

## Breakeven & EBIT-EPS

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### SECTION 01

## What Is This Tool?

The **Breakeven & EBIT-EPS Analyzer** combines two of the most fundamental analyses in managerial finance into a single, live-updating framework. It answers two distinct but interconnected questions:

- How many units must I sell before I stop losing money? – the Breakeven Analysis (left panel).
- Should I finance my firm with equity alone, or with a mix of debt and equity? – the EBIT-EPS Analysis (right panel).

The two analyses are deliberately linked: the operating parameters (volume, price, fixed cost, variable cost, tax rate) defined in the Breakeven panel feed directly into the EBIT-EPS chart. Change your pricing or cost structure and the EBIT-EPS analysis updates automatically, showing how the capital structure decision changes as the operating economics shift.

### Who should use this tool?

Finance students studying operating and financial leverage, business analysts evaluating pricing and cost structures, CFOs comparing financing alternatives, and MBA students working through capital structure or CVP (Cost-Volume-Profit) assignments.

### The two analyses at a glance

**Breakeven Analysis** uses Cost-Volume-Profit relationships to find the minimum output level at which revenue covers all costs. It also shows the margin of safety – how far current volume exceeds the breakeven point – and the profit or loss at the current operating volume.

**EBIT-EPS Analysis** is a capital structure decision tool. It computes Earnings Per Share (EPS) for two financing structures – pure equity vs. equity + debt – across a range of EBIT levels, and identifies the crossover EBIT: the point above which debt financing (leverage) produces higher EPS than pure equity financing.

## Quick Start

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Both analyses run automatically – there is no Calculate button. Every slider and input updates the charts and results boxes in real time.

### 1 SET BREAKEVEN PARAMETERS (LEFT PANEL)

Each parameter has a Base input field and a percentage slider (-100% to +100%). Enter your base values in the text fields, then use the sliders to explore "what-if" scenarios. The gold figure above each slider shows the current live value. Both charts update instantly.

### 2 READ THE BREAKEVEN HIGHLIGHT BOX

The dark panel between the parameters and the chart shows three key metrics instantly:

**BREAKEVEN QUANTITY**

(units),

**BREAKEVEN REVENUE**

(total revenue at breakeven), and

**MARGIN OF SAFETY**

(how much your current volume exceeds the breakeven point). A fourth metric shows Profit or Loss after tax at your current base volume.

### 3 SET EBIT-EPS PARAMETERS (RIGHT PANEL)

Enter your firm's Unlevered Equity value and Share Price, then use the D/E Ratio and Cost of Debt sliders to model your proposed capital structure. The tax rate is shared with the Breakeven panel. All EBIT-EPS results update automatically alongside the breakeven chart.

### 4 EXPORT PDF OR SAVE (TRIAL / PREMIUM)

Click **Export PDF** to download a landscape report with both charts, the parameters, and a key metrics banner. Use **Save Model** to store all inputs for future sessions.

#### Default values pre-loaded

The tool opens with a ready-to-read analysis: Volume 10,000 units, Price ₹100, Fixed Cost ₹2,50,000, Variable Cost ₹50/unit, Tax 17.5%, Unlevered Equity ₹25,00,000, D/E Ratio 40%, Cost of Debt 10%, Share Price ₹100. These represent a simple mid-size operating scenario. Replace the Base values with your own numbers to model your specific situation.

## Breakeven Parameters

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Each Breakeven parameter has a **Base** numeric input and a **percentage slider**. The slider adjusts the current value as a percentage change relative to the base. The gold figure above the slider always shows the current live value used in calculations.

To change a base value: type directly into the base input field – the slider resets to 0% and the live value updates. To explore a scenario: leave the base unchanged and drag the slider. The percentage offset is displayed next to the base field (e.g., "+20%" or "-15%").

#### VOLUME (UNITS)

The **current operating level** – how many units you expect to produce and sell in the period. This is not the breakeven quantity; it is your actual or planned sales volume. The breakeven quantity is computed from the cost parameters and shown separately.

Volume affects the profit/loss calculation and the Margin of Safety, and determines the x-axis centre of the EBIT-EPS chart. Slider: -100% to +100%. Default base: 10,000 units.

#### PRICE PER UNIT

The **selling price** for each unit. Combined with volume, this gives total revenue. The price must exceed the variable cost per unit for a positive contribution margin and a finite breakeven point.

