0 (F2015) | 1 | 2 | 3 | 4 | 5 |
| OPERATING EXPENSES |  |  |  |  |  |  |
| COGS | 76969,6 SEK |  |  |  |  |  |
| COGS / Sales (% Sales) | 42,56% | 42,56% | 42,56% | 42,56% | 42,56% | 42,56% |
| SG & A | 70551,51 SEK |  |  |  |  |  |
| % of 2015 Company SG&A | 13,39% | 13,39% | 13,39% | 13,39% | 13,39% | 13,39% |
|  |  |  |  |  |  |  |
| R&D |  | 0 | 0 | 0 | 0 | 0 |
| R&D Upfront ($mil) |  | 0 | 0 | 0 | 0 | 0 |
| R&D for Versioning ($mil) |  | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| INCREMENTAL EARNINGS FORECAST |  |  |  |  |  |  |
| Sales |  | 172.918,12 SEK | 195.554,88 SEK | 221.155,03 SEK | 250.106,50 SEK | 282.848,02 SEK |
| INCREMENTAL EARNINGS FORECAST |  |  |  |  |  |  |
| COGS |  | **73.593,95 SEK** | **83.228,16 SEK** | **94.123,58 SEK** | **106.445,33 SEK** | **120.380,12 SEK** |
| SG & A |  | **79.998,36 SEK** | **90.710,14 SEK** | **102.856,22 SEK** | **116.628,67 SEK** | **132.245,25 SEK** |

Once we have revenues and costs it is time to subtract off the COGS to get at gross profit. Then substract

off SG&A expenses and R&D expenses to get estimates of EBITDA.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EBITDA | 19.325,81 SEK | 21.616,59 SEK | 24.175,23 SEK | 27.032,50 SEK | 30.222,65 SEK |

* **Capital expenditures**

Now let's move on to capital expenditures. So, our upfront investment is going to be 12.059 million SEK, which is the amount posted in Hennes & Maurtiz’s 2015 financial statements. Then we're going to invest each year of the project, 23.73% of that amount (estimation based on past data). So to get our dollar forecast there's nothing to do for year zero, that's just the 12059 million SEK. For year 1 we're going to take 23,73% of that 12.059 million SEK million to get 12.059 million SEK. And then from year 2 to year 5 we assume a constant growth of also 23,73% (multiply our CAPEX at year 1 by (1+0,23) t). Now, we're going to assume we're going to straight line depreciate this capital expenditure over 5 years. What that means is one fifth of the capital stock is going to depreciate each year. In order to make things a little bit easier it is more comfortable to create a row of accumulated capital expenditures to know each year the amount to depreciate. To compute the amount depreciated we need just to multiply the accumulated capex by 20% (1/5).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEARS | 0 (F2015) | 1 | 2 | 3 | 4 | 5 |
| Capital Expenditures & PP&E Information: |  |  |  |  |  |  |
| Initial investment (SEK millions) | 12.059 SEK |  |  |  |  |  |
| Future investment (% of initial investment) |  | 23,73% |  |  |  |  |
| Future investment (Annual Growth) |  |  | 23,73% | 23,73% | 23,73% | 23,73% |
| Project CAPEX |  | 2.861,60 SEK | 3.540,66 SEK | 4.380,86 SEK | 5.420,43 SEK | 6.706,70 SEK |
| Accumulated PROJECT CapEx |  | 14.920,60 SEK | 18.461,26 SEK | 22.842,12 SEK | 28.262,55 SEK | 34.969,25 SEK |
| DEPRECIATION |  | 2.984,12 SEK | 3.692,25 SEK | 4.568,42 SEK | 5.652,51 SEK | 6.993,85 SEK |
| Book Value of CapEx |  |  |  |  |  | 11.078,10 SEK |
| Liquidation Value (LV) |  |  |  |  |  | 2.160,23 SEK |
| After-tax proceeds |  |  |  |  |  | 4.166,75 SEK |
| NET PROJECT CAPEX | **12.059 SEK** | **2.861,60 SEK** | **3.540,66 SEK** | **4.380,86 SEK** | **5.420,43 SEK** | **2.539,95 SEK** |

After the fifth year our physical capital coming from capex investments doesn’t evaporate. The firm could sell it or redeploy it for another purpose so we need to recognize that. Otherwise, we're going to under estimate cash flows.

Thus, we need to take all of that capital expenditure (accumulated at year 5), and subtract from it the accumulated depreciation to get this 11.078,10 million SEK. The difference between the accumulated CapEx and the accumulated depreciation is the Book Value of the assets. Usually it is not possible to sell that physical capital on a dollar for dollar basis, rather the firm will have to sell it at a discount. We estimate the liquidation value using positive cash flow coming from investments in previous years (average). Thus at the end of year 5, the firm could get for it 2.160,23 million SEK which is different from the book value. But remember we have to deal with taxes and so what we're really interested in are the

after tax proceeds from selling this. So we're going to get 2.160,23 million SEK. But we're going to experience a book loss because the value for which we can sell the assets, by assumption, this isn't always the case, is less than the book value of the assets. I multiply that times the tax rate. So we get a little bit of a tax shield here from our loss. And the result, our after tax proceeds that are actually greater than the liquidation value, we're going to get 4.166,75 million SEK.

The net project CAPEX will only change for year five as we have to subtract from the project CAPEX, earnings coming from the sale of physical assets.

