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### Study on concept of cost of production: It's implication in management decision

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#### Abstract

Purpose of this study is to understand the concept of Cost of production and how its graph moves during the economic life of product/business. Understand the concept of various costs which helps management in making their decisions.

Cost of production is the cost incurred by business for manufacturing goods or for providing services. It is majorly categorised in two major categories variable cost and fixed cost. Cost of production can be understood, analysed and used for decision making in following terms:

1. Fixed Cost
2. Variable Cost
3. Total Cost
4. Average Variable Cost
5. Average Fixed Cost
6. Average Total Cost
7. Marginal cost

Management use cost of production in making following and various other decision:

1. Product selection for production
2. Product Pricing
3. To review past decisions
4. To correct future decisions
5. Costing Cutting

**Keywords:** Cost of production, marginal cost, management decision, forecasting, budgeting, average variable cost, variable cost, average fixed cost, fixed cost

#### Introduction

##### Objectives

1. Understand basic concept of Cost of Production
2. Understand concept of various other terms attached with Cost of Production
3. Understand how real life problem can be solved with concept of cost of production

##### Production Cost

It is the cost incurred by business for manufacturing goods or for providing services.

**Cost includes:** Labour Cost, Raw Material, Machinery, Overheads, Taxes levied by Government, Building Rent, Interest on Capital, Advertisement Expenses, Insurance Charges and various other.

##### Cost can be divided into two broad categories

**Direct Cost / Variable Cost:** Direct cost is incurred directly for the production of goods and services. It is also known as Variable cost; which means it increases with increase in production and decrease with decrease in production. It keeps on changing with different scale of production.

1. Labour Cost
2. Material Cost

**Indirect Cost / Fixed Cost:** Indirect cost is not depended on production of goods and services. It is also known as Fixed cost; which every business needs to incur either business is operational or not.

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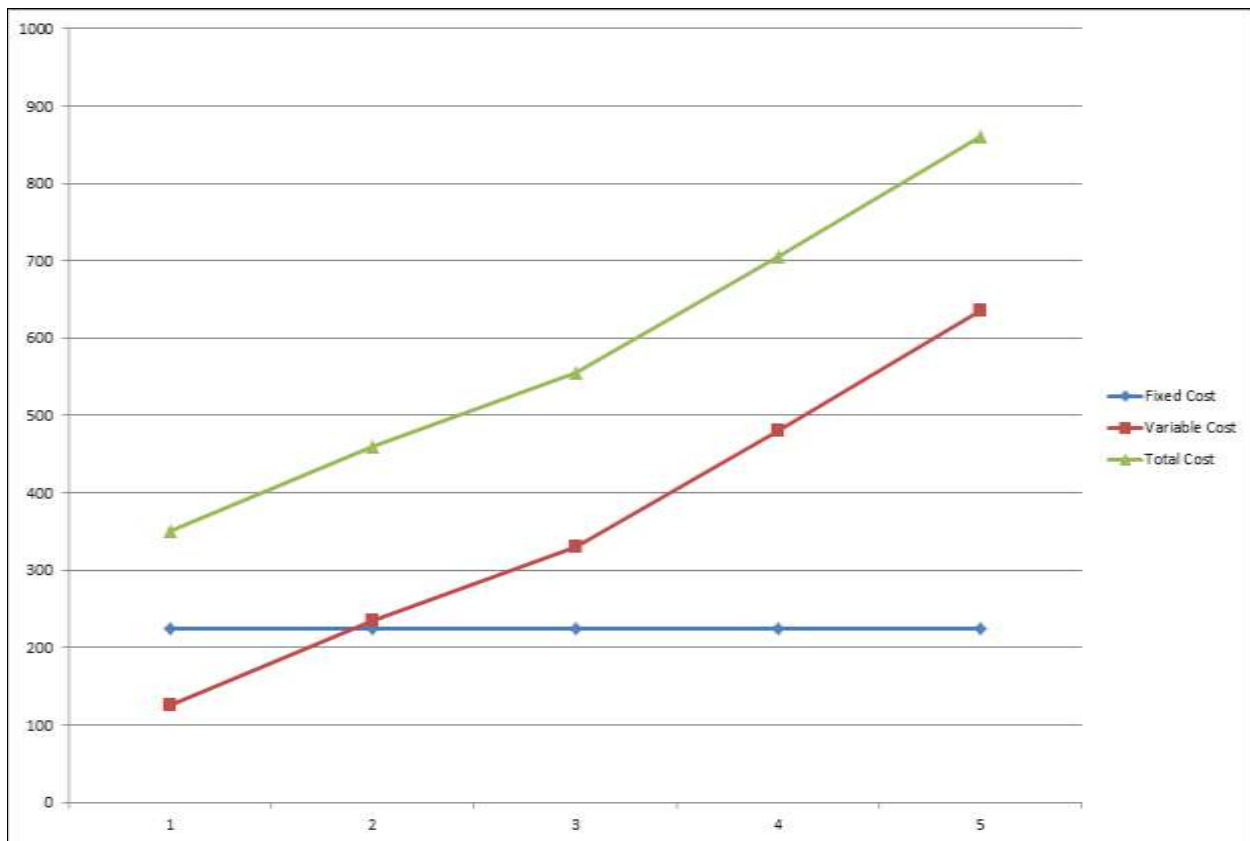
1. Rent
2. Salary
3. Electricity
4. Administrative expenses