Slider: -100% to +100%. Default base: 100. Displayed with two decimal places.

#### FIXED COST

Total **fixed costs** for the period – costs that do not change with output volume. Examples: rent, salaries, insurance, depreciation, administrative overhead. Fixed costs are the numerator in the breakeven formula.

$$\text{Breakeven Qty} = \text{Fixed Cost} \div \text{Contribution Margin}$$

Slider: -100% to +100%. Default base: 2,50,000.

#### VARIABLE COST / UNIT

The **cost incurred for each unit produced**. Examples: raw materials, direct labour, packaging, sales commissions. The variable cost must be less than the price for the business to have a positive contribution margin per unit.

Contribution Margin = Price - Variable Cost/Unit. This is the amount each unit contributes toward covering fixed costs and generating profit. Slider: -100% to +100%. Default base: 50.

#### TAX RATE

**Shared across both analyses.** This single tax rate applies to all profit/loss calculations in the Breakeven analysis and to the EPS calculations in the EBIT-EPS analysis.

**India:** 17.5% (Section 115BAB manufacturing), 25.17% (standard domestic), 30% (older regime). **US:** 21% federal. Slider only (no base field): 0% - 75%. Default: 17.5%.

## SECTION 04

### EBIT-EPS Parameters

The EBIT-EPS parameters define the firm's capital structure. The operating parameters (volume, price, fixed cost, variable cost) and the tax rate are inherited from the Breakeven panel – they determine the EBIT at any given volume level.

#### UNLEVERED EQUITY VALUE

The **total firm value if financed entirely by equity** – the unlevered firm's equity ( $V_U$  in Modigliani-Miller notation). This is the starting point: what is the firm worth with zero debt?

In a capital structure decision, the firm is choosing how to split this value between equity and debt. The unlevered equity value acts as the total capital base. Has base input + slider. Default: 25,00,000.

#### DEBT / UNLEVERED EQUITY

The **debt-to-capital ratio** expressed as a percentage of the unlevered equity value. A D/E ratio of 40% means the firm borrows an amount equal to 40% of its unlevered equity value.

$$\text{Debt} = \text{Unlevered Equity} \times \text{D/E Ratio}$$

The levered equity – what shareholders own after accounting for the tax shield benefit of debt – adjusts accordingly:  $\text{Levered Equity} = \text{Unlevered Equity} - \text{Debt} \times (1 - \text{Tax})$

Slider only: 0% - 100%. Default: 40%.

#### COST OF DEBT

The **annual interest rate** on the debt – what the firm pays to its lenders. Together with the Debt amount, this determines the annual interest expense that reduces EPS for the levered financing structure.

$$\text{Annual Interest} = \text{Debt} \times \text{Cost of Debt}$$

Slider only: 5% - 20%. Default: 10%.

#### SHARE PRICE

The **market price per share**. Used to convert the equity value into a number of shares outstanding – both for the levered and unlevered financing structures.  $\text{EPS} = (\text{EBIT} - \text{Interest}) \times (1 - \text{Tax}) \div \text{Shares}$ .

$$\text{Shares (Levered)} = \text{Levered Equity} \div \text{Share Price}$$

$$\text{Shares (Unlevered)} = \text{Unlevered Equity} \div \text{Share Price}$$

Has base input + slider. Default: 100.

#### X-AXIS MODE

Toggles the x-axis of the EBIT-EPS chart between two views:

**Units mode:** x-axis shows operating volume (units sold). The chart covers 50% to 150% of your current base volume.

**EBIT mode:** x-axis shows EBIT amount directly (Revenue - Fixed Cost - Total Variable Cost). Use EBIT mode to read the crossover EBIT in absolute monetary terms, which is the standard way to present the result in finance reports and case studies.

The **tax rate** is shared between both panels – there is only one tax rate slider. A change to the tax rate in the Breakeven panel instantly recomputes both the breakeven results and the EBIT-EPS chart. This reflects the real-world reality that a single entity faces one tax rate across all its operations and financing.

## Reading the Breakeven Results

### The highlight box

The dark panel between the Breakeven parameters and the chart shows four live metrics that update with every slider movement.

