Forecasting Financial Statements

Lesson 10

KEY CONCEPTS

■ Financial Statements ■ Financial Forecasting ■ Budgeting ■ Balance Sheet ■ Profit & Loss A/c ■ Cash Flow Statements

Learning Objectives

To understand:

- The Financial Statements
- Financial Forecasting
- Importance of Financial Forecasting
- Financial Forecasting vs. Budgeting
- The Components and Factors for Financial Forecasting
- Forecasting of Profit & Loss A/c, Cash Flow Statement & Balance Sheet

Lesson Outline

INTRODUCTION

The financial health and performance of entities shall be a matter of great concern for every stakeholder especially for government, regulators and investors reason being the scale and degree of illegal and unethical corporate practices which traumatize the entire world's business. Corporate scandals and failures in several corporations like Enron, WorldCom, and Arthur Andersen and Satyam scam (often termed as 'India's Enron') that raises debates whether entities should issue or use new-fangled perspectives to measure firm performance to maximize shareholders' wealth. The measurement of the financial health of an entity with the help of financial statements provides a qualitative analysis of the entities' position along with how the entities have effectively employed its capital in production. Similar view has been found in the research of Bhunia et al. (2011) that quantitative financial performance analysis through reported results in financial statements would be an indication of effectiveness and efficiency of resources utilization by management. Financial analysis encompasses the use of quantitative information from financial statements in order to establish relationships of the items that are reported by the company according to the accounting standards. By doing this, the entity is able to evaluate "Heart of Business Entity". It gauges the financial health of a potential investment. It provides detailed information about Strength and weakness of entity, Quality of Profit, Quality of Incomes and Revenues to its stakeholders.

According to section 2(40) of Companies Act, 2013 defines "financial statement" in relation to a company, includes a balance sheet as at the end of the financial year, a profit and loss account, or in the case of a company carrying on any activity not for profit, an income and expenditure account for the financial year, cash flow statement for the financial year, a statement of changes in equity, if applicable; and any explanatory note annexed to, or forming part of, any document.

However, every action or inaction of entities / corporate is perceptible from financial statements. Hence, it got practical reliance since Kautilya's time Arthashastra which was written about 2400 years ago. In reality, there has been immense pressure on management to consistently report promising and favorable results of entities which does not reflect economic reality. Similar view has been found in research of Kneer, Reckers & Jennings (1996) that entities have to report flattering results due to management pressure and further suggested that rosy picture of financial statements mostly keep shareholders satisfied with smooth income flows and consistent growth. Albrecht, Wernz & Williams (1995) opined strong financial pressure acted as typical incentives for management fraud and perceiving opportunity to commit and conceal a fraud.

FINANCIAL STATEMENTS

According to section 2(40) of Companies Act, 2013 defines "financial statement" in relation to a company, includes

- a Balance Sheet as at the end of the financial year,
- a Profit and Loss account, or (In the case of a company carrying on any activity not for profit, an income and expenditure account for the financial year),
- Cash Flow Statement for the financial year,
- a Statement of Changes in Equity, if applicable, and
- any explanatory note annexed to, or forming part of, any document.

Financial Statements shall be considered as horoscope if one knows how to read and analyze it then probably by addressing the various early warning signal available in statements would have helped to great extent. The financial statement analysis investigates past, present and future financial, capital and income situation of entities based on information from various detailed components provided through financial statements. It also helps to depict and to interpret the financial situations and developments. The accounting financial

statements are considered as an open source of information as per legislation and their composition, disclosure and presentation structure would be unified by basic parameters. In fact, it provides basis for decision making and reflect the cumulative effects of all management's past decisions for different stakeholders. In nutshell, the purpose of financial statement is to facilitate the possibility of Multiple-Criteria Decision Analysis and to evaluate the effectiveness of the performance of entities.

Korableva and Kalimullina (2014) have observed in their research that timely and high-quality financial statements provide a universal picture of a legal entity's performance, effectiveness, financial stability and health. In fact, it diagnoses the causes of deviations from the previously established indicators and expose the idle resources of production. The essence of financial statements' analysis from the position of a user is to assess and evaluate most significant characteristics of entities which testify, in particular, about its success or the risk of bankruptcy. The analysis of financial statements depends on a specific goal for different users subject to the scale of its implementation and hence the analysis and direction of work can be different and useful for different interested stakeholders. Before we understand and learn about financial forecasting, it is very important to understand following terminologies in order to avoid confusions and ambiguities:

Forecast	A probable event where in the business is likely headed (Estimate of what is likely to happen.)
Budget	Future financial target or goals, which may or may not be equal to the forecast.
Projection	A blueprint of forward-looking business options in answer to "What would happen if". (Scenario: What -if)
Pro Forma	The effects of a future transaction on past financial statements.

