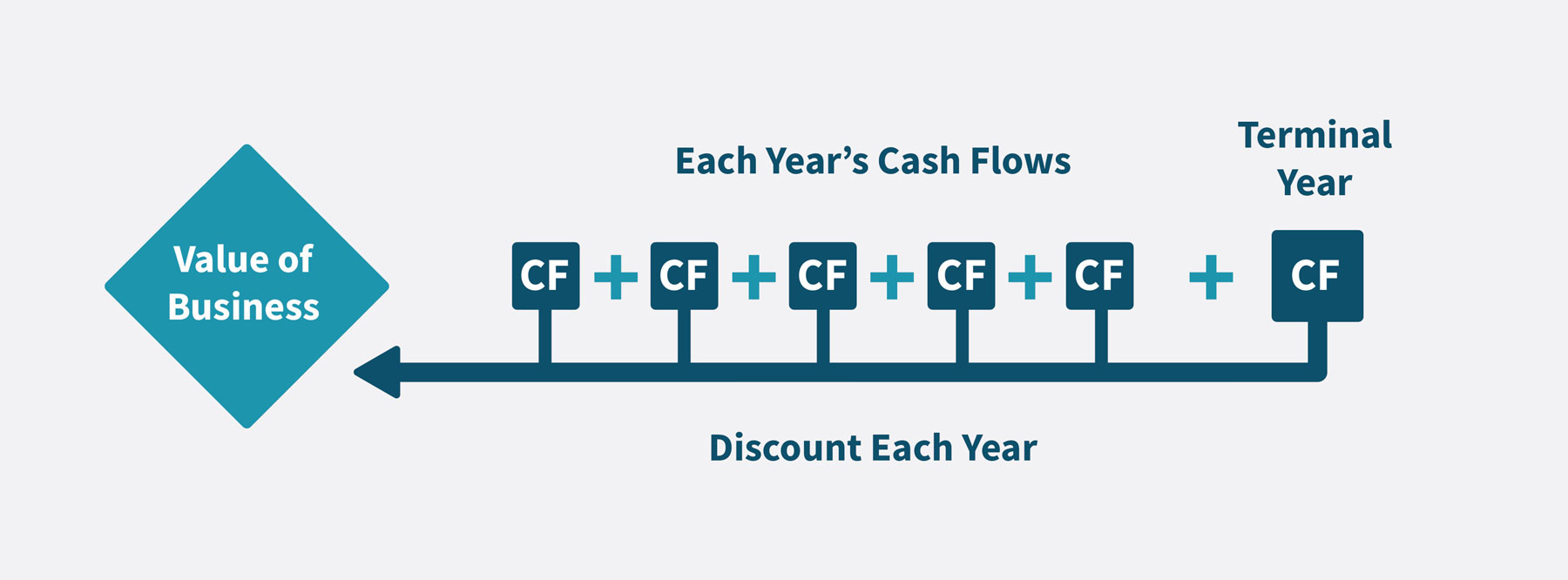
**Business Case – Calculating Discounted Cash flow Modelling**

**Discounted Cash Flow (DCF)**

Discounted cash flow (DCF) valuation is a type of financial model that determines whether an investment is worthwhile based on future cash flows. A DCF model is centered around the idea that a company’s value is determined by how well it can generate cash flows for its investors in the future.

**How Do You Calculate DCF?**

Calculating the DCF involves three basic steps. One, forecast the expected cash flows from the investment. Two, select a discount rate, typically based on the cost of financing the investment or the opportunity cost presented by alternative investments. Three, discount the forecasted cash flows back to the present day, using a financial calculator, a spreadsheet, or a manual calculation.



**Weighted average cost of capital**

Weighted average cost of capital (WACC) is a company's average after-tax cost of capital from all sources, including common stock, preferred stock, bonds, and other forms of debt. It represents the average rate that a company expects to pay to finance its business.

**Terminal Value (TV)**

Terminal value (TV) is the value of an asset, business, or project beyond the forecasted period when future cash flows can be estimated. Terminal value assumes a business will grow at a set growth rate forever after the forecast period. Terminal value often comprises a large percentage of the total assessed value.