**Formula** Total Cost = Fixed Cost + Variable Cost per unit \*  
No of Units

**Example**

Number of Units	Fixed Cost	Variable Cost	Total Cost
1 <sup>r</sup>	225	125	350
2 <sup>r</sup>	225	234	459
3 <sup>r</sup>	225	330	555
4 <sup>r</sup>	225	480	705
5 <sup>r</sup>	225	635	860

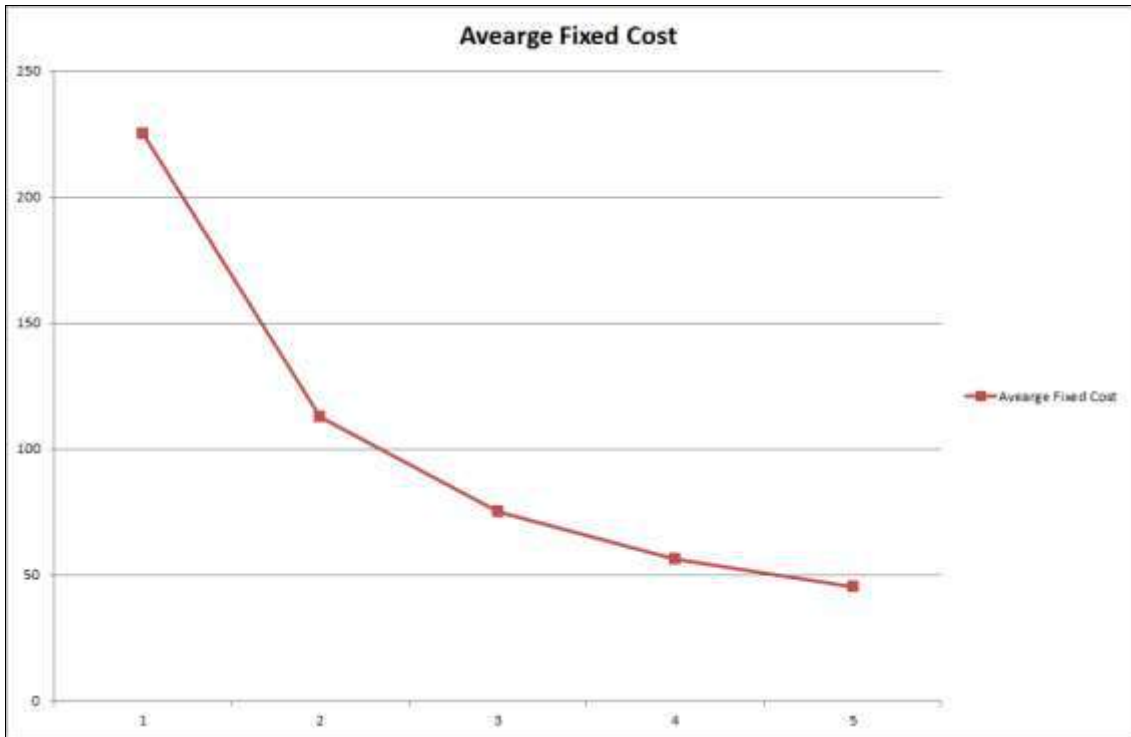
- Fixed cost remains fixed at all level of production and variable cost keeps on changing as production changes.
- Variable Cost will change with change in production level