FINANCIAL FORECASTING: MEANING AND INTRODUCTION

Financial Forecasting is a process of estimating or predicting a company's financial future by examining historical performance of data like revenue, cash flow, expenses, or sales. It is at the heart of driving business performance and stakeholder's confidence. Financial projections performed to facilitate any decision-making relevant for determining future business performance. It is emphasized on concept of "Today's Commitment for Tomorrow's actions". It basically includes the analysis of past business performance, current business trends, and other relevant factors. In fact, Business honchos who adopt and maintain financial forecasting best practices are better positioned to grow and to weather unexpected setbacks. Moreover, a financial plan that estimates the projected income and projected expenses of a business, and a solid financial forecast contains both macroeconomic factors and conditions that are specific to the organization. A thorough forecast includes but is not limited to short and long-term outlooks on conditions that could impact revenues and contingencies for expenditures not currently viewed as necessary.

Importance of Financial Forecasting

Financial forecasts are a crucial part of business planning, budgeting, operations, funding that help leaders and outside stakeholders make better choices. Few important points have been pointed:

- It serves as the basis for budgeting decisions.
- It gives businesses access to cohesive reports, allowing finance departments to establish business goals that are both realistic and feasible.
- It provides management valuable insights into the way the business performed in the past and the way it will compare in the future.

- It provides a barometer for those making material financial decisions.
- It facilities to build investor relations and Show investors and creditors that your corporate has well and structured plan and is prepared for any unforeseen events impacting revenues and budgets.
- It provides customizable approach based on the core set of foundational components.
- To make accurate budget and facilitates to establish realistic business goals.
- With the help of accurate financial forecasting, problem areas can easily be traced out and company with remedial action plan can reduce the financial risk.
- Many times, accurate and authenticate financial forecast reflecting higher Return on Investment and that helps to build and enhance the investor's confidence.

Financial Forecasting vs. Budgeting

Based on research and expert arguments, a concrete financial plan is built on both forecasting and sound spending guidance. It is important to note that the terms "financial forecasting" and "budgeting" are separate process and can't be used interchangeably. Financial forecasting is a critical first step in the budgeting process. Organizations that work hard to create reliable financial forecasts are more likely to build realistic budgets. Financial forecasting should always precede the budgeting process to ensure spending is in line with factors that can impact overall financial performance. Those who create budgets without financial forecasts are at risk of overspending and not having enough available cash for unexpected costs or shortfalls in revenue. Lacking a forecast may also keep the business from greenlighting a new capital investment or launching a product that may have ended up being a growth driver.

Basis	***Forecast***	***Budget***
Meaning	Mere estimate of what is likely to happen.	Shows that policy and program to be followed in future period under planned conditions
Nature of Event	Probable	Proposed
Tool of control	No	Yes
Base	It's a preliminary step or base for budgeting	Forecasts are converted into budget
Hierarchy	It ends with forecast of likely events	It begins when forecasting ends.
Scope	Wider	Limited

Financial Forecasting Vs Financial Projection

Financial forecast is a statement of management's expectations which is based on what top management reasonably expects will happen to and in the company and the expected financial impacts. This is the information that is published by publicly traded companies for stakeholders and the general public's review. While on the other hand, a financial projection essentially projects the likely outcome of one or more hypothetical scenarios or assumptions. It is a tool used to explore business and market scenarios and predict outcomes before adjusting the company's plans. A financial projection is a snapshot of a possible business outcome that is often weighed in terms of probability.

In nut shell, both financial forecasts and financial projections are forward-looking statements and predict future outcomes based on specific assumptions. But it is important to understand demarcation line of difference between them:

Financial forecasts reveal what is likely to happen based on expected events and business conditions (i.e. Financial forecasts are ***what management expects to happen***.)

Financial projections are ***what might happen in any number of hypothetical scenarios***. For example, keeping in the mind of current market conditions, and seasonal trends, the management of a wholesaler expects sales to increase by 7% over the next quarter. Therefore, a 7% sales increase is his financial forecast for the period. Whereas, company wants to make more profit than that, so he aims for an 10% sales increase. Therefore, his budget calls for an 10% sales increase. The management still expects the company to achieve only 7%, but he hopes for 10%, so he budgets accordingly and aims the sales team at that number. But rather than just crack a whip over the sales team, the Management runs several financial projections to find a way to improve their odds of reaching an 8% or larger sales increase.