**Present Value of Terminal Value**

To determine the present value of the terminal value, one must discount its value at T0 by a factor equal to the number of years included in the initial projection period. If N is the 5th and final year in this period, then the Terminal Value is divided by (1 + k)5 (or WACC).

**Property, plant, and equipment**

Property, plant, and equipment (PP&E) are long-term tangible assets vital to business operations. These assets are not easily converted into cash.

**D & A**

D&A, which is short for Depreciation and Amortization, refers to the decrease in the value of assets as they are used over time or approach the end of their useful life. Think of a car – the more you use it, the less money you will be able to get from selling it afterwards.

**Capital Expenditures (CapEx)**

Capital expenditures (CapEx) are funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, technology, or equipment. CapEx is often used to undertake new projects or investments by a company. Making capital expenditures on fixed assets can include repairing a roof if the useful life of the roof is extended, purchasing a piece of equipment, or building a new factory.

**Q1. What factors can affect the composition of a company's current assets vs. long-term assets?**

The composition of a company's current assets versus long-term assets can be influenced by several factors, including:

**1. Industry Type**

• **Asset-Intensive Industries:** Companies in industries like manufacturing, utilities, or real estate typically have higher proportions of long-term assets due to significant investments in property, plant, equipment (PPE), and other capital-intensive resources.

• **Service Industries:** Companies in sectors like software, consulting, or financial services may have a larger proportion of current assets, such as cash, accounts receivable, and short-term investments, due to lower capital investment needs.

**2. Business Model**

**• Capital Structure:** Companies that rely heavily on physical assets for revenue generation (e.g., oil and gas, heavy machinery) will have a higher ratio of long-term assets.

• **Working Capital Needs:** Retail or consumer goods companies may have significant current assets like inventory and receivables to support daily operations, resulting in a higher ratio of current assets.

**3. Growth Stage**

• **Early-Stage Companies:** Startups and growing companies may have a higher proportion of current assets as they focus on liquidity and short-term growth.

• **Mature Companies:** Established companies might have accumulated significant long-term assets over time, such as real estate or investments in infrastructure.

**4. Investment Strategy**

• **Expansion and Capital Expenditure:** Companies that are expanding or investing in new projects will typically have higher long-term assets due to increased capital expenditures.

• **Asset Sales:** Companies might sell long-term assets to improve liquidity, which would increase the proportion of current assets.

**5. Market Conditions**

• Economic Cycles: During economic downturns, companies may hold more cash and other liquid assets, increasing current assets relative to long-term assets. Conversely, during periods of growth, companies might invest more in long-term assets.

• Interest Rates: Higher interest rates might encourage companies to hold fewer long-term, interest-sensitive assets like real estate, and instead, maintain more current assets.

**6. Management Decisions**

• Conservative vs. Aggressive Approaches: Conservative management may prefer to maintain higher liquidity, thus holding more current assets, whereas aggressive management might invest heavily in long-term assets to drive growth.

**7. Regulatory Environment**

• Accounting Standards: Changes in accounting regulations can affect how assets are classified and reported, influencing the composition of current vs. long-term assets.

• Tax Considerations: Tax policies might encourage investments in certain asset classes, influencing the balance between current and long-term assets.

**8. Liquidity Requirements**

• Operational Needs: Companies needing high liquidity to meet short-term obligations or operational expenses will maintain higher current assets.

• Debt Obligations: Companies with significant short-term debt might need to maintain higher current assets to ensure they can meet their obligations.

These factors collectively influence a company's strategic decisions regarding the composition of current and long-term assets, impacting its overall financial health and operational flexibility.

**Q2. How can a company's debt-to-equity ratio impact its creditworthiness and access to capital?**

A company's debt-to-equity (D/E) ratio is a key financial metric that compares its total debt to its total equity. It provides insight into the company's financial leverage and is an important indicator of creditworthiness and access to capital. Here's how the D/E ratio impacts these aspects:

**1. Creditworthiness**

• Perception of Risk: A higher D/E ratio suggests that a company is more leveraged, meaning it relies more on debt financing than equity. This can be perceived as risky by creditors, as the company has more obligations to repay debt, which could strain its cash flow, especially during economic downturns or periods of low revenue.