**Average Fixed Cost:** It is calculated by dividing total fixed cost by total output. Once business increases its production

level, average fixed cost decrease. Let's understand this with in continuation of previous example.

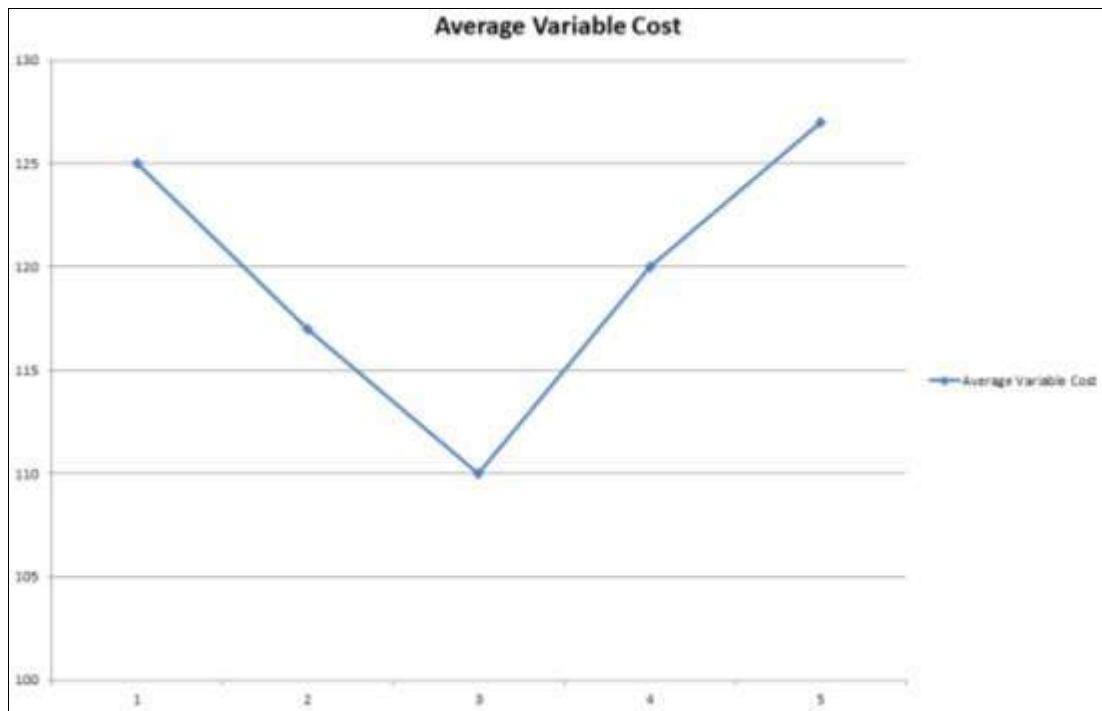
Number of Units	Fixed Cost	Average Fixed Cost
1	225	225
2	225	112.5
3	225	75
4	225	56.25
5	225	45



**Average Variable Cost:** It is calculated by dividing total variable cost by total output. Its graph is U shape. Increase in production leads to decrease in average cost. However,

constant decrease followed by diminishing returns lead to increase in cost again.