FINANCIAL FORECASTING COMPONENTS AND FACTORS

Following components and factors should be considered and incorporated for financial forecasting:

- **Define the purpose of financial forecasting**
- **Collection of historical data and accuracy of data sources**
- **A forward-looking time horizon (12-18-24 Month span)**
- **Formulas to determine how much weight to give any piece of data**
- **Consideration of an Internal and Macro-economic risk**
- **Best/Worst case (Revenue and Expenses) scenarios**
- **Selection of financial forecast method**
- **Documentation/Monitoring/Analysis of data**

FINANCIAL STATEMENT FORECASTING

A common type of forecasting in financial accounting is based on pro forma statements. It focuses on a business's future reports which are highly dependent on assumptions made during preparation, such as expected market conditions. Because the term "pro forma" refers to projections or forecasts, pro-forma statements apply to any financial document incorporating Statement of P&L, Balance sheet and Cash flow statements. Various methods are used for forecasting financial statements. Basically there are two methods namely Quantitative methods and Qualitative methods. Quantitative forecasting methods are used to make assumptions about the future based on historical data. Whereas, Qualitative forecasting relies on experts' knowledge and experience to predict performance rather than historical numerical data. These forecasting methods are often called into question, as they're more subjective than quantitative methods and they can provide valuable insight into

forecasts and account for factors that can't be predicted using historical data. Both the methods are discussed below:

(1) Based on Revenue (% of Turnover)

As per this method, items like costs of goods sold (COGS), Stock and cash are calculated as a percentage of sales. Those percentages are then applied to future sales estimates to project each line item's future value. For example, COGS is likely to increase proportionally with turnover; therefore, it's to apply the same % estimate to each. To forecast the percent of sales, examine the percentage of each account's historical profits related to sales. To calculate this, divide each account by its sales, assuming the numbers will remain steady. For example, if COGS has historically been 30% of sales, assume that trend will continue.

(2) Moving Average Method

It is categorized into two parts namely, **The average or Weighted average** of previous periods to forecast the future. It is closely scrutinizing a business's high or low demands. Hence, it is more suitable for short-term forecasting. For example, you can use it to forecast next month's sales by averaging the previous quarter. Using weighted averages to incorporate current periods can increase the accuracy of moving average forecasts. For Moving Average:

P1+P2+P3.../N

P = Average for a period

N = Total number of periods

(3) Constant Growth Rate

It assumes a company's historical growth rate will remain constant. Forecasting future revenue involves multiplying a company's previous year's revenue by its growth rate. Say, if Growth rate was 12% in 2021-22 (i.e. P.Y), then, Constant rate @12% forecasting for 2022-23 (Next year) shall be considered as it excludes market fluctuations or supply chain issues.

(4) Regression Method

This method is based on a relationship between two variables: dependent and independent. The dependent variable represents the forecasted amount, while the independent variable is the factor that influences the dependent variable. E.g. Advertisement expense (Independent Variable) and Sales (Dependent). It means change in advertisement expense would lead to change in sales. It is based on equation:

$$Y = BX + A$$

Y= Dependent variable (Forecasted number)

B = Slope line

X = Independent variable

A = Y-intercept

(5) Delphi Method

The Delphi method i.e. Estimate-Talk-Estimate Technique (ETE) is a systematic and qualitative method of forecasting by collecting opinions from a group of financial experts through several rounds of questions. The Delphi method relies on experts who are knowledgeable about a specific area so they can forecast the outcome of future scenarios, predict the likelihood of an event, or reach consensus about a particular

topic. The financial experts then fill out another questionnaire that gives them the opportunity to provide updated opinions based on what they understand from the summary report. It is one of most important qualitative method.

FORECASTING OF PROFIT & LOSS (PROFITABILITY PROJECTIONS)

Typically, the starting point for Profit & Loss forecasting is to forecast of sales revenue. Moreover, the sales production is closely interrelated. Hence they should be estimated together. Few points should be considered while projection of profitability:

- It is advisable not to assume full Capacity utilization in the beginning year of operation. It means capacity utilization should be low in beginning years and rise gradually to reach the maximum level.
- It may be assumed that sales and production would be equal. Hence, adjustments towards finish goods stock is not required.
- Revenue shall be considered net of excise duty.
- So far as, the cost of production is concerned, the requirements of material per unit of output shall be considered and prices of are defined in Cost, Insurance and Freight (CIF) terms.
- Inflation factor shall be ignored and present cost of material shall be considered.
- Seasonal fluctuations in prices must be considered while estimation.

Following statement may be used for Profitability Projections :

Particulars	***Amount Rs***
Revenue (Sales)	***
Less: Variable Cost	***
Contribution	***
Less: Fixed Cost ● Depreciation ● Other	***
EBIT	***
Less: Interest	***
EBT	***
Less: Tax	***
EAT (PAT) [Profit for the Year]	***

Case: 1

You are the Company Secretary of DP ltd and assigned task of profitability projections of difference scenarios based on historical data provided: (Rs in Cr.)

