


Marginal Profit Analysis

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Abstract: This article explores the concept of marginal profit, its capabilities, and advantages. It also examines various approaches of economists to marginal profit analysis as presented in scientific literature. As a result of the research, the author proposes a methodology for organizing marginal profit analysis and performs calculations of the relevant indicators. Additionally, suggestions are provided for increasing marginality.

Keywords: Marginal analysis, margin, marginality, marginal profit, variable costs, fixed costs, operating leverage, financial leverage, break-even point, financial safety margin.

Introduction: The rapid development of the economy requires company management to make timely and well-informed managerial decisions. In particular, enterprises independently plan their operational activities, including the types and volumes of products to be produced, costs, revenues, and profit margins. In substantiating such managerial decisions, marginal profit analysis plays a crucial role.

Through marginal analysis, it becomes possible to determine what the company's profit depends on, the share of high-cost resources, the risks and prospects of enterprise development, the reasons for potential losses, and other critical factors.

Literature Review

Any decision made regarding price, costs, sales volume, and product structure has a significant impact on a company's financial performance. Marginal analysis is considered a simple and precise method for identifying the interrelation among these categories [Sarantseva, 2017].

In today's market conditions, enterprises independently plan their operations, including profit targets, cost structures, and product assortments. In the process of planning and making well-grounded management decisions, marginal analysis—also known

as break-even analysis—plays a crucial role [Vorozhbit et al., 2016].

Any decision made regarding the price, volume, or assortment of products (works, services) directly affects the company's financial outcomes—whether profit or loss. Marginal profit analysis provides the opportunity to examine the degree of interdependence among these factors [Vorozhbit et al., 2016].

Marginal (operational) analysis is a powerful analytical tool in the financial activities of business organizations, as one of their most important objectives is to ensure long-term sustainable operations and to increase business value. Among the tactical goals of business organizations is the maximization of profit [Musaev, 2020].

The break-even volume of production represents the point at which revenue equals costs. By comparing the actual production volume with the break-even point, the company's safety zone can be identified. If the safety zone reflects a negative value, it may be necessary to revise production conditions and discontinue certain types of products [Abdujaborova, 2024].

Marginal analysis provides a foundation for managerial decision-making: selecting options for modifying production capacity, choosing equipment and

production technologies, purchasing components, evaluating the profitability of accepting additional orders, determining product assortment, setting prices for new products, and more [Fomina et al., 2011].

METHODOLOGY

During the research, methods such as logical reasoning, a systematic approach, analysis, the coefficient method, vertical analysis, and factor analysis were used.

RESULTS

Marginal profit and margin are simple indicators that help answer the following questions:

- Which product is profitable to produce?
- Which product generates the highest profit?
- Should the product assortment be reconsidered?

The basis of marginal profit analysis is the separation of production costs into fixed and variable expenses. However, dividing costs into fixed and variable parts is considered a significant limitation and complexity of marginal analysis. In particular, under conditions of producing a wide assortment of products, identifying variable costs in relation to individual product types becomes challenging.

The main capabilities of marginal analysis are reflected in substantiating management decisions in the following areas:

- Break-even production volume
- Break-even sales volume
- Critical level of fixed costs
- Sales volume required to achieve the target profit
- Production capacity
- Production technology.

Through marginal profit analysis, management decisions are made in the following areas:

- Production volume
- Pricing of products (works, services)
- Product assortment

Margin is the difference between the revenue from the sale of a product (or service) and the production costs, and it is considered an absolute indicator.

$$M = NR - PC$$

Here:

M – Margin;

NR – Net revenue;

PC – Production costs.

This indicator allows the business owner to make

management decisions regarding which direction to continue operations, what changes to implement, and what to discontinue. A high margin may be associated with increased sales volume. However, total margin may not provide complete information about the profitability of a specific product. Therefore, it is advisable to calculate the margin separately for each product.

Marginality represents the ratio of margin to net revenue.

$$Mk = \frac{M}{NR} * 100\%$$

Here:

Mk – Marginality (in percentage)

M – Margin

NR – Net revenue.

In some cases, an increase in margin over time may be accompanied by a decrease in marginality. This can be due to production costs rising faster than the net revenue from product (or service) sales. The reasons for this may include an increase in raw material and supply prices, as well as inefficient use of resources.

Products are categorized by marginality as follows:

- Low margin: These are essential goods with high competition, so they typically have low margins. Such products usually have a marginality of no more than 30%.
- Medium margin: This group includes goods for secondary needs, such as kitchen appliances, furniture, building materials, and electrical equipment. Although competition is still strong, their longer service life allows for relatively higher margins, generally ranging from 30% to 50%.
- High margin: This category includes non-daily-use items like jewelry, evening dresses, and services such as photography, hairdressing, and styling. Products in this group have margins exceeding 50%, and in some cases, can even surpass 100%.

An increase in the marginality indicator reflects efficient management of the enterprise's operational activities, characterized by either a reduction in costs or a rapid growth in net revenue.

A decrease in this indicator indicates that the enterprise needs to optimize costs or increase the value of its products.

The marginal profit indicator is calculated by subtracting variable costs from net revenue.