BEQ

#### Breakeven Quantity

The minimum number of units that must be sold to cover all fixed and variable costs, producing zero profit. Displayed rounded up to the next whole unit (you cannot sell a fraction of a unit).

$$\text{BEQ} = \text{Fixed Cost} \div (\text{Price} - \text{Variable Cost/Unit})$$

The denominator, Price minus Variable Cost/Unit, is the **Contribution Margin per unit** – the amount each unit sold contributes toward covering fixed costs.

BER

#### Breakeven Revenue

Total revenue at exactly the breakeven volume – the minimum revenue the business needs to break even. Calculated as  $\text{BEQ} \times \text{Price}$ . This is often the more useful figure for revenue-focused managers and investors.

$$\text{BER} = \text{BEQ} \times \text{Price per Unit}$$

MoS

#### Margin of Safety

The percentage by which current (base) volume exceeds the breakeven quantity. It measures how much sales can fall before the business starts losing money. A higher margin of safety means a more resilient business.

$$\text{MoS} = (\text{Volume} - \text{BEQ}) \div \text{Volume} \times 100\%$$

A Margin of Safety of 50% means sales could fall by half before the business reaches its breakeven point.

P/L

#### Profit / Loss After Tax

The actual profit (or loss) at the current base volume, after applying the tax rate. Tax is charged only when EBIT is positive – loss years receive no tax benefit. This metric is dynamically labelled "Profit (After Tax)" or "Loss (After Tax)" depending on the sign.

$$\text{EBIT} = \text{Volume} \times (\text{Price} - \text{VC/Unit}) - \text{Fixed Cost}$$

$$\text{Profit After Tax} = \text{EBIT} \times (1 - \text{Tax Rate})$$

### The Breakeven Chart

The chart plots monetary amount (y-axis) against volume (x-axis) and shows four lines simultaneously.



#### Revenue Line (green, solid)

Total revenue at each volume level:  $\text{Revenue} = \text{Price} \times \text{Quantity}$ . A straight line from the origin with slope equal to the price per unit. The steeper this line, the higher the selling price.



#### Total Cost Line (red, solid)

Sum of fixed cost and total variable cost at each volume:  $\text{TC} = \text{FC} + \text{VC} \times \text{Q}$ . A line starting at the y-intercept (equal to fixed costs) with slope equal to the variable cost per unit. Where

the y-intercept (equal to fixed costs) with slope equal to the variable cost per unit. Where this line crosses the Revenue line is the breakeven point.

#### Variable Cost Line (gold, dashed)

Total variable cost at each volume:  $VC = \text{Variable Cost/Unit} \times Q$ . A line from the origin with slope equal to the variable cost per unit. The vertical gap between the Total Cost line and the Variable Cost line at any volume equals the fixed cost – it is constant regardless of volume.

#### Fixed Cost Line (teal, dashed)

A horizontal line at the fixed cost level. It shows that fixed costs do not change with volume. The y-intercept of the Total Cost line is this same value.

#### The ✦ Star – Breakeven Point

The precise intersection of the Revenue and Total Cost lines. A dark pill annotation shows the breakeven quantity. To the left of the star: the red shaded zone – the business is making a loss. To the right: the green shaded zone – the business is profitable.

#### The Gold Dashed Vertical – Base Volume

Marks your current operating volume on the chart. A gold dot appears on the Revenue line at this volume. A pill at the top of the chart shows the after-tax profit (green) or loss (red) at this level – the same figure as the highlight box's Profit/Loss metric.

## SECTION 06

# Reading the EBIT–EPS Results

## The highlight box

The dark panel to the right shows three structural metrics computed from your capital structure inputs.

#### Shares Outstanding (Levered)

The number of shares in the levered financing scenario (equity + debt). Computed as the levered equity value divided by the share price. This is lower than the unlevered share count because some capital has been replaced by debt.

$$\text{Levered Equity} = \text{Unlevered Equity} - \text{Debt} \times (1 - \text{Tax})$$

$$\text{Shares} = \text{Levered Equity} \div \text{Share Price}$$

Fewer shares outstanding means each share receives a larger slice of after-interest earnings – this is the leverage effect on EPS.