Revenue (Sales)	200
Variable cost (60% of Sales)	120
Fixed Cost (others)	20
Depreciation	25
Taxes	10
Cash flow from operation	50
Net Cash flow	50

Company is forecasting that sales will be increased by 37.5% approximately keeping in the mind of Market forces whereas, the variable cost will be forecasted at 56% of sales. Company is in the anticipation of having fixed cost of Rs.15 cr. On the other side (i.e.) on worst situation, Company is forecasting the that sales will be curb by 25% approximately keeping in the mind of Market forces whereas, the variable cost will be forecasted at 65% of sales. Company is in the anticipation of having fixed cost of Rs. 25 cr. It is forecasted that depreciation remains unchanged in case of any scenario and tax rate shall be applicable at 28.57%.

Solution:

Statement showing Profitability Projection (Rs in Cr.)

Particulars	***Historical Data***	***Optimistic Scenario***	***Pessimistic Scenario***
Sales	200	275 (200+37.5%)	150 (200-25%)
Less: Variable cost	(120) (60% of sales)	(154) (56% of 275)	(97.5) (65% of 150)
Contribution	80	121	52.5
Less: Fixed Cost			
• Other	(20)	(15)	(25)
• Depreciation	(25)	(25)	(25)
EBIT/EBT	35	81	2.5
Less: Tax (28.57%)	(10)	(23.14)	(0.71)
EAT	25	57.86	1.79

So, it can be seen from the above forecasting that, in case of optimistic scenario, company may earn profit Rs. 57.86 crores (i.e. increase in profitability 131% approx) against the historical data. While, profitability will be lower projected in worst situation i.e. around Rs. 1.79 cr. (i.e., Decrease in profitability 93% approx as

FORECASTING OF CASH FLOW STATEMENT

It is a statement of change in Cash and cash equivalents. Statement covers three activities namely Net Cash from Operating Activities, Net Cash from Investing Activities, and Net Cash from Financing Activities. Basically, Cash Flows are Inflows and Outflows of cash and cash equivalents. It is normally prepared and presented for each period for which financial statements are presented. Cash Flow arises when the net effect of transaction is either increase or decrease the amount of cash and cash equivalents. Let's understand different activities briefly:

(1) Operating Activities:

So far as operating activities is concerned, they are the principal revenue producing activities of business and generally result from the transactions and other event that enter into the determination of net profit or loss. It reflects Company's ability to generate adequate operating cash flow helps in gaining confidence of the external parties like lenders and investors. Company with high surplus cash flow from operation has high market capitalization and which indicates quality of earnings.

Net Profit Vs Cash from Operating Activities

Points	*Net Profit*	*Cash from Operating Activities*
Meaning	It indicates net result of operating and non-operating activities carried out during accounting year.	It indicates cash flow as result of operating activities.
Non-Cash Items	It is computed after taking into consideration the effect of Non-cash items.	It is computed excluding the effect of Non-cash items as it is merely book entries.

Note:

- It's not profit that repays loan; it is the cash that repays loan.
- Non-cash items (shown as foot note) include
- . Depreciation
  - ii. Issue of shares/dentures for consideration other than cash
  - iii. Conversion of debentures into equity shares
  - iv. Purchase of business by issue of shares

(2) Investing Activities:

It basically deals with Proceeds from sale/disposal of Non-Current Assets (whether Tangible/Intangible/ Depreciable/Non-Depreciable) and Non-Operating incomes from investments shall be added such as :

i. Dividend received on shares held as investment

ii. Interest received on debentures held as investment

iii. Rent received from property held as investment

Lenders will be able to know where company has deployed the cash. Whether company has acquired assets related to business, purchased machinery or made investment outside business. If company keeps investing in the CAPEX that indicates the company is focused on capacity building for future growth. If company keeps investing in financial assets like shares, debentures etc would indicate that management is not very much focused on expansion.

(3) Financing Activities:

It demonstrates the nature of capital structure of entity and reflects the picture of borrowers financing policy. As a lender, it is inevitable to match dividend pay-out with operating cash flow. Amount of dividend should not exceed the operating cash flow.