* **Change in Net Working Capital**

The last element we need is net working capital, more precisely the change in net working capital but we'll start with net working capital. Net working capital is:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEARS | 0 (F2015) | 1 | 2 | 3 | 4 | 5 |
| WC ASSUMPTIONS: |  |  |  |  |  |  |
| Cash Requirements  (% of SG&A) | 19,55% | 19,55% | 19,55% | 19,55% | 19,55% | 19,55% |
| INVENTORY: |  |  |  |  |  |  |
| Inventory Days (365 x Inventory /COGS) | 100,096 | 100,096 | 100,096 | 100,096 | 100,096 | 100,096 |
| Excess Inventory liquidation value |  |  |  |  |  |  |
| ACCOUNTS RECEIVABLE: |  |  |  |  |  |  |
| Days Receivable (365 x Accounts Receivable/Sales) | 11,096 | 11,096 | 11,096 | 11,096 | 11,096 | 11,096 |
| ACCOUNTS PAYABLE: |  |  |  |  |  |  |
| Days Payable (365 x Accounts Payable/COGS) | 30,511 | 30,511 | 30,511 | 30,511 | 30,511 | 30,511 |
| Cash requirements - SG&A Funding |  | 15.639,68 SEK | 17.733,83 SEK | 20.108,39 SEK | 22.800,91 SEK | 25.853,95 SEK |
| Inventory requirements |  | 20.181,99 SEK | 22.824,02 SEK | 25.811,92 SEK | 29.190,97 SEK | 33.012,37 SEK |
| Accounts Receivable Requirements |  | 5.256,58 SEK | 5.944,72 SEK | 6.722,94 SEK | 7.603,04 SEK | 8.598,36 SEK |
| Accounts Payable Requirements |  | 3.536,08 SEK | 3.998,99 SEK | 4.522,50 SEK | 5.114,55 SEK | 5.784,09 SEK |
| NET WORKING CAPITAL | 37.652,08 SEK | 37.542,16 SEK | 42.503,58 SEK | 48.120,75 SEK | 54.480,37 SEK | 61.680,58 SEK |
| CHANGE IN NET WORKING CAPITAL |  | **-109,92 SEK** | **4.961,41 SEK** | **5.617,17 SEK** | **6.359,62 SEK** | **7.200,21 SEK** |

As drivers for the Net Working Capital we have considered assumptions concerning different turnover ratios of H&M, assuming the firm will keep these ratios constant. Let's start with the top, the cash requirements. H&M is to require 19,55% of SG&A in cash we're going to need our SG&A forecasts to back out the cash requirements. Consequently, our cash requirements for year 1 would be 15.639,68 million SEK which is the percentage of forecasted SG&A expenses required, in cash, by the company. And again we're just going to repeat that, year by year for two, three, four and five. Turning to inventory, our forecast drivers lay out the inventory days but the inventory days are based on cogs so the forecasted COGS will be also needed. The computation is the following one:

Repeating this operation for each year inventory requirements in million of SEK can be obtained easily. Moving to accounts receivable, the operation is the same. We have got days’ receivable assumptions, those are based on sales, so here, forecasted sales are necessary. Here is the formula for Accounts receivable requirements:

We continue that process for years two through five. For accounts payable it is exactly the same applying the formula of average payment period, based on COGS

And now we can put this all together, our cash inventory, accounts receivable and accounts payable forecast to compute net working capital for each year. Remember it's going to be cash plus inventory, plus accounts receivable minus accounts payable. That gets us our net working capital, and with a simple calculation we can compute the change in *NetWc* in each year with respect to the previous one.

* **Forecast of FCF**

Up to this point we already have all the estimations required to compute our predicted future cash flows with the formula stated at the beginning. We will use these estimations in our valuation analysis, discounting them to the current year at some opportunity cost.

The following table contains all the information we have obtained and final our FCF projections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEARS | 0 (F2015) | 1 | 2 | 3 | 4 | 5 |
| Sales |  | 172.918,12 SEK | 195.554,88 SEK | 221.155,03 SEK | 250.106,50 SEK | 282.848,02 SEK |
| COGS |  | 73.593,95 SEK | 83.228,16 SEK | 94.123,58 SEK | 106.445,33 SEK | 120.380,12 SEK |
| Gross Profit |  | 99.324,17 SEK | 112.326,73 SEK | 127.031,45 SEK | 143.661,18 SEK | 162.467,90 SEK |
| SG&A |  | 79.998,36 SEK | 90.710,14 SEK | 102.856,22 SEK | 116.628,67 SEK | 132.245,25 SEK |
| EBITDA |  | 19.325,81 SEK | 21.616,59 SEK | 24.175,23 SEK | 27.032,50 SEK | 30.222,65 SEK |
| Depreciation |  | 2984,12014 | 3692,251849 | 4568,423213 | 5652,510041 | 6993,850674 |
| EBIT |  | 16.341,69 SEK | 17.924,34 SEK | 19.606,80 SEK | 21.379,99 SEK | 23.228,80 SEK |
| Taxes (22,5%) |  | 3.676,88 SEK | 4.032,98 SEK | 4.411,53 SEK | 4.810,50 SEK | 5.226,48 SEK |
| NOPAT |  | 12.664,81 SEK | 13.891,36 SEK | 15.195,27 SEK | 16.569,49 SEK | 18.002,32 SEK |
| Net Project CapEx |  | 2861,6007 | 3540,658546 | 4380,856819 | 5420,434142 | 2539,953759 |
| CHANGE IN NET WORKING CAPITAL |  | -109,9167823 | 4961,413797 | 5617,174855 | 6359,620123 | 7200,209709 |
| FCF |  | **12.897,25 SEK** | **9.081,54 SEK** | **9.765,66 SEK** | **10.441,95 SEK** | **15.256,01 SEK** |