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Effect of Fixed and Variable Cost Bearing Capital on Firms -A Comparative Study of Nifty Metal Sector's Companies

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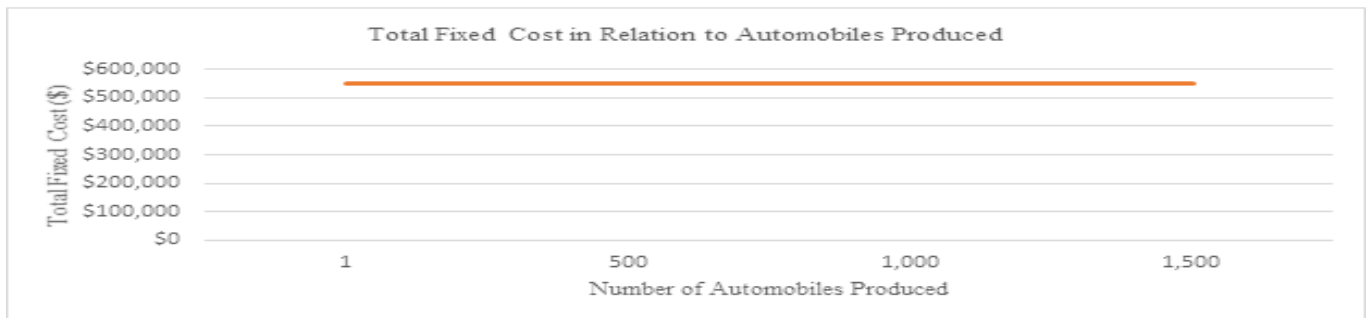
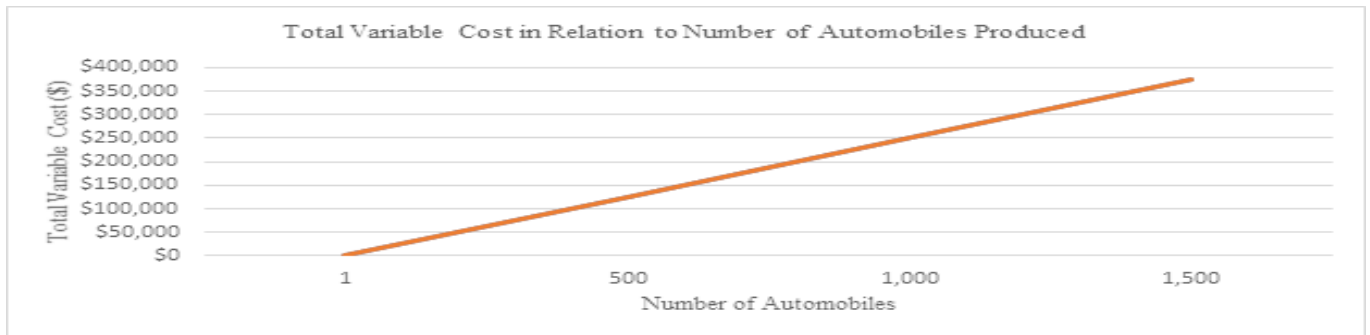
ABSTRACT: Cost is something that can be classified in several ways, depending on its nature. One of the most popular methods is classification according to fixed costs and variable costs. Fixed costs do not change with increases/decreases in units of production volume, while variable costs fluctuate with the volume of units of production. Fixed and variable costs are key terms in managerial accounting, used in various forms of analysis of financial statements. A constituent is a company whose shares are the part of the index and are used to calculate the index value. The weight that each constituent has on the overall index is based on market capitalisation. Index weight represents the share percentage of constituents in the index. Contribution change measures the contribution of each constituent towards the movements in the index value. While financial accounting is used to prepare financial statements that benefit external users, managerial accounting is used to provide useful information to people within an organization, mainly management, to help them make more informed business decisions.

