Discount Cash Flow Modelling - Manual

Step 01 - Source Financial Statements (Swiggy P&L and BS)

Purpose of this Step

The foundation of any Discounted Cash Flow (DCF) model is the company's historical financials. This step involves **collecting**, **cleaning**, **and placing** the Income Statement and Balance Sheet of Swiggy into the designated Excel sheets (P&L source and BS source). These will serve as the **raw inputs** that flow into projections, free cash flow calculations, and ultimately the valuation.

A. Income Statement (P&L Source)

Meaning: The Profit & Loss statement (also called the Income Statement) shows revenues, expenses, and profits over a period (usually annually).

Relevance in DCF:

- Revenue growth trends guide top-line forecasts.
- EBITDA and EBIT provide the basis for operating performance and free cash flow.
- Net income links to equity returns and tax assumptions.

Instructions:

- 1. Copy Swiggy's audited/unaudited P&L for the last three years (2022–2024) into the P&L source sheet.
- 2. Ensure numbers are in **INR millions** (consistent units across all sheets).
- 3. Use line items already structured in the template:
 - Revenues from Operations
 - Other Income
 - Total Revenues
 - Cost of Goods Sold, Delivery Costs, Total COGS
 - Gross Profit & Gross Margin
 - Advertising, Other Expenses, Employee Benefits
 - o EBITDA
 - Depreciation & Amortisation

- o Finance Costs, Associate Income/Loss, Exceptional Items
- o Income Before Tax → Net Income
- o EBIT and Net Income Margins (calculated lines).
- 4. **Do not alter formulas** already embedded (e.g., Gross Margin, NI Margin).

Example:

If Swiggy's FY 2023 revenue is ₹82,646m, place it in cell **C5** (as shown in the template).

B. Balance Sheet (BS Source)

Meaning: The Balance Sheet records assets, liabilities, and equity at year-end.

Relevance in DCF:

- Working capital items (Inventories, Receivables, Payables) drive cash flow adjustments.
- Capex is inferred from changes in PPE and Intangibles.
- Debt and equity data link to capital structure and WACC assumptions.

Instructions:

- 1. Copy Swiggy's Balance Sheet for the last three years (2022–2024) into the BS source sheet.
- 2. Maintain reporting format and units (INR millions).
- 3. Use the pre-defined structure in the template:
 - Assets: Non-current (PPE, ROU assets, Goodwill, Intangibles, Investments, Financial Assets, Tax Assets, Other Assets), Current Assets (Inventories, Receivables, Cash, etc.).
 - Equity & Liabilities: Equity (Share Capital, Reserves, Other Equity), Non-Current Liabilities (Borrowings, Leases, Provisions), Current Liabilities (Borrowings, Leases, Payables).
- 4. **Bold headers** like Goodwill, Trade Receivables, Provisions should not be modified—they are formatting guides.
- 5. Cross-check that Total Assets = Total Liabilities + Equity each year.

Example:

If Swiggy's Goodwill in FY 2023 is ₹3,258m, enter it under **C8** in the BS source sheet.

C. Practical Notes & Pitfalls

- Consistency: Ensure the same financial year-end is used (Swiggy reports on 31 March or 31 Dec? Lock this convention).
- **Currency Hygiene**: Keep all values in INR millions. If source is INR crore, multiply by 10.
- **Check Totals**: Gross Profit, EBITDA, EBIT, NI, and Balance Sheet totals should reconcile with Swiggy's reports.
- **Non-recurring items**: Place extraordinary charges (legal settlements, restructuring) under "Exceptional Items" for transparency.
- **Leave formulas intact**: The template auto-computes ratios/margins—do not overwrite.

D. Connection to Later Steps

- These inputs directly feed into **assumption sheets** (revenue growth, margins, working capital ratios).
- Historical averages will be used for **trend analysis** to project future years.
- Balance Sheet items drive **Capex, Depreciation, and Working Capital** in the Cash Flow model.

Step 02 - Building the Index and Assumptions Sheets

A. Index Sheet - Navigation Setup

Purpose:

The Index sheet acts as a roadmap for the DCF model, dividing it into **Inputs, Outputs,** and **Sources**

Instructions:

- 1. List all worksheets under three blocks: Inputs, Outputs, Sources.
- 2. Create **hyperlinks**: Right-click cell \rightarrow *Link* \rightarrow *Place in This Document* \rightarrow Select target sheet.
- 3. Format section headers (dark fill, bold) for clarity.

Benefit: Enables one-click navigation across the model.