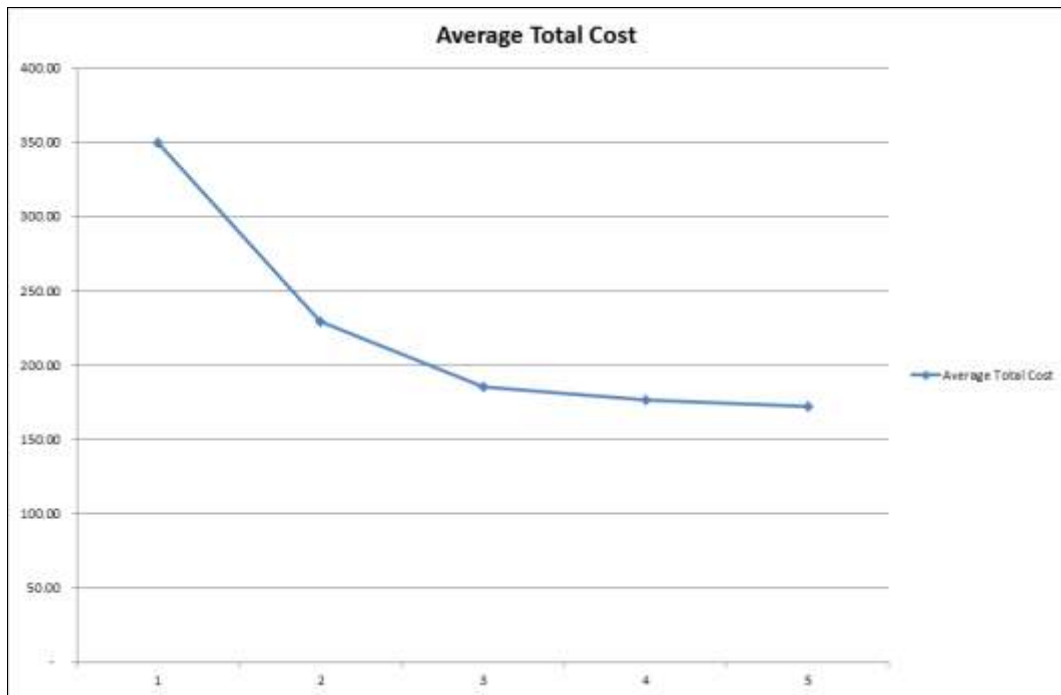
Number of Units	Variable Cost	Average Fixed Cost
1	125	125
2	234	117
3	330	110
4	480	120
5	635	127



**Average Total Cost:** It is calculated by dividing total cost by total output. Its movement is combined effect of average

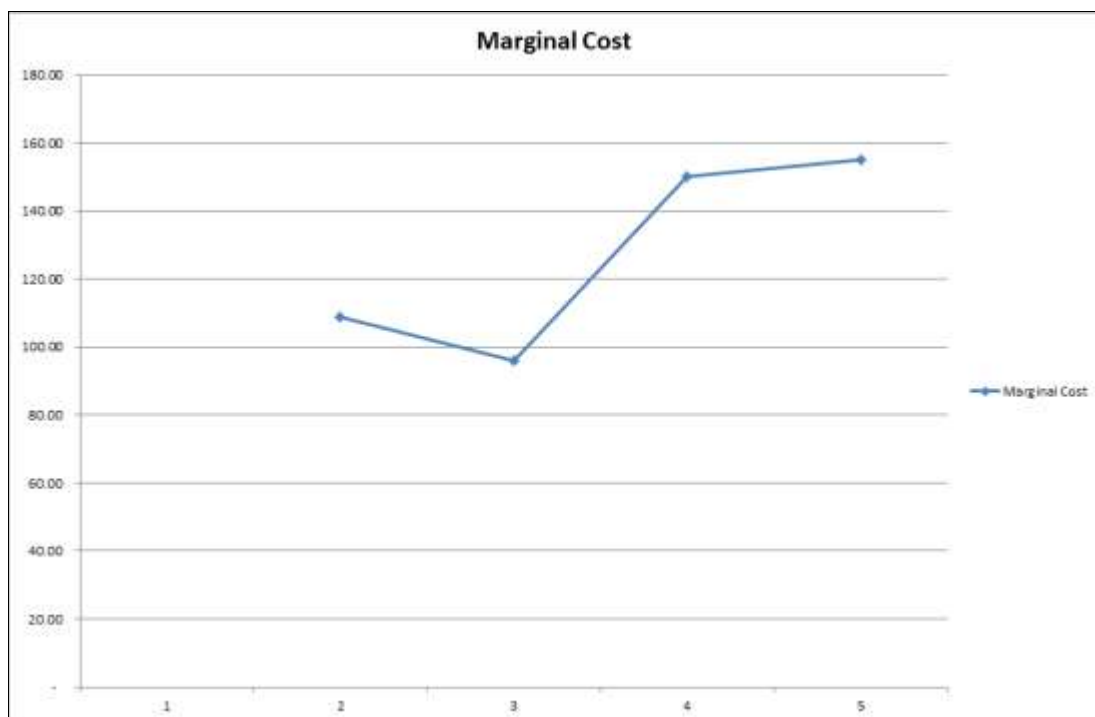
fixed cost and average variable cost.