• Default Risk: If a company has a high D/E ratio, it may be at a higher risk of default, as it may struggle to meet its debt obligations, particularly if its earnings are volatile or insufficient to cover interest payments and principal repayments.

• Credit Rating: Credit rating agencies often consider the D/E ratio when assigning a credit rating to a company. A higher D/E ratio can lead to a lower credit rating, indicating higher credit risk. This, in turn, affects the company's ability to borrow at favorable rates.

• Interest Costs: Companies with higher D/E ratios may face higher interest rates on new debt, as lenders demand a risk premium. This increases the cost of borrowing and can further strain the company's financial resources.

**2. Access to Capital**

• Bank Loans and Bonds: Companies with lower D/E ratios are generally seen as more stable and financially sound, making it easier for them to secure bank loans or issue bonds. Lenders and investors are more willing to provide capital to companies that demonstrate a strong equity base relative to their debt.

• Equity Financing: A lower D/E ratio indicates that a company has more room to take on additional debt if needed. This flexibility can make it easier to raise capital through equity markets, as investors may be more confident in the company's ability to manage its obligations.

• Covenants and Restrictions: Companies with higher D/E ratios might face restrictive covenants on existing debt, which can limit their ability to take on more debt or require them to maintain certain financial ratios. These restrictions can hinder the company's ability to raise additional capital or invest in growth opportunities.

• Investor Confidence: Investors typically prefer companies with balanced D/E ratios, as extreme leverage (either too high or too low) can be a red flag. A balanced D/E ratio suggests that the company is using leverage effectively while maintaining financial stability, making it more attractive to both debt and equity investors.

• Cost of Capital: The D/E ratio influences a company's weighted average cost of capital (WACC). A higher D/E ratio increases the cost of debt due to higher interest rates and can also increase the cost of equity as equity investors demand a higher return for increased risk. This higher WACC can make it more expensive for the company to raise capital.

**3. Strategic Flexibility**

• Growth Opportunities: Companies with lower D/E ratios have greater flexibility to pursue growth opportunities, as they can more easily raise additional debt or equity capital. In contrast, companies with high D/E ratios may find it challenging to finance new projects, acquisitions, or expansions due to limited borrowing capacity and higher costs of capital.

• Resilience in Downturns: Companies with a lower D/E ratio are generally more resilient during economic downturns. They have fewer debt obligations to meet, which allows them to maintain operations and invest in opportunities even during challenging times. This resilience can be attractive to investors and lenders, enhancing the company's creditworthiness and access to capital.

In summary, a company's D/E ratio plays a crucial role in determining its creditworthiness and access to capital. While some level of debt can be beneficial for growth and expansion, excessive leverage can lead to higher financial risk, reduced credit ratings, increased borrowing costs, and limited access to additional capital. A balanced approach to managing the D/E ratio is essential for maintaining financial stability and strategic flexibility.

**Formula:**

**Debt-to-Equity Ratio= Total Liabilities/Shareholders’ Equity**

**Q3. Debt-to-Equity Ratio: How has the debt-to-equity ratio changed over the four years? (take in consideration total liabilities and total equity)Is the company relying more on debt financing or equity financing?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Consolidated Balance Sheets - USD ($) $ in Millions | Sep. 02, 2018 | Sep. 01, 2019 | Aug. 30, 2020 | Aug. 29, 2021 |
| Total liabilities | 27,727 | 29,816 | 36,851 | 41,190 |
| Total equity | 13,103 | 15,584 | 18,705 | 18,078 |
| DEBT TO EQUITY RATIO | 2.11608029 | 1.91324435 | 1.970114943 | 2.278460007 |

AVERAGE DEBT TO EQUITY RATIO 2.0694749

THE COMPANY'S DEBT TO EQUITY RATIO IS 2.06**,** which means that the company has $2 of debt for every $1 of equity. It indicates a higher reliance on debt financing.