B. P&L Assumptions Sheet - Scenario Building

Purpose:

This sheet converts history into **forecast assumptions** under 3 scenarios (Optimistic, Base, Worst).

Key Inputs:

- Revenue growth % (YoY), Other income growth %
- Cost of goods sold (% of revenue)
- Operating expenses (% of revenue)
- D&A (% of revenue)
- Interest expense, Extraordinary income

About YoY Growth:

YoY growth simply compares this year's revenue (or cost) to the previous year's. It captures how fast Swiggy is expanding or contracting. These %s then become the basis for forecasting future revenues and costs.

Scenario Logic:

- Case 1: Higher growth, lower costs.
- Case 2: Balanced and realistic (default).

Case 3: Lower growth, higher costs.

Formula - CHOOSE Function:

=CHOOSE(\$C\$3, Case1Value, Case2Value, Case3Value)

- \$C\$3 = Selected Case cell (1, 2, or 3).
- Example: =CHOOSE(\$C\$3, F10, F11, F12) → switches growth % automatically when you change the Selected Case.

C. BS Assumptions Sheet - Working Capital & Capex

Purpose:

To project Balance Sheet drivers for working capital and PP&E.

Key Drivers:

- Trade receivables → Days receivable
- Inventory → Days inventory
- Trade payables → Days payable
- PP&E, Other assets/liabilities → % of revenue

Instructions:

- 1. Enter actuals (FY22–24) and compute ratios.
- 2. Forecast FY25-34 based on realistic assumptions.
- 3. Optimistic: shorter receivable days, steady payables.
- 4. Base: historical averages.
- 5. Worst: longer receivables, tighter payables.

Practical Notes

- Hyperlinks keep the model easy to use.
- CHOOSE avoids duplication by centralizing scenarios.
- YoY growth is the main engine of revenue forecasting—ensure assumptions reflect Swiggy's business realities.
- Always check that P&L and BS link smoothly with assumptions.

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End of Step 02 Output:

- Index sheet with hyperlinks.
- P&L assumptions driven by CHOOSE and YoY growth %.
- BS assumptions using ratios and percentages as drivers.

Step 03 - Preparing Projected P&L and Balance Sheet

A. Projected Profit & Loss (P&L) Sheet

Purpose:

The P&L sheet integrates actual financials (FY22–FY24) with assumptions (from Step 02) to produce forecasted results (FY25–FY29). It calculates revenues, margins, and profits for valuation.

Structure:

- Revenues and Other Income → linked directly from the P&L Assumptions sheet.
- Total Revenue = Revenues + Other Income.
- Cost of Goods Sold (COGS) → % of revenues, driven by assumptions.
- **Gross Margin** = Total Revenue COGS.
- **Operating Expenses** → % of revenues, assumption-based.
- **EBITDA** = Gross Margin Operating Expenses.
- Depreciation & Amortisation (D&A) → assumption as % of revenues.
- **EBIT** = EBITDA D&A.
- Interest Expense → linked from assumptions (YoY growth).
- Extraordinary Items → directly linked.
- EBT (Earnings Before Tax) = EBIT Interest + Extraordinary Items.
- Taxes → applied as per chosen tax rate.
- Net Income = EBT Taxes.

Formulas Used:

- Example:
 - Revenues = =SUMIF('P&L assumptions'!\$B:\$B,'P&L'!B4,'P&L assumptions'!C:C)
 - Gross Margin = =C6+C8
 - Net Income = =EBT Taxes

Guidelines:

• Keep FY22–FY24 as fixed actuals (hardcoded).

- From FY25 onward, link all items to assumptions using SUMIF/CHOOSE formulas.
- Use consistent formatting: highlight totals (EBITDA, EBIT, Net Income) in bold or blue.
- Check margins: EBITDA%, EBIT%, NI% should reconcile with assumption logic.

B. Projected Balance Sheet (BS) Sheet

Purpose:

The Balance Sheet combines actuals and forecast assumptions to create a full projection of assets, liabilities, and equity. It is crucial for deriving **working capital changes and cash flows**.

Structure:

Assets:

- Intangibles, PP&E, Financial Assets → linked partly from BS source and BS assumptions (% of revenue, flat values).
- Inventory, Receivables, Other Assets → derived from BS assumptions (days or % of revenue).
- Cash → flows in from the Cash Flow statement (later step).
- Total Assets = sum of all above.

• Liabilities & Equity:

- o Trade Payables, Other Liabilities → assumption-based (% of revenue).
- o Financial Liabilities → linked directly from BS source (flat or forecast).
- Shareholders' Equity → from BS source.
- Total Liabilities & Equity = sum of above.