Following statement may be used for Cash Flow Forecasting :

Particulars	***Amount Rs***
Net Cash From Operating Activities [A]	***
Net Cash From Investing Activities [B]	***
Net Cash From Financing Activities [C]	***
Total A+B+C	***
Add: Opening balance of Cash and Cash Equivalents	***
Closing balance of Cash and Cash Equivalents	***

Following Points to be considered while preparing cash flow projections

- It's not profit that repays loan; it is the cash that repays loan.
- It is important to disassociate the cash position from the profit of business entity.
- Timing of revenue recognition and expenses don't match with timing of cash inflow and outflow.
- Banks should shift to cash flow-based lending from traditional assets-based lending.
- If company is not doing well, sales and net profit may increase due to window dressing of account but quality of earning (i.e., operating cash flow) may decline.
- If Net operating cash flow shows consistently declining trend over the period of 3-5 years, it's an indication of incipient sickness.
- If company keeps investing in the CAPEX that indicates the company is focused on capacity building for future growth.
- If company keeps investing in financial assets like shares, debentures etc would indicate that management is not very much focused on expansion.
- As a lender, it is inevitable to match dividend pay-out with operating cash flow.
- Amount of dividend should not exceed the operating cash flow.

Case:2

Following is the balance sheet of XL ltd at the end of 2022 is as follows and you are required to forecast Cash flow for 2023. (Rs. in cr.)

Liabilities	***Amount Rs***	***Assets***	***Amount Rs***
Share Capital	100	Fixed Assets	180
Reserves and Surplus	20	Current Assets:	
Secured Loans	80	Cash	20

Unsecured Loans	50	Trade Receivables	80
Current liabilities	90	Inventories	80
Provisions	20		
Total	**360**	**Total**	**360**

The projected Profit & Loss for the year 2023 is given below:

Revenue from operation	400
Cost of Goods Sold	300
Depreciation	20
Profit Before Interest and taxes	80
Interest	20
PBT	60
Tax	30
PAT	30
Dividend	10
Retained Earnings	20

During the year 2023, company has forecasted to raise secured term loan of Rs. 20 crore and repay of previous term loan to the extent of Rs. 5 crore and increase unsecured loan by Rs. 10 crore. It is forecasted that current liabilities and provisions remains unchanged. While, company is planning to buy fixed assets worth Rs. 30 crore and increase the inventories and receivables by Rs. 10 crore and Rs. 15 crore respectively. Company is in the projection of paying dividend of Rs. 10 crore. Assuming other asset would remain unchanged except cash.

Solution:

Statement showing forecasted Cash Flow

Particulars	***Amount (Rs.)***
Profit before Interest and Taxes	80
Add: Depreciation	20
Operating Profit before Working Capital Changes	100
Less:	
• Increase in Inventories	(10)
• Increase in receivables	(15)

Cash Generated from Operation	75
Less: Tax	(30)
Net Cash Flow from Operating Activities [A]	**45**
Increase in Fixed Assets (CAPEX)	(30)
Net Cash flow from Investing Activities [B]	**(30)**
Increase in Secured Loan (20-5)	15
Increase in Unsecured Loan	10
Interest	(20)
Dividend	(10)
Net Cash flow from Financing Activities [C]	**(5)**
A+B+C	**10**
Add: Opening balance of Cash and Equivalents (Refer Balance sheet)	20
Closing balance of Cash and Equivalents	**30**

FORECASTING OF BALANCE SHEET

The balance sheet, showing the balances in various assets, equity and liabilities of corporates and which reflects the financial conditions of firms at given point of time. The forecasted balance sheet may be prepared based on following format.

Particulars	***Note No.***	***Figures for Historical data***	***Figures for forecasted data***
I. EQUITY AND LIABILITIES			
1. Shareholders Fund a. Share capital b. Reserves and Surplus (e.g., Debit balance of P&L as negative figure) c. Money received against share warrants **2. Share application Money Pending Allotment** **3. Non-Current Liabilities** a. Long term borrowings b. Deferred Tax Liabilities c. Other Long-term liabilities d. Long term Provisions			

4. Current Liabilities a. Short term Borrowings b. Trade payables c. Other Current Liabilities d. Short term Provisions			
Total			
II. ASSETS			
(1) Non-Current Assets a. Fixed Assets i. Tangible assets ii. Intangible assets iii. Capital Work in progress iv. Intangible assets under Developments b. Non-current Investments c. Deferred Tax Assets (Net) d. Long term loans and Advances e. Other Non-current Assets **(2) Current Assets** a. Current Investments b. Inventories c. Trade Receivables d. Cash and Cash Equivalents e. Short term loans and advances f. Other Current Assets			
Total			

Case:3

Following is the balance sheet of Wye ltd at the end of 2022 is as follows and you are required to forecast Cash flow for 2023. (Rs in cr.)

