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Financial Forecasting

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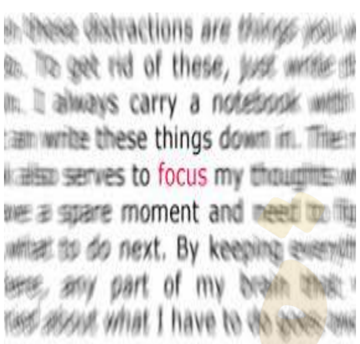
Code of ethics



Chapter 4
Financial Forecasting &Planning

- **Financial Forecasting** (i.e. Percent of Sales Method)
- **Financial Planning** (i.e. cash budget)

Learning Objectives

After going through this chapter, you should be able to:

1. Use the **percent of sales method** to construct Pro Forma financial statements.
2. Determine financial needs for a firm on the short term as well as intermediate terms.
3. Prepare **cash budget** and to use it to evaluate the cash demand in the future.

What is Financial Forecasting?

- **Future projection** of **revenues and costs**
- Determine the **funds needed** to finance future operations (i.e. to buy assets)
- To achieve financial goals (e.g. for the next 5 years)
- Use **Financial Statement** to forecast

What is Financial Forecasting?

Reasons:

- ❑**To estimate funds** (i.e. additional fund needed) for future operations
- ❑**To estimate firm's cash standing** (i.e. cash management)
- ❑To compare actual performance data against forecasted data
- ❑Developing contingency plans

How to Forecast & Planning?

Financial forecasting
(i.e. Percent to Sales)
Pro – forma Balance Sheet and Income Statement

Financial planning
Cash budget

Funds Forecasting

Percent of Sales Method

- To estimate **additional funds needed** (i.e. changes in assets, liabilities & equities) to support an **increase in sales**

- Funds are from **Internal Sources** (i.e. Retained Earnings and Current Liabilities) or from **External Sources** (i.e. Debt & Stock)

$$AFN = Asset_P - (Liability_P + Equity_P)$$

Funds Forecasting

Pro-forma Balance Sheet

- To estimate **Increase in Assets** due to **increase in sales**
- To estimates **Additional Fund Needed** (i.e. Internal or External)

Pro-forma Income Statement

- To estimate the **Changes of Sales**
- Determine the forecasted **Net Profit**
- To use **assumptions** given

Financial Forecasting

Refers to the process of predicting or estimating future stats of an organization i.e. how business will perform in the future based on historical data like by analyzing the income statement, position statement, current conditions, past trends of the financial, future internal and external environment which is usually undertaken with the objective of preparing and developing budget and allocating available resources to ensure best possible utilization.

Importance of Financial Forecasting

- New Business Promotion.
- Seamless Functioning.
- Estimating Financial Requirements.
- Control Cash Flow.
- Achieve Overall Success.

The main types or levels of forecasting

- **General economic forecast.**
- **Forecasting at the industry level.**
- **Company-wide forecasting.**
- **Forecasting balances after making a sales forecast.**

Methods of forecasting sales

The use of a particular method of forecasting sales depends on:

- The characteristics of the market of the good or service,
- The period covered by the forecast,
- and the purpose of the forecast.

In general, the forecasting process passes through seven main steps:

1. Determine the purpose of using the forecast.
2. Divide the firm's products into homogeneous groups, and the purpose is that over time, different products have different demand models.
3. Determine the most important factors affecting the demand for the products of each group and determine the relative importance of those factors.

In general, the forecasting process passes through seven main steps: (Cont.)

4. Choosing the most appropriate method for forecasting the sales volume of each group.
5. Collecting and analyzing data and arriving at a preliminary forecast for the sales of each group.
6. Adjusting the sales figure obtained in the previous step by taking into account factors that are difficult to quantify.
7. Add the sales of each group to get the total sales of the facility.

In general, sales forecasting methods can be divided into two main groups:

1- **Descriptive** methods, and

2- **Quantitative** methods.

(1) Descriptive methods of sales forecasting

- method based on the estimates of executives and on salesmen opinions in estimating sales,
- method of estimating managers on relying on the experience and estimate of some managers in identifying the sales flowing during a certain period of time.
- Another common method is to rely on the survey of a sample of potential customers.

(2) Quantitative methods of sales forecasting:

There are several methods for predicting sales, but the most common of these methods is the **general trend** which can be measured using the graph or using moving averages or using the method of small squares, and can refer to specialized statistical books to learn how to use these methods to reach the sales number within a certain period of time.

In short, the straight-line equation can be presented as follows:

$$(y) = a + b\,(t) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where; (y) = **Annual sales.**

(t) = **Time in years.**

$(a), (b)$ = **Equation constants.**

- **The following table shows the actual sales data of the International Trading and Distribution Company during the period 2009- 2019:**

Year	Sales (In thousand pounds)
2009	25
2010	7
2011	30
2012	28
2013	35
2014	40
2015	42
2016	35
2017	38
2018	45
2019	40

Required: Measuring the expected sales for the year 2020

The calculations of the general trend of the time series can be simplified by modifying the units of time (t) and replacing them with the deviations of the years from the year in the middle of the series, which is here 2014. This makes the calculation of the general trend line easier, as it will become *sum* t = zero.