Balancing Check:

- Formula: Check = Total Assets (Total Liabilities + Equity).
- The sheet must always show "0" or close to zero.

Formulas Used:

Example:

- Receivables = =SUMIF('BS assumptions'!\$B:\$B,'BS'!B8,'BS assumptions'!C:C)
- Total Assets = =SUM(C4:C12)
- Liabilities & Equity = =SUM(C16:C21)
- Check = =C23-C14

Guidelines:

- Keep 2022–24 as actual inputs.
- From 2025 onward, link all key drivers (Receivables, Inventory, Payables, PP&E) to the assumption sheet.
- Use flat values where instructed (e.g., Financial Assets remain constant).
- Always validate totals: Assets = Liabilities + Equity.

C. Practical Notes

- Ensure all forecast items are formula-driven (avoid manual entry).
- Any **circularity** (e.g., interest depending on debt) will be handled later during Cash Flow setup.
- Clearly mark actual vs. forecast columns (shading helps).
- This step prepares the **foundation for the Free Cash Flow calculation** in Step 04.

End of Step 03 Output:

- A working P&L sheet with actuals (FY22–24) and linked forecast values (FY25–29).
- A working Balance Sheet with consistent Assets and Liabilities + Equity totals.
- Balancing check confirms the sheet integrity.

Step 04 - Preparing the Projected Cash Flow Statement

A. Purpose

The Cash Flow sheet translates P&L and Balance Sheet projections into **unlevered free cash flows (UFCF)**, which are the key inputs for DCF valuation. Unlike net income, cash flows adjust for non-cash charges (e.g., depreciation), working capital movements, and capital expenditure.

B. Structure of the Cash Flow Sheet

1. Start with EBIT (Earnings Before Interest and Taxes):

- Linked directly from the P&L sheet (=P&L!D15 etc.).
- o This represents operating profits before financing costs.

2. Adjust for Taxes:

- Apply the operating tax rate.
- NOPAT (Net Operating Profit After Tax) = EBIT Taxes.

3. Add Back Non-Cash Charges:

 Depreciation & Amortisation (from P&L) are added back since they reduce accounting profit but not cash.

4. Arrive at Gross Cash Flow:

Formula: =NOPAT + D&A.

5. Adjust for Working Capital Movements:

- Inventory: Change = Current Year Previous Year (=BS!D8-BS!C8).
- Receivables: Change = Current Year Previous Year (=BS!D9-BS!C9).
- Payables: Change = Previous Year Current Year (=BS!D16-BS!C16).
- Net Working Capital Movement = Sum of above.

6. Adjust for Other Assets & Liabilities:

Formula = Change in "Other Assets" + Change in "Other Liabilities."

7. Deduct Capex:

 Capital Expenditure = Change in PP&E + Depreciation (to capture gross addition).

8. Adjust for Other Investments / Extraordinary Items:

 Investments (financial assets) and extraordinary items are included where relevant.

9. Calculate Unlevered Free Cash Flow (UFCF):

- o Formula:
- UFCF = NOPAT + D&A ΔWorking Capital Capex Investments + Extraordinary Items

C. Financing and Net Cash Flow

1. Interest Expense:

o Although UFCF is pre-financing, interest is shown here for reconciliation.

2. Delta Financial Liabilities:

o Change in borrowings = Current year – Previous year.

3. Delta Equity (incl. Dividends):

 Change in equity balances from Balance Sheet, including dividend payouts.

4. Net Cash Flow:

- Formula: =UFCF Interest + ΔDebt ΔEquity.
- Closing Cash = Opening Cash + Net Cash Flow.

D. Key Checks and Best Practices

Balancing Check:

- o Verify Closing Cash in Cash Flow matches Balance Sheet Cash each year.
- o Add a row Check = CF closing cash BS cash. Target = 0.

Linkages:

- o EBIT, D&A, Interest, Extraordinary items → from P&L.
- Working Capital, Capex, Investments, Equity movements → from BS.

Ensure no manual entries in forecast columns.

Formatting:

- o Keep UFCF highlighted (since it is the key DCF driver).
- o Show actual years (FY23–FY24) separately from forecasts (FY25–FY29).

End of Step 04 Output:

- Cash Flow sheet constructed with NOPAT, adjustments, working capital changes, Capex, and other flows.
- UFCF calculated for each year, serving as the input for valuation.
- Net Cash Flow reconciles to Balance Sheet cash balances with a check row.