Liabilities	***Amount Rs***	***Assets***	***Amount Rs***
Share Capital	100	Fixed Assets	180
Reserves and Surplus	20	Current Assets:	
Secured Loans	80	Cash	20
Unsecured Loans	50	Trade Receivables	80

Unsecured Loans	50	Trade Receivables	80
Current liabilities	90	Inventories	80
Provisions	20		
Total	**360**	**Total**	**360**

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During the year 2023, company has forecasted to raise secured term loan of Rs. 20 crore and repay of previous term loan to the extent of Rs. 5 crore and increase unsecured loan by Rs. 10 core. It is forecasted that current liabilities and provisions remains unchanged. While, company is planning to buy fixed assets worth Rs. 30 crore and increase the inventories and receivables by Rs. 10 crore and Rs.15 crore respectively. Company is in the projection of paying dividend of Rs. 10 crore. Assuming other assets would remain unchanged except cash.

Solution:

Statement showing forecasted Balance Sheet

Equity and Liabilities	***Note***	***Historical (Rs. in core)***	***Forecasted (Rs. in core)***	
Shareholders Fund:			***Changes***	***Rs***
Share Capital		100	-	100
Reserves and Surplus		20	20 (Retained Earning)	40
Non-Current Liabilities				
Secured Loans		80	+20 (Addition) -5 (Repayment)	95
Unsecured Loans		50	+10 (Addition)	60
Current Liabilities		90	-	90

Provisions		20		20
Total				**405**
Assets				
Non-Current Assets:				
Fixed Assets		180	+30 (CAPEX) -20 (Depreciation)	190
Current Assets:				
Cash		20		**30** (Balancing Amount)
Inventories		80	+10 (Increase)	90
Trade Receivables		80	+15 (Increase)	95
Total				**405**

Cash Flow Projections

Points to be considered:		
Estimation of Cash Flow	● Cash outflow (Cash outlay) ● Cash Inflow	
Cash Outflow	● Estimated by Engineering & Product Development	
Revenue Projection	● Estimated by Marketing Group	
Operating Cost	● Estimated by Production people, CMA, Purchase Managers, Personnel executives, tax payers and others	
Overall coordination	● By Finance Managers	
Cash flow stream	Initial Investment	● After tax Cash outlay on **CAPEX & NWC** (At the time of Set up of Project)
	Operating Cash inflows	● After tax cash inflow from **operation of project** *during economic life*.
	Terminal Cash inflows	● After tax cash inflow from **Liquidation of project** *at the end of economic life*.
Time horizon of cash flow analysis	1. Physical life of plant 2. Technological life of plant 3. Product Market Life of plant 4. Investment planning horizon of the firm	
Best Measurement Criteria (Cash flow)	● Profit cannot be spent ● Profit is subjective and Judgment based	

Factors focusing cash flow	• Depreciation • Change in Working capital • Deferred tax • Capitalization of R&D Expenses • Opportunity costs
List of Relevant cash flows for decision making	• Cost of New Plant/Machine • Scrap Value (Salvage/Residual Value) of old/New Plant/Machine • Working Capital • Cost reduction/Saving • Tax liability/Benefits
List of Irrelevant cash flows:	• Sunk Cost • Allocated overheads • Committed cost (Fixed Cost) • Non-cash items (Depreciation)

Note:

Particulars	***Free Cash Flow to Firm (FCFF)***		***Free Cash Flow to Equity (FCFE)***	
Meaning	Cash Flow available to both equity and debt holders		Cash Flow available to common equity shares holders	
Leverage	Excludes (i.e. unlevered Cash Flow)		Includes	
Application	To compute Enterprise Value		To compute Equity Value	
Risk Factor	WACOC (i.e. Ko)		Ke	
Formula	Profit after Tax 'PAT'	**	Profit after Tax 'PAT'	**
	Add: Depreciation and NC*	**	*Add:* Depreciation and NC*	**
	Cash Flow After Tax	**	**Cash Flow After Tax**	**
			Less: Preference Dividend	
	Less: Change in Working Capital	**	*Less:* Change in Working Capital	**
	Less: Change in investment[$]	**	*Less:* CAPEX	**
	FCFF	**	*Less:* Repayment of Debt/Pref.	**
	OR		*Add:* Proceeds from Debt/Pref.	
	Cash Flow from operation	**	*Add:* New debt issue	
	Add: Interest*(1-t)	**	**FCFE**	**
	Less: CAPEX	**		
	FCFF	**		
	[$] investment includes total debt and preference share capital also. *NC – Non-cash charges			