If this indicator is below zero, it means the enterprise cannot cover the costs incurred to produce the

product. This, in turn, requires a detailed review of the production process and product assortment.

$$MP = NR - VX$$

Here:

MP – Marginal Profit

NR – Net Revenue

VC – Variable Costs

The volume of marginal profit depends on the industry and the nature of the enterprise's activities. The trade of precious metals is considered the sector with the highest marginal profit, while the trade of primary consumer goods provides the lowest marginal profit.

Marginal profit can be increased through two approaches: intensive and extensive. The intensive approach focuses on increasing sales volume, whereas the extensive approach involves raising the product price.

The volume of marginal profit can also be increased by reducing variable costs. This can be achieved by identifying optimal methods and quantities for purchasing raw materials and supplies, obtaining discounts from suppliers, and modernizing the production process.

During the implementation of marginal profit analysis, the following indicators are used:

- Operating leverage
- Financial leverage
- Break-even point
- Financial stability reserve of the enterprise

Operating leverage (операцион дастак) measures how a 1% change in net revenue affects the profit volume. Changes in net revenue from sales significantly impact profit changes. This, in turn, depends on variable and fixed costs and their fluctuations. A high level of fixed costs amplifies the effect of operating leverage.

$$OL = \frac{\% \text{ change in EBIT}}{\% \text{ change in net revenue}}$$

Where:

OL – Operating Leverage

EBIT – Earnings Before Interest and Taxes (profit before tax)

In enterprises with a relatively low amount of working capital, a strong effect of operating leverage is risky. Under conditions of economic instability, high inflation, and a decline in demand from creditworthy buyers, even a 1% decrease in net revenue can lead to a reduction in the company's profit and push it into the loss zone.

Financial leverage (молиявий дастак) indicates the ratio of borrowed funds to equity. The effect of financial leverage influences the level of financial risk for the enterprise. Since loan funds and their associated interest expenses are considered fixed costs, an increase in financial leverage amplifies the impact of operating leverage and raises the overall business risk.

$$FL = \frac{DC}{EC}$$

Here:

FL – Financial Leverage

DC – Debt Capital

EC – Equity Capital.

The break-even ratio expresses the ratio of fixed costs to the total margin.

$$BER = \frac{FC}{TM}$$

Here:

BER – Break-even ratio;

FC – Fixed costs

TM – Total margin.

The gross margin ratio is determined by the ratio of the gross margin to net revenue. The gross margin itself consists of the difference between net revenue and variable costs.

The financial stability reserve of the enterprise indicates the difference between net revenue and the break-even point.

We will calculate these indicators based on conditional values in the table below:

Table 1

Calculation of Marginal Analysis Indicators

№	Indicators	Amount
1.	Net revenue, billion UZS	13 305
2.	Variable costs, billion UZS	4 750,2
3.	Marginal profit, billion UZS (Row 1 – Row 2)	8 554,8
4.	Fixed costs, billion UZS	2 035,8

5.	Profit, billion UZS	2 486
6.	Sales volume, quantity (thousand tons)	100
7.	Price per unit, thousand UZS	0,5
8.	Marginal profit margin (Row 3 / Row 1)	0,64
9.	Break-even ratio, billion UZS (Row 4 / Row 8), (tons)	3 180, 94 (6 tons)
10.	Financial stability reserve, % ((Row 1 – Row 9) / Row 1 * 100%)	76,1
11.	Operating leverage effectiveness (Row 3 / Row 5)	3,4

According to the table data, the enterprise reaches the break-even point by producing 6 tons (3,180.94 billion UZS) of products, covering all its costs.

The financial stability margin amounts to 76.1%. This level means that the enterprise can sustain a decrease in net revenue of up to 76.1% and still remain profitable; if the decrease exceeds this level, the enterprise will incur losses. Therefore, even with a decline in net revenue (up to 76.1% in our enterprise's case), the company can still achieve profitability.

The operating leverage ratio is 3.4. This means that a 1% decrease in net revenue will result in a 3.4% decrease in profit.

CONCLUSION

Margin analysis in business aims to achieve several important objectives:

- Evaluating profitability. Margin allows assessing the profitability of the company or individual products. This helps to understand whether the business is successful and to identify measures to improve it. Margin calculation assists in pricing products (or services) while considering costs.
- Planning company growth and profitability analysis. Determining the margin helps evaluate and plan the company's operational profitability. By comparing the margin of each product (or service), their contribution to profit is identified, which forms the basis for assortment policy decisions.
- Making strategic decisions. Margin indicates which products (or services) deserve more attention. It also guides decisions on reducing costs or increasing prices.
- Financial planning and management. Margin helps determine how many products need to be sold to achieve a certain amount of profit.

To increase marginality, it is advisable to focus on the following aspects:

- Expanding the product assortment;
- Regularly updating the product (service) catalog;

- Striving to sell at the highest possible price;
- Providing quality service to customers;
- Aiming to increase the number of repeat purchases;
- Encouraging customer purchases;
- Applying cross-selling and up-selling techniques;
- Utilizing internet acquiring services;
- Offering installment payment options.

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