Number of Units	Total Cost	Average Total Cost
1	350	350.00
2	459	229.50
3	555	185.00
4	705	176.25
5	860	172.00



**Marginal Cost:** It is a cost of producing one extra unit. It is calculated by subtracting total cost of production of previous production from total cost of current production level. Its movement fall rarely in beginning then it increase.

Number of Units	Total Cost	Marginal Cost
1	350	
2	459	109
3	555	96
4	705	150
5	860	155



Average total cost and marginal cost are linked to each other. Both are calculated from the same cost data. The general rules governing the relationship are:

1. Marginal cost graph will always cut average total cost graph from below.
2. When average total cost will be decreasing, then marginal cost will be below average total cost
3. When average total cost will be increasing, then marginal cost will be above average total cost
4. Any business is most profitable at the lowest average total cost, where  
Average total cost = Marginal cost

#### Cost of production helps in making managerial decision

1. **Product Pricing:** Costing help management to decide price of the product. It should be such business should not go in loss in long term. It helps management in every stage of business; whether business is in initial stage, growing stage or at developed stage. At initial stage management generally keep price of product little low to attract customers to purchase their product but yet they can't afford to go in losses and gradually they increase price of their product accordingly.
2. **Chose Product:** If business is still in planning phase, then costing help management to choose between more than products to start with their business. As it helps management to find out which product is suitable as per their budget to start with their business.
3. **Cost Cutting:** It helps management to reduce cost of current process. They always try to reduce cost whether it is fixed cost or variable cost or some cost are redundant if it was required earlier but now it is not but it is still incurred. So they always try to reduce cost in all certain way.
4. **Organisational objectives:** It helps management to achieve their objectives in terms of maintaining budget, forecasting revenue and profit and reducing cost. Costing or cost of production helps management to keep things intact.
5. **Future Decisions:** it helps management to take future decisions and decide where they want business to lead. They forecast their COS & SGA cost, short term & long term cost, variable & fixed cost, direct & indirect cost.

#### Conclusion and recommendation

As per my analysis, It is one of the most essential parts for making decisions and economics has helped business to laid down its concept beautifully. It helps us to understand how various cost moved during different phases on production and business cycle. Marginal cost help management to review their decision at the point of time when it start increasing instead of reducing for betterment of business. Average Fixed cost and variable cost also help to make decisions from where to procure material, how much to invest in working capital, when to increase production and when to review process again.

It is very essential to identify the cost of production for any given product or services; to lay down the budget for the production of goods, to forecast revenue and profit for the company. It helps in meeting objectives of business.

So one should use it while start making production of any goods and services; either its new product, to revive old product or make improvement in existing product.