KEYWORDS: financial, accounting, management, business, capital, firms, nifty, metal, sector's , companies

I.INTRODUCTION

Classifying costs as either variable or fixed is important for companies because by doing so, companies can assemble a financial statement called the Statement/Schedule of Cost of Goods Manufactured (COGM). This is a schedule that is used to calculate the cost of producing the company's products for a set period of time. The COGM is then transferred to the finished goods inventory account and used in calculating the Cost of Goods Sold (COGS) on the income statement.¹

By analyzing variable and fixed cost prices, companies can make better decisions on whether to invest in Property, Plant, and Equipment (PPE). For example, if a company incurs high direct labor costs in manufacturing their products, they may look to invest in machinery, which will reduce these high variable costs in exchange for more stable and known fixed costs. This decision should be made with volume capacity and volatility in mind as trade-offs occur at different levels of production. High volumes with low volatility favor machine investment, while low volumes and high volatility favor the use of variable labor costs. If sales were low, even though unit labor costs remain high, it would be wiser not to invest in machinery and incur high fixed costs because the high unit labor costs would still be lower than the machinery's overall fixed cost. The volume of sales at which the fixed costs or variable costs incurred would be equal to each other is called the indifference point.² Finally, variable and fixed costs are also key ingredients to various costing methods employed by companies, including job order costing, process costing, and activity-based costing. The first illustration below shows an example of variable costs, where costs increase directly with the number of units produced. In the second illustration, costs are fixed and do not change with the number of units produced.³



Graphically, we can see that fixed costs are not related to the volume of automobiles produced by the company. ⁴No matter how high or low sales are, fixed costs remain the same. NSE Indices Limited (formerly known as India Index Services & Products Limited (IISL)), a subsidiary of the National Stock Exchange of India (NSE), provides a variety of indices and index related products and services to Indian capital markets. It is based in Mumbai, Maharashtra. NSE Indices Ltd. operates as a subsidiary of NSE Strategic Investment Corporation Limited. The company maintains over 100 equity indices comprising broad-based benchmark indices, sectoral indices, fixed income and customized indices. ⁵There are many investment and risk management products, index funds and exchange traded funds benchmarked to indices developed by NSE Indices Ltd. in India and abroad including derivatives traded on NSE, NSE IFSC Ltd., and SGX. NSE Indices Ltd. was formed with the objective of providing a variety of indices and index related products and services to capital markets ⁶

II. DISCUSSION

While financial accounting is used to prepare financial statements that benefit external users, managerial accounting is used to provide useful information to people within an organization, mainly management, to help them make more informed business decisions. A clear comparison can be seen in the following table:

	Financial Accounting	Managerial Accounting
Purpose of information	To communicate the company's financial position to external users (i.e. investors, banks, regulators, government)	To help management make better decisions to fulfill the company's overall strategic goals
Primary users	External users	Internal (management)
Focus and emphasis	Past oriented	Future oriented
Time span	Annual or quarterly financial reports depending on company ⁷	Varies from hourly to years of information



Variable Costs vs. Fixed Costs

The table below summarizes the key difference between fixed and variable costs:

	Variable Cost	Fixed Cost
Definition	Costs that vary/change depending on the company's production volume	Costs that do not change in relation to production volume
When Increases	Production Total variable costs increase	Total fixed cost stays the same
When Decreases	Production Total variable costs decrease	Total fixed cost stays the same
Examples	Direct Materials (i.e. kilograms of wood, tons of cement) Direct Labor (i.e. labor hours)	Rent Advertising Insurance Depreciation

Example 1 – Fixed vs. Variable Costs

The following table shows various costs incurred by a manufacturing company:

Cost	Variable	Fixed
Depreciation of executive jet		x
Cost of shipping finished goods to customers	x	
Wood used in manufacturing furniture	x	
Sales manager's salary		x
Electricity used in manufacturing furniture	x	
Packing supplies for shipping products	x	
Sand used in manufacturing concrete	x	
Supervisor's salary		x
Advertising costs		x
Executive's life insurance		x

Example 2

Let's say that XYZ Company manufactures automobiles and it costs the company \$250 to make one steering wheel. In order to run its business, the company incurs \$550,000 in rental fees for its factory space.⁸

Let's take a closer look at the company's costs depending on its level of production.