#### Debt Level

The total debt raised under the proposed capital structure. Computed as  $\text{Unlevered Equity} \times \text{D/E Ratio}$ . For example, with Unlevered Equity of ₹25,00,000 and a D/E ratio of 40%, the debt is ₹10,00,000.

$$\text{Debt} = \text{Unlevered Equity} \times \text{D/E Ratio}$$

#### Annual Interest

The fixed annual interest payment on the debt. This is the cost of leverage – it must be

The fixed annual interest payment on the debt. This is the cost of leverage — it must be paid regardless of EBIT. Below the crossover EBIT, this fixed burden makes the levered structure's EPS lower than the all-equity structure. Above the crossover, the leverage amplifies EPS.

$$\text{Annual Interest} = \text{Debt} \times \text{Cost of Debt}$$

## The EBIT–EPS Chart

### Teal Solid Line — EPS (Equity + Debt)

EPS for the levered financing structure at each EBIT level. Computed as  $(\text{EBIT} - \text{Interest}) \times (1 - \text{Tax}) \div \text{Shares}(\text{levered})$ . This line has a steeper slope than the unlevered line because the same after-tax earnings are spread across fewer shares. Above the crossover it sits higher (better EPS); below the crossover it sits lower (worse EPS). Green shading above zero indicates profitable territory.

### Gold Dashed Line — EPS (Pure Equity)

EPS for the unlevered (all-equity) financing structure at each EBIT level. Computed as  $\text{EBIT} \times (1 - \text{Tax}) \div \text{Shares}(\text{unlevered})$ . No interest expense, but more shares outstanding than the levered structure. This line has a shallower slope — it rises more slowly with EBIT.

### The Red Dot — Crossover Point

The intersection of the two EPS lines — the EBIT level at which both financing structures produce identical EPS. This is the **financial indifference point**. A dark pill in the top-right corner of the chart labels this crossover with the Units or EBIT value depending on the x-axis mode.

- **EBIT below crossover:** Pure equity gives higher EPS. Debt's fixed interest burden is too large relative to earnings.
- **EBIT above crossover:** Equity + Debt gives higher EPS. The leverage effect amplifies EPS because interest is a fixed cost spread over fewer shares.

### Gold Dashed Vertical & Base EPS Pill

Marks the base operating volume on the chart. Dots appear on both EPS lines at this volume. A dark pill in the top-left corner shows the actual EPS values at base volume for both structures — this is the headline number a finance student or analyst would report in a presentation.

## SECTION 07

# Core Concepts Explained

## Contribution Margin

The amount each unit sold contributes toward recovering fixed costs and generating profit. It is the selling price minus the variable cost per unit. A higher contribution margin means fewer units are needed to break even. The contribution margin ratio ( $\text{CM} \div \text{Price}$ ) shows what fraction of each rupee of revenue flows toward profit once variable costs are covered.

$$\text{CM} = \text{Price} - \text{Variable Cost/Unit}$$

### Break-even Point (BEP)

The output level at which total revenue exactly equals total cost – neither profit nor loss. At the BEP, every rupee earned above variable cost is exactly consumed by fixed costs. The BEP in units is Fixed Cost divided by the Contribution Margin. Above BEP, each additional unit sold generates pure profit equal to the contribution margin.

### Margin of Safety

The cushion between current sales and the break-even point. It answers: "how far can sales fall before we start losing money?" A high margin of safety indicates a robust, resilient business. It is typically expressed as a percentage of current sales. Managers use it to assess downside risk during planning and stress-testing.

### Operating Leverage

A measure of how sensitive profits are to changes in revenue, driven by the proportion of fixed costs in the cost structure. A business with high fixed costs and low variable costs has high operating leverage – a small increase in sales above BEP produces a large increase in profit. The same is true in reverse: a small revenue decline can rapidly move the business into loss.

### EBIT

Earnings Before Interest and Tax – the firm's operating profit, independent of its capital structure. In this tool:  $EBIT = \text{Volume} \times (\text{Price} - \text{VC}/\text{Unit}) - \text{Fixed Cost} = \text{Volume} \times \text{Contribution Margin} - \text{Fixed Cost}$ . EBIT is the starting point for both the after-tax profit in the break-even analysis and the EPS calculations in the EBIT-EPS analysis.

### EPS & Financial Leverage

Earnings Per Share = Net Income (after interest and tax) divided by shares outstanding. Financial leverage (debt) can increase EPS when EBIT is high because: (1) interest is tax-deductible, and (2) replacing equity with debt reduces the number of shares over which earnings are spread. The flip side: debt's fixed interest burden amplifies losses when EBIT is low.