#### References

1. Dyer HL. Costing for pricing and control in a gray iron foundry. N.A.C.A. Bulletin. 1948; (15):847-852.
2. Edwards CD. 20 years of the Robinson-Patman Act. Journal of Business. 1956, 149-159.
3. Edwards JR, Boyns T, Matthews M. Costing, pricing and politics in the British steel industry, 1918-1967. Management Accounting Research, 2003, 25-49.
4. Elliott JA, Ghosh A, Peltier E. Pricing of risky initial audit engagements. Auditing: A Journal of Practice & Theory. 2013; 32(4):25-43.
5. Ellwood S. Full-cost pricing rules within the National Health Service internal market-accounting choices and the achievement of productive efficiency. Management Accounting Research, 1996, 25-51.
6. Elmaghraby W. The effect of asymmetric bidder size on an auction's performance: Are more bidders always better? Management Science (December): 1763-1776. (JSTOR link), 2005.
7. Engelson M. Pricing Strategy: An Interdisciplinary Approach. Joint Management Strategy, 1995.
8. Enzer H. On the generation of discount rates and implicit prices through a replacement model. Management Science. 1966; 131-143. (JSTOR link).
9. Erickson M, Wang S. The effect of transaction structure on price: Evidence from subsidiary sales. Journal of Accounting and Economics. 2000, 59-97.
10. Eshleman JD, Lawson BP. Audit market structure and audit pricing. Accounting Horizons, 2017, 57-81.
11. Eshleman JD, Guo P. Abnormal audit fees and audit quality: The importance of considering managerial incentives in tests of earnings management. Auditing: A Journal of Practice & Theory. 2014; 33(1):117-138.
12. Ettredge M, Fuerherm EE, Li C. Fee pressure and audit quality. Accounting, Organizations and Society. 2014; 39(4):247-263.
13. Ettredge ML, Xu Y, Yi HS. Fair value measurements and audit fees: Evidence from the banking industry. Auditing: A Journal of Practice & Theory. 2014; 33(3):33-58.
14. Evans JR, Keller IW. Ceiling prices under the Capehart amendment. N.A.C.A. Bulletin. 1952, 551-563.
15. Farjoun M. The dialectics of institutional development in emerging and turbulent fields: The history of pricing conventions in the on-line database industry. The Academy of Management Journal. 2002; 45(5):848-874. (JSTOR link).
16. Feldmann DA, Read WJ, Abdolmohammadi MJ. Financial restatements, audit fees, and the moderating effect of CFO turnover. Auditing: A Journal of Practice & Theory. 2009; 28(1):205-223.
17. Finerty JJ. Product pricing and investment analysis. Management Accounting, 1971, 15-18.
18. Flanagan RM. Fixed-price contracts may reduce return on investment. N.A.A. Bulletin, 1961, 63-70.
19. Fleischmann M, Hall JM, Pyke DF. Smart pricing. MIT Sloan Management Review (winter), 2004, 9-13.
20. Force HD. Price, profit and return on invested capital. Journal of Accountancy. 1925, 27-33.
21. Foster BP, Shastri T. Determinants of going concern opinions and audit fees for development stage enterprises. Advances in Accounting: Incorporating Advances in International Accounting. 2016; (33):68-84.