Number of Automobiles Produced	Variable Cost per Steering Wheel	Total Variable Cost	Total Fixed Cost
1	\$250	\$250	\$550,000
500	\$250	\$125,000	\$550,000
1000	\$250	\$250,000	\$550,000
1500	\$250	\$375,000	\$550,000



III.RESULTS

One of the main tasks of an analyst is to perform an extensive analysis of financial statements. In this free guide, we will break down the most important types and techniques of financial statement analysis.⁹

This guide is designed to be useful for both beginners and advanced finance professionals, with the main topics covering: (1) the income statement, (2) the balance sheet, (3) the cash flow statement, and (4) rates of return.

Sectoral indices

Index ^{[6][7]}	No. of constituents	Type of companies	Further reading
NIFTY Auto	15	Manufacturers of automobile, automotive parts and ancillaries	Automotive industry in India
NIFTY Bank	12	Banks	Banking in India
NIFTY Consumer Durables	15	Manufacturers of home appliances, consumer electronics and fashion accessories	
NIFTY Financial Services	20	Banks, NBFCs and insurance companies	NBFC and MFI in India
NIFTY FMCG	15	Fast-moving consumer goods companies	FMCG in India
NIFTY Healthcare	20	Pharmaceutical companies, hospital chains and diagnostics companies	Healthcare in India
NIFTY IT	10	Software services and technology companies	Information technology in India
NIFTY Media	10	Television, print and digital media companies and entertainment companies	Media of India
NIFTY Metal	15	Manufacturers of metals and metal derivative products	Iron and steel industry in India



Index ^{[6][7]}	No. of constituents	Type of companies	Further reading
NIFTY Oil & Gas	15	Oil and gas companies	Oil and gas industry in India
NIFTY Pharma	20	Pharmaceutical companies	Pharmaceutical industry in India
NIFTY Private Bank	10	Private-sector banks	
NIFTY PSU Bank	12	Public-sector banks	Public sector banks in India
NIFTY Realty	10	Real estate companies	

(\$ in millions)	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenue	51,585	53,494	55,749	100%	100%	100%	NA	4%	4%
COGS	27,697	28,429	29,200	54%	53%	52%	NA	3%	3%
Gross Profit	23,888	25,065	26,550	46%	47%	48%			
SG&A	5,877	6,006	6,144	11%	11%	11%	NA	2%	2%
Other	1,764	1,931	2,026	3%	4%	4%	NA	9%	5%
EBITDA	16,247	17,128	18,380	31%	32%	33%	NA	5%	7%
Depreciation	2,960	3,196	3,452	6%	6%	6%	NA	8%	8%
Earnings Before Interest and Taxes	13,287	13,932	14,928	26%	26%	27%	NA	5%	7%
Interest Expense	1,488	2,580	2,448	3%	5%	4%	NA	73%	(5%)
Earnings Before Tax	11,799	11,352	12,480	23%	21%	22%	NA	(4%)	10%
Tax	3,155	2,861	3,012	6%	5%	5%	NA	(9%)	5%
Net Income	8,644	8,491	9,468	17%	16%	17%	NA	(2%)	12%

1. Income Statement Analysis

Most analysts start their financial statement analysis with the income statement. Intuitively, this is usually the first thing we think about with a business... we often ask questions such as, “How much revenue does it have?” “Is it profitable?” and “What are the margins like?”

In order to answer these questions, and much more, we will dive into the income statement to get started.²⁶

There are two main types of analysis we will perform: vertical analysis and horizontal analysis.