General trend equation: $(y) = a + b\ (t)$

$$Sum\ (y) = n\ (a) + b\ sum\ (t) \qquad (1)$$

$$Sum\ (t)\ (y) = a\ sum\ (t) + b\ sum\ (t^2) \qquad (2)$$

Year	(t)	Sales (y)	(t) * (y)	(t^2)
2009	- 5	25	- 125	25
2010	- 4	7	- 108	16
2011	- 3	30	- 90	9
2012	- 2	28	- 56	4
2013	- 1	35	- 35	1
2014	Zero	40	-	Zero
2015	1	42	42	1
2016	2	35	70	4
2017	3	38	114	9
2018	4	45	180	16
2019	5	40	200	25
Total	Zero	385	192	110

Substitute into the first equation:

$$385 = 11\,a + b \times \text{zero}$$

From which: a = 35

Substitute into the second equation:

$$192 = 35 \times b + 110$$

From which: b = 1.75

And by substituting in the basic equation for the value of a, b

$$(y) = 35 + 1.75 \times 10 = 52.5 \text{ thousand pounds}$$

Which represents sales for the year 2020

Estimated cash budget

- is the financing planning tool that helps the CFO in aligning inflows and outflows that occur during very few periods of time. It may be up to a month or less.
- An estimated cash balance is a statement showing the expected cash income over a certain period of time and then the expected payments during the same period and the surplus or deficit of these receipts for payments.

- The estimated cash budget is prepared for the purpose of guiding the decisions of the management in these areas, the most important of which are:

- **Review the various plans of the company before approving them in the light of the monetary position.**
- **The estimated cash balance gives the company a picture of the expected cash position a while before it occurs.**
- **The existence of an estimated cash budget strengthens the confidence of creditors in Company management.**

- The estimated cash budget is used as a tool to control the implementation of project plans.
- Finally, the importance of the estimated cash budget appears especially in enterprises whose financial resources are limited.

The steps for preparing estimated cash budget

1. Determine the duration of the budget.
2. Determine cash inflows or cash receipts.
3. Determine cash outflows or cash payments.
4. Estimation of net cash flows.
5. Determine the minimum amount of cash to be held.
6. Forecasting the necessary financial needs and timing the need for them.

Example (1):

"*XYZ*" company is considering making the estimated cash budget for the first six months of 2020, and the following data has been given to you in order to assist the company in preparing that budget:

The expected sales:

- The sales figure during the first six months of 2020 is expected to reach the following:

January	9500
February	12000
March	22000
April	17000
May	17000
June	13500

(2) Terms of sale and collection:

- The sales value is collected on the basis of allowing a credit portion, the value of which is as follows:

5%	From January sales
10%	From February sales
13%	From March sales
16%	From April sales
18%	From May sales
20%	From June sales

❖ The period after collecting the value of credit sales is estimated at 60 days.

(3) Purchases and Payment Terms:

January	3821
February	15925
March	13325
April	9525
May	7020
June	6175

❖ Purchases will be paid for within 10 days from the date of purchase.

(4) Other payments:

- The value of the notes payable in December 2019 is EGP 12,600, to be paid in January, and a bank loan of EGP 3,750 is due in February, while the interest, which is 6%, is due in December.
- Creditors are owed EGP 820, to be paid in January.
- There are late workers' social premiums of EGP 412 due in January.
- The revenue tax for the previous year amounted to EGP 100, of which EGP 75 was paid in December 2022 and the rest is due on January 15, 2020.
- The commercial and industrial profits tax is EGP 5400, to be paid in four installments. The value of the installment is EGP 1,350 to be paid in March, June, September and December.

- EGP 150 is withdrawn per month as a salary for the administrator.
- There are other expense items as follows:

Payments	January	February	March	April	May	June
Salaries	1400	600	2000	1800	1800	1600
Rent	400	400	40	400	400	400
advertisements	150	400	800	600	600	400
Cleaning tools and tasks	150	200	350	350	200	150
Other payments	700	600	800	700	700	500
Total	2800	2200	4350	3850	3700	3050

- The minimum amount of cash to be kept is EGP 300 per month.
- The balance for the first January period is EGP 5080.

Required:

1- Preparing the company's estimated cash budget for the first six months of 2020.

2- Determine the company's needs for funds and your suggestions for how to manage it.

Cash budget for the period from Jan. 1 to June 30, 2020

Payments	January	February	March	April	May	June
<u>Cash receipts</u>						
Cash sales	9025	10800	19140	14280	13940	10800
Credit sales receipts	-	-	475	1200	2860	2720
(1) Total receipts	9025	10800	19615	15480	16800	13520
<u>Cash payments</u>						
Procurement	2547	11890	14190	10792	7855	6457
Notes payable	12600					
Bank Loans		3750				
Accounts payable	820					
Workers' Insurance	412					
Taxes	25		1350			1350

Management salary	150	150	150	150	150	150
Wages	1400	600	2000	1800	1800	1600
Rent	400	400	400	400	400	400
Announcements	150	400	800	600	600	400
Cleaning tools and tasks	150	200	350	350	200	150
Other Payments	700	600	800	700	700	500
(2) Total payments	19354	17990	20040	14792	11705	11007
(3) Monthly surplus or deficit	(10329)	(7190)	(425)	668	5095	2513
(4) Cash at the beginning of the term	5080	(5249)	(12439)	(12864)	(12176)	(7081)
(5) Cash at the end of the month	(5249)	(12439)	(12864)	(12176)	(7081)	(4568)
(6) Minimum cash balance	(300)	(300)	(300)	(300)	(300)	(300)
Surplus or Deficit Sentence (5+6)	(5549)	(12739)	(13164)	(12476)	(7381)	(4868)


Thank You!