Step 05: DCF Valuation – Estimation of Enterprise Value and Equity Value

Objective

The final step in the DCF model is to translate the projected free cash flows into a valuation figure. This involves discounting the unlevered free cash flows (UFCF), estimating the terminal value, and then adjusting for non-operating items to calculate Enterprise Value and Equity Value.

Key Inputs

- WACC (Weighted Average Cost of Capital): Represents the required return for both debt and equity holders. In this model, WACC is assumed at 12 percent.
- **g (Perpetual Growth Rate):** Long-term growth assumption beyond the forecast horizon. Here, g is assumed at 5 percent.

Step 1: Link UFCF from Cash Flow Sheet

The UFCF values for FY25 to FY29 are directly linked from the Cash Flow sheet. These represent the forecasted unlevered free cash flows available for valuation.

Step 2: Apply Discounting

Each year's UFCF is converted into present value using a discount factor.

- Discount Factor = 1 ÷ (1 + WACC) ^ Year
- Present Value of UFCF = UFCF × Discount Factor

For example, in FY25, UFCF of 10,780.6 is discounted at one year using WACC of 12 percent, giving a present value of 9,625.6.

Step 3: Calculate PV of Cash Flows

The present value of all UFCFs from FY25 to FY29 is added together. In the model, this gives a total of 444,229.7, which contributes 22 percent of the total Enterprise Value.

Step 4: Estimate Continuing (Terminal) Value

After FY29, the firm is assumed to grow perpetually at the rate g.

- Continuing Value = UFCF in FY29 × (1 + g) ÷ (WACC g)
- PV of Continuing Value = Continuing Value discounted to present value

In this case, the PV of Continuing Value is 15,90,177.0, which accounts for 78 percent of Enterprise Value.

Step 5: Derive Enterprise Value

Enterprise Value is the sum of PV of Cash Flows and PV of Continuing Value. In this case, Enterprise Value is 20,34,406.7.

Step 6: Adjust for Non-Operating Items

To move from Enterprise Value to Equity Value, we adjust for items outside operating activities:

- Subtract net financial liabilities (-15,036.1)
- Add cash and cash equivalents (+8,870.5)

Step 7: Arrive at Equity Value

Equity Value = Enterprise Value – Net Financial Liabilities + Cash and Cash Equivalents. Here, the Equity Value is 20,28,241.2.

Step 8: Compute Per Share Value

Divide Equity Value by the number of outstanding shares. With 2,286.48 shares, the Equity Value per share is 887.1.

Final Output

Enterprise Value: 20,34,406.7

Equity Value: 20,28,241.2

• Equity Value per Share: 887.1

Step 06: Sensitivity Analysis

Objective

DCF valuation results depend heavily on two assumptions:

- 1. WACC (Weighted Average Cost of Capital) discount rate
- 2. g (Perpetual Growth Rate) long-term growth

Small changes in either can significantly affect the equity valuation. Sensitivity analysis helps test how robust the valuation is by showing results under different scenarios.

One-Dimensional Data Table

A one-dimensional Data Table allows us to test the impact of changes in either WACC or growth rate while keeping the other constant.

Steps:

- 1. Link the equity value (or per share value) cell as the output reference.
- 2. List different values of WACC (e.g., 10%–14%) in a column.
- 3. Select the entire range (including the output link).
- 4. Use Data → What-If Analysis → Data Table.
 - o For WACC analysis: enter the WACC input cell under **Column Input Cell**.
 - For growth analysis: enter the growth input cell under Row Input Cell.
- 5. Excel will automatically recalculate and show the effect of changing one variable.

Two-Dimensional Data Table

A two-dimensional Data Table allows us to test the combined impact of **WACC and** growth rate simultaneously.

Steps:

- 1. Link the **equity value (or per share value)** to the top-left corner of the sensitivity table.
- 2. Enter different WACC values across the top row.
- 3. Enter different growth rate values along the left-hand column.

- 4. Select the entire table (including the linked cell, row, and column).
- 5. Use **Data → What-If Analysis → Data Table**.
 - o Under **Row Input Cell**: select the WACC input cell.
 - o Under Column Input Cell: select the growth rate input cell.
- 6. Excel will calculate all combinations, producing a matrix of values.

Interpretation

- Higher **WACC** reduces the valuation (as future cash flows are discounted more heavily).
- Higher growth rate (g) increases the valuation (as the terminal value rises).
- The sensitivity matrix provides a valuation range, helping analysts judge a fair value band rather than relying on a single point estimate.
- With this step, the DCF model is complete. The analyst now has:
 - Base case valuation (Steps 1–5).
 - Scenario-tested range of valuations (Step 6).