Vertical Analysis

With this method of analysis, we will look up and down the income statement (hence, “vertical” analysis) to see how every line item compares to revenue, as a percentage.²⁵

For example, in the income statement shown below, we have the total dollar amounts and the percentages, which make up the vertical analysis.¹⁰

(\$ in millions)	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenue	51,585	53,494	55,749	100.0%	100.0%	100.0%
COGS	27,697	28,429	29,200	53.7%	53.1%	52.4%
Gross Profit	23,888	25,065	26,550	46.3%	46.9%	47.6%
SG&A	5,877	6,006	6,144	11.4%	11.2%	11.0%
Other	1,764	1,931	2,026	3.4%	3.6%	3.6%
EBITDA	16,247	17,128	18,380	31.5%	32.0%	33.0%
Depreciation	2,960	3,196	3,452	5.7%	6.0%	6.2%
Earnings Before Interest and Taxes	13,287	13,932	14,928	25.8%	26.0%	26.8%
Interest Expense	1,488	2,580	2,448	2.9%	4.8%	4.4%
Earnings Before Tax	11,799	11,352	12,480	22.9%	21.2%	22.4%
Tax	3,155	2,861	3,012	6.1%	5.3%	5.4%
Net Income	8,644	8,491	9,468	16.8%	15.9%	17.0%

As you see in the above example, we do a thorough analysis of the income statement by seeing each line item as a proportion of revenue.²⁴

The key metrics we look at are:

- Cost of Goods Sold (COGS) as a percent of revenue
- Gross profit as a percent of revenue
- Depreciation as a percent of revenue
- Selling General & Administrative (SG&A) as a percent of revenue
- Interest as a percent of revenue
- Earnings Before Tax (EBT) as a percent of revenue
- Tax as a percent of revenue
- Net earnings as a percent of revenue¹¹

CFI’s free Financial Modeling Guidelines is a thorough and complete resource covering model design, model building blocks, and common tips, tricks, and best practices for designing and building robust, world-class financial models.¹²

Many of the models we encounter today are poorly designed, difficult to maintain, and hard to follow.²³ Given their central role in the financial decision-making process, it’s critical these models are built to the highest possible standards. Implementing some detailed financial modeling guidelines is a logical step toward improving the financial tools we use every day.

These guidelines will resonate with individuals building their own models, as well as corporations and other organizations.²² Larger institutions may welcome more consistency and standardization in the models they use across their



teams, mitigating the risk of human error. While not every suggestion in the guidelines will be appropriate for every user or organization, they can serve as catalysts to stimulate important discussions.¹³

Conclusions

Financial model designs and level of detail

One of the first topics covered in the guide is the importance of thoughtful model design. Time invested upfront in the model design process will save considerable effort on the model build and will lead to a better financial model²¹. An example of a well-designed model dashboard is shown below:



We also discuss designing in a modular fashion. Using a modular process enables us to create a library of building blocks for future use in other financial models. Dividing the model into these small modules or blocks makes it easier to interpret, print, and present once completed. We begin the model design process with the model dashboard or outputs, and then solve back through the supporting schedules to the required inputs as illustrated below. By only including the components that support the dashboard, we ensure the level of detail throughout the model is appropriate to its end objective.¹⁴ This is incredibly important, as many models miss the mark in terms of the appropriate level of detail. Financial models are commonly either too simplistic or overly complex. Once it's clear what the model needs to do, we need to imagine how it will be presented. Essentially, we start the process by designing what we refer to as the dashboard of the model. The dashboard is a page or set of pages that shows the audience important model variables. These can include important outputs²⁰, but sometimes also critical inputs. Envisioning the final dashboard helps us back-solve the elements that will be included in it.¹⁵

Periodicity

Periodicity refers to the frequency of the time intervals in the model. Many professionals wonder what model is best: monthly, quarterly, or annual. They may also struggle with the best design. For instance, many models display quarterly information across four columns, with an annual total in the fifth column. Although this is quite common, the downloadable Financial Modeling Guidelines suggest a much better approach to building quarterly models.¹⁶



Corkscrew schedules

Within model schedules, there are a few common structures that work really well and should be used as standard practice. One of the most common structures is a corkscrew, which is especially useful for tracking accounts that change over time. Corkscrews are used extensively in debt and equity schedules.¹⁷

Circularity

Circularity is a very controversial topic in the modeling community. Many practitioners build models using the most common circular loops, while others don't include circularity at all. Download the guide for our view on it as well as some tips regarding model circularity.¹⁸