22. Francis JR. The effect of audit firm size on audit prices: A study of the Australian Market. *Journal of Accounting and Economics*. 1984, 133-151.
23. Francis JR, Stokes DJ. Audit prices, product differentiation, and scale economies: Further evidence from the Australian market. *Journal of Accounting Research* (autumn), 1986, 383-393. (JSTOR link).
24. Francis JR, Simon DT. A test of audit pricing in the small-client segment of the U. S. audit market. *The Accounting Review*, 1987, 145-157. (JSTOR link).
25. Frank GB, Fisher SA, Wilkie AR. Linking cost to price and profit. *Management Accounting*. 1989, 22-26.
26. Freeman ES. Distribution cost analysis and its influence on pricing policy. *N.A.C.A. Bulletin*. 1933; 1:3-37.
27. Fung SYK, Gul FA, Krishnan J. City-level auditor industry specialization, economies of scale, and audit pricing. *The Accounting Review*. 2012, 1281-1307.
28. Furtwengler D. Pricing for Profit: How to Command Higher Prices for Your Products and Services. AMACOM, 2009.
29. Ganguly AR, Kagal JH, Moser DV. The effects of biases in probability judgments on market prices. *Accounting, Organizations and Society*. 1994; 19(8):675-700.
30. Garber M. Service sector costs: An illustrated theory of pricing and control. *Cost Management*, 2007, 5-14.
31. Gaskill NB. Setting sound selling prices. *N.A.C.A Bulletin*. 1933; 15:1187-1201.
32. Geng X, Stinchcombe MB, Whinston AB. Bundling information goods of decreasing value. *Management Science*. 2005, 662-667. (JSTOR link).
33. Ghosh A, Pawlewicz R. The impact of regulation on auditor fees: Evidence from the Sarbanes-Oxley Act. *Auditing: A Journal of Practice & Theory*. 2009; 28(2):171-197.
34. Ghouli SE, Guedhami O, Pittman J. Cross-country evidence on the importance of Big Four auditors to equity pricing: The mediating role of legal institutions. *Accounting, Organizations and Society*. 2016; 54:60-81.
35. Gneezy U. Step-level reasoning and bidding in auctions. *Management Science*. 2005, 1633-1642. (JSTOR link).
36. Goggins A. Related-party pricing: U.S. Customs and Border Protection versus the IRS. *The CPA Journal*. 2008, 58-61.
37. Goncharov I, Riedl EJ, Sellhorn T. Fair value and audit fees. *Review of Accounting Studies*. 2014; 19(1):210-241.
38. Goodwin J, Wu D. Is the effect of industry expertise on audit pricing an office-level or a partner-level phenomenon? *Review of Accounting Studies*. 2014; 19(4):1532-1578.
39. Gordon LA, Cooper R, Falk H, Miller D. The pricing decision. *Management Accounting*, 1981, 59-60.
40. Gordon LA, Cooper R, Falk H, Miller D. The Pricing Decision. *National Association of Accountants and The Society of Management Accountants of Canada*, 1981.
41. Gordon MJ. A method of pricing for a socialist economy. *The Accounting Review*, 1970, 427-443. (JSTOR link).
42. Gordon MJ. A method of pricing for a socialist economy, A reply. *The Accounting Review*. 1971, 788-790. (JSTOR link).
43. Gosman M, Kelly T, Olsson P, Warfield T. The profitability and pricing of major customers. *Review of Accounting Studies*. 2004; 9(1):117-139.
44. Gourville J, Soman D. Pricing and the psychology of consumption. *Harvard Business Review*, 2002, 90-96.
45. Govindarajan V. Use of accounting data in product pricing. *Corporate Accounting* (spring), 1984, 38-44.
46. Govindarajan V, Anthony RN. How firms use cost data in price decisions. *Management Accounting*. 1983; 30-31:34-36. (82% of the 505 Fortune 1000 companies surveyed used full cost pricing.)
47. Gox RF. Capacity planning and pricing under uncertainty. *Journal of Management Accounting Research*. 2002; (14):59-78.
48. Greer HC. Distribution costs as factors in pricing policy. *N.A.C.A. Bulletin*. 1937; (1):263-281.
49. Greer HC. Cost factors in price making. *Harvard Business Review*, 1952, 33-45.
50. Greer HC. Anyone for widgets? *The Journal of Accountancy*. 1966, 41-49. (Summary).
51. Greer WR, Liao SS. Weapons pricing models for defense acquisition policy. *Journal of Accounting and Public Policy* (winter). 1987, 271-284.
52. Greiner A, Kohlbeck MJ, Smith TJ. The relationship between aggressive real earnings management and current and future audit fees. *Auditing: A Journal of Practice & Theory*. 2017; 36(1):85-107.
53. Griffin CE. The economic significance of recent price legislation. *The Accounting Review*. 1939, 42-48. (JSTOR link).
54. Gross NH. Three pillars of price: Cost, theoretical market, and market position. *N.A.C.A. Bulletin*, 1949, 153-160.
55. Grover AE. Problems involved in pricing postwar products. *N.A.C.A. Bulletin*. 1946; (1):483-494.
56. Guerreiro REB, Cornachione Jr., Kassai CR. Determining the 'plus' in cost-plus pricing: A time-based management approach. *Journal of Applied Management Accounting Research* (winter), 2012, 1-15.
57. Gul FA, Goodwin J. Short-term maturity structures, credit ratings, and the pricing of audit services. *The Accounting Review*, 2010, 877-909.
58. Günlük O, Ladányi L, de Vries S. A branch-and-price algorithm and new test problems for Spectrum auctions. *Management Science*, 2005, 391-406. (JSTOR link).
59. Habib A. Non-audit service fees and financial reporting quality: A meta-analysis. *Abacus*. 2012; 48(2):214-248.
60. Habib A, Jiang H, Zhou D. Related-party transactions and audit fees: Evidence from China. *Journal of International Accounting Research*. 2015; 14(1):59-83.
61. Hackenbrack KE, Jenkins NT, Pevzner M. Relevant but delayed information in negotiated audit fees. *Auditing: A Journal of Practice & Theory*. 2014; 33(4):95-117.
62. Hall OL. Mark-up based on assets employed. *Management Accounting*. 1971; 48-49:52.
63. Hampel RE. Pricing policies and profitability. *Management Accounting*, 1977, 53-56.
64. Haney LH. Depreciation and valuation for rate making. *Journal of Accountancy*. 1915, 344-351.
65. Hansen GR, Johnson RN. Audit fees and engagement profitability: An approach to strengthen compliance with standards of ethical behavior. *The CPA Journal*. 2011, 64-67.