### Crossover EBIT

The EBIT level at which both capital structures produce the same EPS. It is the financial indifference point. Above the crossover, the levered structure (equity + debt) delivers higher EPS. Below it, pure equity is better. The crossover EBIT is the core deliverable of the EBIT-EPS analysis – a firm that expects EBIT consistently above the crossover should prefer debt in its capital structure.

### Modigliani–Miller with Taxes

The tool's capital structure model is built on MM Proposition I with corporate taxes. The levered firm's equity is:  $V_E(\text{levered}) = V_E(\text{unlevered}) - \text{Debt} \times (1 - \text{Tax})$ . The tax shield on debt ( $\text{Debt} \times \text{Tax Rate}$ ) adds value to the levered firm. This is why the levered equity is less than  $V_E - \text{Debt}$ : the tax savings offset part of the debt cost.

### Operating leverage vs. financial leverage

**Operating leverage** is about cost structure – a high ratio of fixed to variable costs amplifies the impact of volume changes on profit. It is measured by the Degree of Operating Leverage ( $DOL = CM \div EBIT$ ). **Financial leverage** is about capital structure – replacing equity with debt amplifies the impact of EBIT changes on EPS. Combined operating and financial leverage (combined leverage =  $DOL \times DFL$ ) measures total sensitivity of EPS to revenue changes. The Break-even panel captures operating leverage; the EBIT-EPS panel captures financial leverage.

## Business Applications

→ **New** Set the desired volume target and variable cost, then use the price slider to find the product minimum price that achieves a positive margin of safety. The breakeven chart makes the pricing relationship between price and financial safety immediately visible.

→ **Cost** Compare a high fixed cost / low variable cost structure (e.g., automated structure manufacturing) against a low fixed / high variable structure (e.g., manual assembly) decisions by switching the values. The BEP, margin of safety, and profit curves show which structure is better at different volume levels.

→ **Capital structure** Set the D/E Ratio and Cost of Debt to your proposed financing mix and compare levered vs. unlevered EPS at your expected EBIT level. If your expected EBIT is optimisation well above the crossover, taking on debt is accretive to EPS.

→ **IPO or rights issue planning.** Use the unlevered equity value as the total pre-IPO firm value and the share price as the IPO price. The tool shows shares outstanding and EPS at various EBIT levels – useful for setting earnings guidance and valuation expectations.

→ **Sensitivity testing.** Drag the volume, price, or variable cost sliders to stress-test the business: what happens to BEP and margin of safety if raw material costs rise 20%? If selling price must be cut by 10% to match a competitor? The real-time chart updates make scenario comparison immediate.

→ **Leveraged buyout analysis.** In an LBO, a firm takes on significant debt. Model the proposed post-LBO capital structure using the D/E ratio and cost of debt sliders. The crossover EBIT shows the minimum operating earnings the acquired business must generate to justify the leverage.

→ **Academic coursework and case studies.** The EBIT-EPS chart is the standard graphical output for capital structure assignments. Fill in Project Title, Name, Roll Number, and Date in the Project Info panel and export a PDF for a submission-ready report with both charts and a key metrics banner.

→ **Investor presentations.** The breakeven chart and margin of safety number are powerful tools for communicating business resilience. A high margin of safety relative to the current volume tells investors the business can withstand significant revenue decline before becoming unprofitable.

## Interpreting Your Results

## Reading the breakeven chart

Start with the position of the + breakeven marker relative to your base volume line. If the base volume (gold dashed vertical) is far to the right of the breakeven point, you have a large margin of safety – a resilient business. If the base volume sits close to the breakeven point, even a small volume decline will push the business into a loss.

The slope of the Revenue line relative to the Total Cost line shows the contribution margin visually – a steep Revenue line and a shallow Total Cost line means high margins. Watch how the profit zone (green region, right of BEP) widens as you drag the price higher or the variable cost lower.

## Reading the EBIT–EPS chart

The key question is: where does your expected EBIT (or volume) fall relative to the crossover point?