Model formatting

Formatting is critically important for a number of reasons. One of the primary ways we can instill confidence in a model is by using a well-structured, clean, and professional format. For example, we can define the ways Excel displays positives, negatives, zeroes, and text. Understanding how to control each individual type of entry in Excel can give you solid control over your formatting.¹⁹

REFERENCES

1. "Company Overview of India Index Services & Products Ltd". Bloomberg Businessweek. Retrieved 2014-08-12.
2. ^ India, NSE. "About NSE Indices".
3. ^ India, NSE. "Corporate structure".
4. ^ "India Index Services & Products". Sri-Connect. Retrieved 2015-01-20.
5. ^ "Broad Market Indices". NSE India. Retrieved 14 January 2020.
6. ^ "Sectoral Indices". NSE India. Retrieved 4 May 2020.
7. ^ "Replacements in Indices" (PDF). www1.nseindia.com. 23 February 2021. Retrieved 30 March 2021.
8. Varri P. (1987) Fixed Capital. In: Durlauf S., Blume L. (eds) The New Palgrave Dictionary of Economics. Palgrave Macmillan, London. "fixed capital", The New Palgrave: A Dictionary of Economics, 1st Edition.[1]
9. ^ Young, A., & Musgrave, J. C. (1980). Estimation of capital stock in the United States. The measurement of capital (pp. 23-82). University of Chicago Press.
10. ^ Simon Kuznets, Gross capital formation, 1919-1933. New York: National Bureau of Economic Research, 1934.
11. ^ Raymond W. Goldsmith, A Perpetual Inventory of National Wealth. Studies in Income and Wealth, Vol. 14. New York: NBER, 1951, pp. 5-74.
12. ^ Hulten, C. R., & Wykoff, F. C. (1980). The measurement of economic depreciation. Urban Institute. Accessed at [2]
13. ^ Musgrave, John; Young, Allan (March 1980). Usher, Dan (ed.). "Estimation of Capital Stock in the United States" (PDF). CORE. University of Chicago Press. Retrieved 2021-02-20.
14. ^ 1st Edition, 1987, (Update Search Results button) at [3]
15. Reed, S. A. (1989). A Historical Analysis of Depreciation Accounting—The United States Steel Experience. Accounting Historians Journal, 16(2), 119-153. Accessed at [4].
16. Bureau of Economic Analysis,(September 2003) Fixed assets and consumer durable goods in the United States, 1925-1997 [5]
17. Canberra Group on Capital Stock Statistics Conference, March 1997 [6]
18. Constant item purchasing power accounting#CIPPA as per the IASB's Framework.5B14.5D .5B15.5D Constant item purchasing power accounting
19. ^ Framework for the Preparation and Presentation of Financial Statements, Par 104
20. ^ Spillane, James P., Tim Hallett, and John B. Diamond. 2003. "Forms of Capital and the Construction of Leadership: Instructional Leadership in Urban Elementary Schools." Sociology of Education 76(1):1–17. JSTOR 3090258.



21. ^ Spillane, James P., Tim Hallett, and John B. Diamond. 2003. "Forms of Capital and the Construction of Leadership: Instructional Leadership in Urban Elementary Schools." *Sociology of Education* 76 (January): 1-17
22. ^ The Risk Report, April 2009. Volume XXXI No. 8. IRMI Archived 2009-04-10 at the Wayback Machine.
23. ^ The Risk Report, April 2009. Volume XXXI No. 8. IRMI Archived 2009-04-10 at the Wayback Machine.
24. ^ The New Generation of Risk Management for Hedge Funds and Private Equity Investments edited by Lars Jaeger, p. 349
25. ^ Imperialism, the Highest Stage of Capitalism *ibid.* Finance Capital and the Finance Oligarchy Archived 2015-04-02 at the Wayback Machine
26. ^ "Monopoly-Finance Capital and the Paradox of Accumulation - John Bellamy Foster - Monthly Review". monthlyreview.org. 1 October 2009. Archived from the original on 17 March 2011. Retrieved 3 May 2018.



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