**Q4. Revenue Growth: How has the company total revenue grown over the three years? What segments are driving this growth (merchandise sales, membership fees)?**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Sep. 01, 2019** | **Aug. 30, 2020** | **Aug. 29, 2021** |
| **Merchandise Sales Revenue** | 1,49,351 | 1,63,220 | 1,92,052 |
| **Membership Fee Revenue** | 3,352 | 3,541 | 3,877 |
| **Total revenue** | $1,52,703 | $1,66,761 | $1,95,929 |
| **Revenue Growth Rate** |  | 9.2% | 17.5% |

|  |  |
| --- | --- |
| **Average Revenue Growth rate over the three years** | 13.3% |

The Total revenue of the company over the three years has grown on an average 13.3%. The Merchandise Sales segment is driving this growth.

**Q5. Gross Margin: Calculate and compare the gross margin (consider total revenue and total expense) across the three years. Is the company able to maintain or improve its margins?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fiscal Year** | **2019A** | **2020A** | **2021A** |
| Revenue | 1,52,703 | 1,66,761 | 1,95,929 |
| COGS | 1,32,886 | 1,44,939 | 1,70,684 |
| Gross Margin | 12.97747916 | 13.08579344 | 12.88476948 |

|  |  |
| --- | --- |
| **Average Gross Margin** | **12.98268069** |

The average gross margin of the company for the given 3 years is 12.98. Though the gross margin is fluctuating within a comfortable bandwidth, the COGS % in revenue increased in the recent year, which **decreased the Gross Margin to below average**.

**Q6. How can investors utilize free cash flow analysis to compare different companies in the same industry?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fiscal Year** | **2019A** | **2020A** | **2021A** |
| Gross Profit | 19817 | 21822 | 25245 |
| EBITDA | 6229 | 7080 | 8489 |
| Unlevered Free Cash Flow | 3158 | 2859 | 4698 |

**1. Importance:** FCF is a key indicator of a company’s financial health, showing how much cash is available for dividends, share repurchases, debt repayment, or reinvestment in the business.

**2. Comparing FCF Across Companies:**

• Operational Efficiency: By comparing FCF across companies in the same industry, investors can assess which company is more efficient in converting revenue into cash. Higher FCF indicates that a company is more capable of generating cash from its operations after covering capital expenditures.

• Financial Flexibility: Companies with higher FCF have more flexibility in funding growth opportunities, paying down debt, or returning value to shareholders without needing to raise additional capital.

• Risk Assessment: Companies with consistently high FCF are generally seen as less risky because they can sustain operations and investments even during downturns, while companies with lower or negative FCF may struggle to meet obligations.

**3. Investment Potential:**

• Valuation Metric: FCF is often used in valuation models, such as the Discounted Cash Flow (DCF) model, to determine the intrinsic value of a company. Companies with strong FCF are usually valued higher because they can provide better returns to investors.

• Comparison Across Peers: By comparing the FCF yields (FCF divided by market capitalization) of different companies in the same industry, investors can identify which companies are potentially undervalued or overvalued.

**4. Growth Prospects:**

• Reinvestment Capabilities: A company with substantial FCF has the ability to reinvest in new projects, acquisitions, or R&D, which can drive future growth. Investors can compare how different companies allocate their FCF to assess future growth potential.

**5. Practical Example:**

• Hypothetical Scenario: Consider two companies in the same industry. Company A has a high FCF but lower revenue growth, while Company B has lower FCF but higher revenue growth. Investors might favor Company A if they prioritize stability and cash returns, or Company B if they are looking for growth opportunities. The FCF analysis helps in making such strategic investment decisions.

**Conclusion:**

Free Cash Flow analysis provides investors with a clear picture of a company’s financial health, operational efficiency, and its ability to generate cash. By comparing FCF among companies within the same industry, investors can make informed decisions about which companies offer the best value, potential for growth, and financial stability. This comparison is especially useful in industries where capital expenditures are significant, as it highlights which companies are managing their resources most effectively.