

DETERMINATION OF SAFETY CONDITION OF INVESTMENT PROJECTS

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ABSTRACT

Conditions for determining the safety status of investment projects are discussed. An analytical method of determining the break-even point with straight lines of supply and demand is given. Give a numerical example of determining the point of innocence.

KEYWORDS: *Demand, Supply, Fixed Cost, Variable Cost, Break-Even Point.*

1. INTRODUCTION

Determining the profitability of investment projects is to determine the point at which the income from the sale of products produced as a result of investment is equal to the amount of costs (cost). If the sales volume of the product is lower than the cost of the product, it is clear that the company is operating at a loss, and if it is high, it is operating at a profit.

MAIN PART

The break-even analysis serves to find out whether the project capacity below the break-even point can be used, which is detrimental to the enterprise, and the amount of production that is likely to be detrimental. Revenue from sales at the break-even point represents itself as a non-loss selling price, while the unit price of a product is, in this case, the non-loss selling price.

The following conditions must be taken into account to calculate the amount of harmlessness [1].

- Production and marketing costs are a function of production or sales volume;
- Production volume is equal to sales volume;
- Constant production costs are the same for any production volume;
- Variable costs change in proportion to the volume of production, and in turn the full cost of production also changes in proportion to its volume;
- The unit price of the product does not change over time, so the total selling price of the product is a linear function (equal to the product) of the selling price and the amount of product sold;

- The selling price of the product sold, the level of variable and fixed production costs remain unchanged;
- The amount of harmlessness is calculated for the same product, if the product has a different range, then the ratio between the quantities produced must remain constant.

The state of innocence can be expressed graphically (see figure) or analytically [1]. Determining the safety of an investment depends on the object of research, the purpose, the method of solving the problem, and so on. depending on the larvae.

2. RESULTS AND DISCUSSION

For example, while [2] the author used the median of dynamic series to determine the break-even point of fixed capital investment, [1] easily determined the break-even point of enterprise-oriented investment by comparing product sales with production costs.

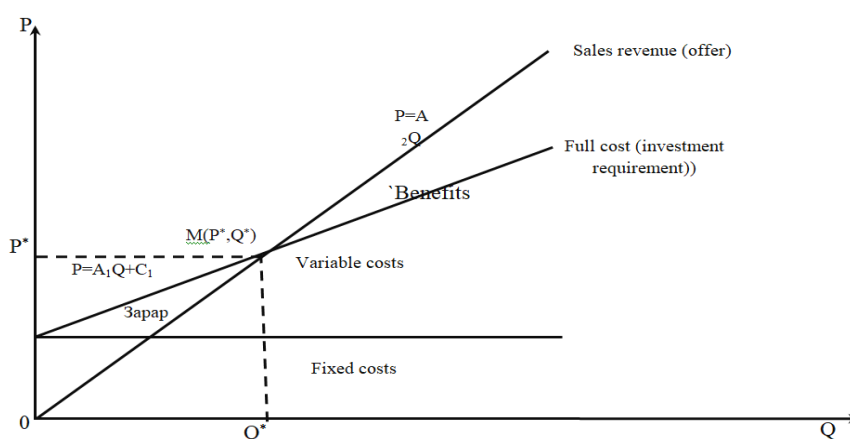


Fig. 1 Determining the safety of the investment.

Let us analyze the determination of investment profitability with supply and demand lines [3]. The production cost (demand) function is equal to the sum of fixed costs (C_1) multiplied by the relative (variable) cost per unit of output (A_1) to sales volume (Q).

$$P=A_1*Q+C_1 \tag{1}$$

On the other hand: the sales volume (supply) function is equal to the product of the sales quantity (Q) and the unit price of the product sold (A_2).

$$P=A_2*Q \tag{2}$$

Substituting (2) into (1), $A_2*Q= A_1*Q+ C_1$. or

$$Q^*=C_1(A_2-A_1) \tag{3}$$

Substituting (3) into (2) $P^*=A_2*C_1; (A_2-A_1)$ $\tag{4}$

Hence, $P = A_1 * Q + C$ is the point of intersection of the demand and $P = A_2 * Q$ supply functions

$$M(Q^*,P^*)=\left(\frac{C_1}{A_2-A_1}, \frac{A_2C_1}{A_2-A_1}\right) \tag{5}$$

is a harmless point of investment. Let us now consider the citation of supply and demand lines [3]. We solve the problem on the basis of the data given in [1].

Assume that the unit selling price of a product is 12,000 soums, the variable cost per unit is 7,000 soums, and the fixed costs for the total volume of products sold are 4.5 billion soums. let the sum. It is known from analytic geometry that in order to draw a straight line, it is sufficient to determine the coordinates of its two points. When drawing the demand line for investment, we determine the coordinates of two points $M1 = (1.4500007)$ and $M2 = (2.4500014)$, ie the cost of production of one and two units of products.

The formula for finding a straight line passing through two points

$$\frac{Q-Q_1}{Q_2-Q_1} = \frac{P-P_1}{P_2-P_1} \quad (6)$$

where $Q1, Q2$ are the product quantities, $P1, P2$ are the product prices in $Q1, Q2$, respectively. Let us put the coordinates of points $M1$ and $M2$ on (6) $(Q-1):(2-1)=(P-4500007):(4500014-4500007)=(P-4500007):7$, or $7q-P+4500000=0$ we have the demand line equation. Similarly, the supply line equation will be $12Q-P = 0$.

We find the solution to the problem by putting the coefficients of the generated lines (5). $Q^* = 4500000 : (12-7) = 900000$ product units, $P^* = 12 * 4500000 : (12-7) = 12 * 900000 = 10,8$ billion sum This means that the company will reach a point of no return when it produces and sells 900,000 products. The corresponding investment expenditure is 10 billion. 800 mln. soums.

3. CONCLUSIONS

In conclusion, it can be said that the issues of investment in enterprises in the country have been raised, and determining the profitability of investment projects, in turn, is important to determine the breakdown of investments in solving problems of proper investment. At the same time, it is known that if the sales volume of the product is lower than the cost of the product, the company is operating at a loss, and if it is high, it is operating at a profit. [4] Hence the importance of this study is to determine the break-even point of investments in the selected area or enterprise.

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