- **Expected EBIT well above crossover** → debt financing amplifies EPS significantly. The levered EPS line is comfortably above the unlevered line at that point. Taking on debt is EPS-accretive.
- **Expected EBIT near the crossover** → the EPS difference between structures is small. Other factors – financial flexibility, bankruptcy risk, covenants – should drive the decision.
- **Expected EBIT below crossover** → pure equity delivers higher EPS. The business does not yet generate enough EBIT to absorb the fixed interest burden and still outperform on a per-share basis.

## Switching to EBIT mode on the x-axis

Use the EBIT mode toggle to read the crossover in monetary terms. This is the standard presentation in finance reports: "The financial indifference point is ₹3,40,000 of EBIT – above this level, the proposed debt financing structure delivers superior EPS." Use Units mode when the audience thinks in volume terms (e.g., factory output, sales units).

## Combining both analyses

Because the two panels are linked, you can answer the combined question: "at what volume does our operating performance justify taking on debt?" Read the crossover units from the EBIT-EPS chart in Units mode, then compare it to the BEP and your base volume on the breakeven chart. If the crossover volume is below your BEP, the business needs to be profitable before leverage becomes beneficial – this is the most conservative position.

### Important – model assumptions

This tool models a single operating period. It assumes debt and equity are the only financing sources, the tax rate is constant, and the operating cost structure is the same under both financing structures. The EBIT-EPS analysis does not model bankruptcy costs, agency costs, or the dynamic adjustment of capital structure over time. For academic purposes these are standard simplifications consistent with the Modigliani-Miller framework.

full analysis and read all results on-screen; saving and exporting require an account.

FEATURE	FREE	TRIAL	PREMIUM
Live Analysis	✓ Unlimited	✓ Unlimited	✓ Unlimited
Export PDF	x Not available	✓ Unlimited	✓ Unlimited
Save Model	x Not available	Up to 3 models	✓ Unlimited
Load Saved Model	x Not available	✓ All saved models	✓ All saved models

## Exporting a PDF Report

Click **Export PDF** (in the Project Info panel at the top) after setting all parameters. The PDF is generated entirely in your browser in A4 landscape format and downloaded immediately. It contains:

### PARAMETERS BAR

A compact dark bar listing all inputs for both analyses: Volume, Price, Fixed Cost, Variable Cost, Tax Rate (Breakeven); Unlevered Equity, D/E Ratio, Cost of Debt, Share Price, Shares (EBIT-EPS). Fully self-contained.

### TWO CHARTS SIDE-BY-SIDE

The Breakeven chart and EBIT-EPS chart appear side by side across the full page width, each with their title. Both charts include their annotations (breakeven + marker, crossover dot, base volume line, EPS pills).

### KEY METRICS BANNER

A summary banner at the bottom of the page shows the headline results for both analyses: Breakeven Qty, Revenue, Margin of Safety; and EBIT at base volume, Annual Interest, EPS at base volume, Shares outstanding.

### HEADER & FOOTER

Project Title, Name, Roll Number, and Date (from the Project Info panel) appear in the header. The footer shows the footer text and "Page 1 / 1". Fill these in before exporting for a submission-ready document.

## Saving and Loading Models

A model is a snapshot of all inputs: all Breakeven base values (Volume, Price, Fixed Cost, Variable Cost), the Tax Rate, all EBIT-EPS values (Unlevered Equity, D/E Ratio, Cost of Debt, Share Price), and all project info fields. Saving lets you return to a scenario in any future session.

### 1 CLICK "SAVE MODEL"

The Save Model button is in the Project Info panel at the top of the page, visible once you are logged in with Trial or Premium.

### 2 ENTER A MODEL NAME (UP TO 10 CHARACTERS)

Examples: BasePlan, LB0Scen, Q4Price. Saving under an existing name prompts you to confirm overwrite.

### 3 LOAD FROM THE DROPDOWN ANYTIME

Select a saved model from the Load saved model dropdown. All base values and slider positions are restored instantly and both charts update immediately.

### Trial — up to 3 saved models

During a Trial, you can save up to three distinct models. Overwriting an existing model (saving under the same name) does not consume an additional slot. When the three-model limit is reached, overwrite an existing model or upgrade to Premium to save more.

### Premium — unlimited saves

Premium users can save as many models as needed. Useful for tracking multiple pricing scenarios, capital structure alternatives, or monthly breakeven snapshots as the business evolves.