<table>
<tr><th colspan="2">Basic Principles and Biases of Cash flow Estimation</th></tr>
<tr><td>Separation Principle</td><td>● Cash flow associated with Investment side and financing side should be separated.
● Focus on Net Operating Profit After Tax [i.e. PAT + Interest(1-t)]</td></tr>
<tr><td>Incremental Principle</td><td>● Focus on Cash flow for firm with project less without project.</td></tr>
<tr><td rowspan="4">Post Tax Principles</td><td>● Cash flow should be measured on “After Tax Basis”.
● Important issues:
1. What tax rate should be used to assess tax liability?
2. How to treat losses?
3. What is the effect of non-cash charges?</td></tr>
<tr><td>[1] What tax rate should be used to assess tax liability?
● Use Marginal Rate of tax instead of Average Rate of Tax</td></tr>
<tr><td>[2] How to treat losses?
<table>
<tr><th>Alt</th><th>Project</th><th>Firm</th><th>Action</th></tr>
<tr><td>1</td><td>Loss</td><td>Loss</td><td>Defer Tax Saving</td></tr>
<tr><td>2</td><td>Loss</td><td>Profit</td><td>Take tax saving in yr of loss</td></tr>
<tr><td>3</td><td>Profit</td><td>Loss</td><td>Defer taxes until firm makes profit</td></tr>
<tr><td>4</td><td>Profit</td><td>Profit</td><td>Consider tax in yr of profit</td></tr>
<tr><td>Stand alone</td><td>Loss</td><td>-</td><td>Defer tax saving until project makes profit</td></tr>
</table></td></tr>
<tr><td>[3] What is the effect of non-cash charges?
Examples:
i. Depreciation
ii. Issue of shares/dentures for consideration other than cash
iii. Conversion of debentures into equity shares
iv. Purchase of business by issue of shares
v. Deferred Tax Charge (or Benefit) and MAT Credit entitlement.
Note: Tax benefit of depreciation (Depreciation*Marginal Tax Rate)</td></tr>
<tr><td>Deferred Tax Liability or Assets:
● There is a difference between taxable income (As per Income Tax Regulations) and Accounting Profit (As per GAAP)
● Difference may be permanent or temporary
● Permanent Difference (i.e. Some income is exempted but included in accounting profit)
● Temporary Difference (Timing Difference)</td></tr>
</table>

	➢ Depreciation charged as per WDV for taxable income but as per SLM for accounting profit. ➢ Differences are found on year to year but total depreciation charges over the life of asset would be same under both the methods. ● When Deferred Tax Liability or Assets arises? Because of temporary difference between taxable income and accounting profit. Deferred Tax Liability (Assets) is recognized when charge in the financial statements is less (More) than the amount allowed for the tax purpose.
Consistency Principle	● Cash flow and discount rates applied to these cash flows must be in consistent with respect to investor group and inflation. ● Free Cash Flow to Firm ● Free Cash Flow to Equity ● Incorporate the expected inflation in the estimates of future cash flow and apply nominal discount rate (NDR). ● NDR=[(1+RDR) *(1+EIR)]-1 Where, RDR=Real Discount Rate EIR = Expected Inflation Rate
Biases in Cash Flow Estimation	Because of the nature of cash flow estimation, it deals with future and errors in estimation are bound to occur. Hence, critical importance of forecasting of cash flow is given and adequate care should be given to guard against certain biases which may lead to overstatement or understatement of profitability and don't reflect true and fair view of corporate performance. Overstatement of profitability in terms of executives faulty planning, over optimism which mainly deals with cognitive bias and organizational pressure. Whereas Understatement of profitability deals with under estimation of salvage value, ignorance of intangible benefits and sometimes value of future options will be overlooked.

Case:4

Y Ltd recently reported the following income Statement Rs in Cr.

Sales	700
Operating Cost	500
EBIT	200
Interest	40
EBT	160
Taxes@40%	64

EAT (Net Income)	96
Dividend	32
Retained Earnings	64

This year company is forecasting 25% increase in sales and it expects that its year end operating cost will be around 70% of sales. It is expected that tax rate, interest and dividend pay-out ratio will be constant. You are required to compute projected Net Income and expected growth rate in dividend.

Solution:

Statement showing Projected Profit & Loss

Particulars	**Amount (Rs in cr.)**
Sales (700+25%)	875
Less: Operating Cost (70% of 875)	612.5
EBIT	262.5
Less: Interest	40
EBT	222.5
Less: Tax @40%	89
EAT (Net Income)	133.5
Dividend (33.33% *133.5)	44.50

Note: 1

Dividend Pay-out Ratio (Existing Year) = [Dividend/Net Income] *100

= [32/96] *100 = 33.33%

Note: 2 Expected Growth in Dividend

= [(44.5-32)/32] *100

= 39.06%

Case: 5

At the end of last year, X ltd reported the following income statement (Rs in Cr.)

Sales	3000
Operating Cost excluding depreciation	2450
EBITDA	550
Depreciation	250
EBIT	300
Interest	125

EBT	175
Taxes @40%	70
EAT (Net Income)	105

Looking ahead to the following year, the company management has assembled the following information.