66. Harder DK. Pricing for profit in the printing industry. *Management Accounting*, 1979, 47-52.
67. Harrison JM, Keskin NB, Zeevi A. Bayesian dynamic pricing policies: Learning and earning under a binary prior distribution. *Management Science*, 2012, 570-586.
68. Hartogensis AM. The art and practice of pricing. *N.A.A. Bulletin*, 1958, 63-74.
69. Harvard Business Review. The cost-plus basis for a long-time purchase contract. *Harvard Business Review*. 1924, 370-373.
70. Harvard Business Review. Summaries of business research: Cycle analysis as an aid to judgment of price tendencies. *Harvard Business Review*. 1926, 212-222.
71. Harvard Business Review. Legal developments significant in business: Some business and legal aspects of resale price maintenance. *Harvard Business Review*, 1927, 114-120.
72. Harvard Business Review. Case studies in business. Price revision in falling markets. *Harvard Business Review*, 1928, 359-366.
73. Harvard Business Review. Legal developments significant in Business: The Tyson Case. *Harvard Business Review*. 1928, 247-251.
74. Heath FL. The philosophy of conversion cost pricing. *N.A.C.A. Bulletin*, 1949, 137-142.
75. Heckert JB. Coverage and cost provisions of the Robinson-Patman Act. *N.A.C.A. Bulletin*. 1949, 269-282.
76. Hernandez WH. Pricing policies under inflation. *Management Accounting*, 1982, 51-55.
77. Herzog DR. Pricing engineering work for defense contracts. *Management Accounting*. 1970, 32-35.
78. Hicks DT. A modest proposal for pricing decisions. *Management Accounting* (November): 50-53. (Proposal to include capital expenditure requirements in product cost for product pricing purposes), 1992.
79. Hilton ED. Determination of selling price. *Journal of Accountancy*. 1918, 27-33.
80. Hilton RW, Swieringa RJ, Turner MJ. Product pricing, accounting costs and use of product-costing systems. *The Accounting Review*, 1988, 195-218. (JSTOR link).
81. Hines CS, Masli A, Mauldin EG, Peters GF. Board risk committees and audit pricing. *Auditing: A Journal of Practice & Theory*. 2015; 34(4):59-84.
82. Hinterhuber A, Liozu S. Is it time to rethink your pricing strategy? *MIT Sloan Management Review* (summer), 2012, 69-77.