## SECTION 11

# Glossary of Terms

TERM	DEFINITION	IN THIS TOOL
Breakeven Point (BEP)	The output level at which total revenue exactly equals total cost. No profit or loss. $\text{Fixed Cost} \div \text{Contribution Margin per unit}$ .	The + marker on the Breakeven chart. Shown as Breakeven Qty in the highlight box.
Contribution Margin (CM)	Selling price minus variable cost per unit. The amount each unit sold contributes toward fixed costs and profit.	Computed internally. Denominator of the BEP formula.
Fixed Cost (FC)	Costs that do not vary with output: rent, salaries, insurance. The y-intercept of the Total Cost line on the chart.	Fixed Cost slider. The horizontal teal dashed line on the Breakeven chart.
Variable Cost (VC)	Costs that change proportionally with output: materials, direct labour. $\text{Total VC} = \text{VC/Unit} \times \text{Volume}$ .	Variable Cost/Unit slider. The gold dashed line from the origin on the Breakeven chart.
Margin of Safety	$(\text{Volume} - \text{BEQ}) \div \text{Volume} \times 100\%$ . How much current sales can fall before the business reaches its breakeven point. A resilience metric.	Shown in the Breakeven highlight box.
EBIT	Earnings Before Interest and Tax. Operating profit independent of financing decisions. $\text{EBIT} = \text{Volume} \times \text{CM} - \text{Fixed Cost}$ .	The x-axis of the EBIT-EPS chart when EBIT Mode is selected. Feeds into EPS calculations.

EPS	Earnings Per Share. Net income (after interest and tax) divided by shares outstanding. The key metric in capital structure analysis.	The y-axis of the EBIT-EPS chart. Two lines: levered (teal solid) and unlevered (gold dashed).
Unlevered Equity (V <sub>U</sub> )	The total value of a firm financed entirely by equity – no debt. The baseline for comparing capital structures.	Unlevered Equity base input. Determines the size of the capital base.
Levered Equity (V <sub>E</sub> )	Equity value after adjusting for the tax shield of debt, per Modigliani-Miller: $V_E = V_U - Debt \times (1 - Tax)$ . Lower than V <sub>U</sub> when debt is present.	Computed internally. Shown as Shares Outstanding $\times$ Share Price.
Debt / Equity Ratio	The proportion of debt relative to unlevered equity in the proposed capital structure. In this tool, expressed as a percentage of unlevered equity value.	The D/E Ratio slider (0%-100%). Determines Debt = UE $\times$ D/E Ratio.
Cost of Debt (k <sub>d</sub> )	The annual interest rate paid on borrowed funds. Determines the fixed interest expense: Interest = Debt $\times$ k <sub>d</sub> .	Cost of Debt slider (5%-20%).
Interest Expense	Annual fixed payment to debt holders. Reduces EBIT to arrive at EBT (Earnings Before Tax). Tax-deductible – creates a tax shield.	Shown as Annual Interest in the EBIT-EPS highlight box. Debt $\times$ Cost of Debt.
Crossover EBIT	The EBIT level where levered EPS = unlevered EPS. The financial indifference point. Above this EBIT, debt financing is accretive to EPS.	The red dot on the EBIT-EPS chart with the "Crossover" pill annotation.
Financial Leverage	The use of debt (fixed-cost financing) to amplify returns to equity holders when EBIT is high. The Degree of Financial Leverage (DFL) = $EBIT \div (EBIT - Interest)$ .	Modelled by the steeper slope of the levered EPS line on the EBIT-EPS chart.
Operating Leverage	The sensitivity of EBIT to changes in revenue, driven by fixed costs. High fixed costs = high operating leverage = greater amplification of profit above BEP.	Visible as the angle between the Revenue and Total Cost lines on the Breakeven chart.
Tax Shield	The reduction in taxes owed due to a deductible expense. Debt creates an interest tax shield = Interest $\times$ Tax Rate, increasing the value of the levered firm.	Embedded in the Levered Equity formula: $V_E = V_U - Debt \times (1 - Tax)$ .
Modigliani-Miller (MM)	A foundational theory of capital structure. MM	The theoretical basis for the

with taxes states that leverage adds value via the interest tax shield. This tool uses the MM with taxes framework to compute levered equity and shares outstanding.

Levered Equity  
and Shares  
formulae.

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[← BACK TO BREAKEVEN & EBIT-EPS](#)

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