- Year-end sales are expected to be 10% higher than last year.
- Year-end Operating Cost excluding depreciation are expected to equal 80% of year-end sales.
- Depreciation is expected to increase at the same rate as sales.
- Interest costs are expected to remain unchanged.
- Interest costs are expected to remain unchanged.
- Tax rate is expected to remain at 40%.

Based on the above information, what will be the forecast for year-end net income?

Solution:

Statement showing Projected Profit & Loss (Rs in cr.)

Sales (3000+10%)	3300
Less: Operating Cost (80% of 3300)	2640
EBITDA	660
Less: Depreciation (250+10%)	(275)
EBIT	385
Less: Interest	(125)
EBT	260
Less: Tax @40%	(104)
EAT (Net Income)	**156**

Practice Case: 6

X ltd recently reported the following 2022 income statement (Rs in cr.)

Sales	1528
Operating Cost	933
EBIT	595
Interest	95
EBT	500
Taxes@40%	200
EAT (Net Income)	300
Dividend (25%)	75
Retained Earnings	225

This year company is forecasting 20% increase in sales and it expects that its year end operating cost will be around 60% of sales. It is expected that tax rate, interest and dividend pay-out ratio will be constant. You are required to compute projected Net Income and expected growth rate in dividend.

[Answer: 383.06, 27.69%]

LESSON ROUND-UP

- According to section 2(40) of Companies Act, 2013 defines "financial statement" in relation to a company, includes
  a. a Balance Sheet as at the end of the financial year,
  b. a Profit and Loss account, or (In the case of a company carrying on any activity not for profit, an income and expenditure account for the financial year)
  c. Cash Flow Statement for the financial year,
  d. a Statement of Changes in Equity, if applicable; and
  e. Any explanatory note annexed to, or forming part of, any document.
- Forecast: A probable event where in the business is likely headed (Estimate of what is likely to happen.)
- Importance of Forecasting
- Financial Forecasting vs Budgeting
- Financial Forecasting Components and Factors
  a. Based on Revenue
  b. Moving Average Method
  c. Constant Growth Rate
  d. Regression Method
  e. Delphi Method

TEST YOURSELF

(These are meant for re-capitulation only. Answers to these questions are not to be submitted for evaluation)

Descriptive Questions

1. What is Financial Forecasting? Explain its Importance.
2. Difference between Financial Forecasting vs budgeting.
3. What are the Components and Factors of Financial Forecasting?
4. Methods of Financial Forecasting? Explain with example.

Practical Question

1. You are the Company Secretary of DP ltd and assigned task of profitability projections of difference scenarios based on historical data provided: (Rs in Cr.)

Revenue (Sales)	200
Variable cost (60% of Sales)	120

Fixed Cost (others)	20
Depreciation	25
Taxes	10
Cash flow from operation	50
Net Cash flow	50

Company is forecasting that sales will be increased by 37.5% approximately keeping in the mind of Market forces whereas, the variable cost will be forecasted at 56% of sales. Company is in the anticipation of having fixed cost of Rs.15 cr. On the other side (i.e.) on worst situation, Company is forecasting the that sales will be curb by 25% approximately keeping in the mind of Market forces whereas, the variable cost will be forecasted at 65% of sales. Company is in the anticipation of having fixed cost of Rs. 25 cr. It is forecasted that depreciation remains unchanged in case of any scenario and tax rate shall be applicable at 28.57%.

2. Following is the balance sheet of XL ltd at the end of 2022 is as follows and you are required to forecast Cash flow for 2023. (Rs in cr.)

Liabilities	***Amount Rs***	***Assets***	***Amount Rs***
Share Capital	100	Fixed Assets	180
Reserves and Surplus	20	Current Assets:	
Secured Loans	80	Cash	20
Unsecured Loans	50	Trade Receivables	80
Current liabilities	90	Inventories	80
Provisions	20		
Total	360	Total	360

The projected Profit & Loss for the year 2023 is given below:

Revenue from operation	400
Cost of Goods Sold	300
Depreciation	20
Profit Before Interest and taxes	80
Interest	20
PBT	60
Tax	30
PAT	30
Dividend	10
Retained Earnings	20

During the year 2023, company has forecasted to raise secured term loan of Rs. 20 crore and repay of previous term loan to the extent of Rs. 5 crore and increase unsecured loan by Rs. 10 crore. It is forecasted that current liabilities and provisions remains unchanged. While, company is planning to buy fixed assets worth Rs. 30 crore and increase the inventories and receivables by Rs. 10 crore and Rs. 15 crore respectively. Company is in the projection of paying dividend of Rs. 10 crore. Assuming other asset would remain unchanged except cash.