Key Steps

1. Input Assumptions

- Weighted Average Cost of Capital (WACC): e.g., 12% \rightarrow entered as 0.12 in Excel.
- Perpetual growth rate (g): e.g., $5\% \rightarrow$ entered as 0.05 in Excel.

2. Free Cash Flow in Final Year

Take the **Unlevered Free Cash Flow (UFCF)** from the final forecast year (t = 10).

Excel formula:

='Cash Flow'!O24

3. Terminal Value

The terminal value is based on the Gordon Growth formula:

$$TV = \frac{FCF_{t+1}}{WACC - g}$$

where the next year's cash flow is:

$$FCF_{t+1} = FCF_t \times (1+g)$$

In Excel:

=D7*(1+D6)/(D5-D6)

4. Present Value of Terminal Value

The terminal value must be discounted back to the present using the forecast horizon (n = 10 years).

$$PV(TV) = \frac{TV}{(1 + WACC)^n}$$

In Excel:

=D9/(1+D5)^10

5. Enterprise Value (EV)

The enterprise value is the sum of the **Present Value of UFCFs (from Step 05)** and the **Present Value of Terminal Value**:

$$EV = PV_{CF} + PV(TV)$$

In Excel:

='DCF valuation'!C12+D11

6. Equity Value

Adjust enterprise value for net debt:

Equity
$$2$$
 alue = $EV - Debt + Cash$

In Excel:

Less: Financial Liabilities → =BS!E19

• Add: Cash → =BS!E12

• Equity Value → =D13-D14+D15

7. Equity Value per Share

Divide equity value by the number of shares outstanding:

Equity 2 alue 2 er 2 hare =
$$\frac{Equity\ 2 alue}{Shares_{outstanding}}$$
 Excel: =D16/D17

Conceptual Note

The Perpetuity Growth Model is **conservative and widely accepted** in corporate finance. It assumes perpetual stable growth, making it particularly suitable for mature companies. In practice, **Terminal Value often represents the majority of total firm value**, so the careful choice of WACC and g is critical. Analysts typically use a modest perpetual growth rate, slightly above long-term inflation, to avoid overstatement of value.

Step 08: Exit Multiple Method

Why this step is required

While the Perpetuity Growth (Gordon) Model assumes stable perpetual growth, the Exit Multiple Method values the company based on how the market might price it at the end of the forecast horizon (e.g., FY34). This approach reflects **investor sentiment and sector benchmarks** by applying a valuation multiple such as EV/EBITDA. It typically yields a more optimistic outcome and, when used alongside the Gordon Model, provides a realistic valuation range.

Key Steps

1. Input Assumptions

- $EBITDA_{FY34}$: Linked directly from the P&L sheet. Excel: ='P&L'!O12
- Exit Multiple: Chosen from market comparables (e.g., 15).

2. Terminal Value Calculation

$$TV = EBITDA_{FY34} \times ExitMultiple$$

Excel: =D4*D5

3. Discounting Terminal Value

The terminal value is discounted to present value using WACC and the forecast horizon n=10:

$$PV(TV) = \frac{TV}{(1 + WACC)^n}$$

Excel: $=D7/(1+D8)^10$

4. Enterprise Value (EV)

The enterprise value combines discounted UFCFs (from Step 05) with the present value of terminal value:

$$EV = PV_{CF} + PV(TV)$$

Excel: ='DCF valuation'!C12+D9

5. Equity Value

Equity value is derived by adjusting EV for net debt:

$$EquityValue = EV - Debt + Cash$$

Excel:

• Less: Financial Liabilities → =BS!E19

• Add: Cash and Cash Equivalents → =BS!E12

• Equity Value → =D11-D12+D13

6. Equity Value per Share

$$EquityValue_{perShare} = \frac{EquityValue}{Shares_{outstanding}}$$

Excel: =D14/D15

Conceptual Note

The Exit Multiple Method is **market-driven**, relying on peer multiples and transaction benchmarks to determine value. Because it assumes favorable exit market conditions, it generally produces a higher terminal value than the Gordon Model. Analysts therefore use both approaches together:

- Perpetuity Growth Model (Step 07): Conservative, theory-based estimate.
- Exit Multiple Method (Step 08): Optimistic, market-based estimate.

This two-method framework ensures the DCF captures both **intrinsic fundamentals** and **market expectations**, giving a balanced valuation range.