

### References:

1. Хайлук, С. О. Закордонний досвід використання системи контролінгу в управлінні Фінансами підприємств. *Вісник Української академії банківської справи*. 2005. № 2(19). С. 36-41
2. Новікова І. В. Шляхи застосування системи фінансового контролінгу у діяльності вітчизняних підприємств. *Актуальні проблеми економіки*. 2002. № 4. С. 35-40.
3. Пазущан А. В. Світовий досвід застосування контролінгу та особливості його розвитку в Україні. *Науковий вісник Херсонського державного університету*. 2014. №. 8.3. С. 99-103
4. Weber, J., & Schäffer, U. Einführung in das Controlling. Stuttgart: Verlag Schäffer-Poeschel (in German). Schäffer-Poeschel Verlag Stuttgart 9th Edition. 2020. pp. 434-442

**UDC 336.64**

**Yurkova Vladyslava,**

**Petrova Sofiia**

*2nd-year students of Faculty of Finance,*

*Kyiv National University of Economics named after Vadym Hetman*

**Tymoshenko Iryna**

*Academic supervisor - PhD in Economics,*

*Associate Professor of Corporate Finance and Controlling Department Kyiv,*

*National University of Economics named after Vadym Hetman*

### **CVP ANALYSIS AS AN INSTRUMENT OF FINANCIAL CONTROLLING** and

The financial results of the enterprise are an indicator of its competitiveness and management efficiency in the market economy. Therefore, the urgent task is to develop an effective tool for managing financial results, one of the elements of which is CVP analysis.

Companies use cost-volume-profit (CVP) analysis (also called break-even analysis) to determine what affects changes in their selling prices, costs, and/or volume will have on profits in the short run. The application of the management approach to the analysis of "costs - volume - profit" allows you to perform an accurate calculation and provide a more objective assessment of the results of the enterprise's activities. It also enables effective planning, forecasting and management of costs and profits. A careful and accurate cost-volume-profit (CVP) analysis requires knowledge of costs and their fixed or variable behavior as volume changes. CVP analysis makes it possible to solve the following tasks :

- optimization of the proportions between variable and fixed costs;
- optimization of the proportions between the price and sales volumes;
- minimization of entrepreneurial risk;
- evaluation and forecasting of financial results;
- identification of reserves and provision of sufficient financial reserves stability;
- substantiation of recommendations to improve the company's work.

#### CVP Analysis Steps:

- Classify costs & identify contribution margin.
- Calculate the break-even point in units & dollars.
- The margin of safety & Target income calculations.
- Using CVP analysis model for Sensitivity Analysis.

#### Classify costs & identify contribution margin:

CVP analysis classifies all costs as either fixed or variable. Fixed costs are expenses that don't fluctuate directly with the volume of units produced/sold. An example of a fixed cost is rent expense for a retail store. It doesn't matter how many units will be sold in the store. The rent expense will always be the same. On the other hand, variable costs change with the levels of production/sales.

Managers must monitor a company's sales volume to track whether it is sufficient to cover, and hopefully exceed, fixed costs for a period, such as a month. Contribution margin is useful in determining how much of the dollar sales

amount is available to apply toward paying fixed costs during the period. Contribution margin is calculated at two different levels.

- Unit contribution margin = selling price of one unit – variable cost of one unit
- Total contribution margin = total sales – total variable costs

Calculate the break-even point in units & dollars:

A company breaks even for a given period when sales revenue and costs charged to that period are equal. Thus, the break-even point is that level of operations at which a company realizes no net income or loss. A company may express a break-even point in dollars of sales revenue or number of units produced or sold. No matter how a company expresses its break-even point, it is still the point of zero income or loss. A company breaks even for a given period when sales revenue and costs charged to that period are equal.

Thus, the break-even point is that level of operations at which a company realizes no net income or loss. A company may express a break-even point in dollars of sales revenue or number of units produced or sold. No matter how a company expresses its break-even point, it is still the point of zero income or loss.

- Break-even point in units = Total Fixed Cost / Unit contribution margin (UCM).
- Break-even point in dollars = Fixed Costs / Contribution margin %.

Margin of safety & Target income calculations:

If a company's current sales are more than its break-even point, it has a margin of safety equal to current sales minus break-even sales. The margin of safety is the amount by which sales can decrease before the company incurs a loss. Sometimes people express the margin of safety as a percentage, called the margin of safety rate. The margin of safety rate is equal to (Current sales – Breakeven sales) / Current sales. Target income sales can be measured in CVP analysis based on Target Operating Income or Target Net Income (the variance mainly depend on that tax rate in each country). Let's focus here on Target Operating Income. Target Income Sales is the amount of sales needed to cover all variable & fixed costs plus the target income.

Target income is the operating income that a company wants to achieve during a specific period.

Target Income sales in units = (Fixed Costs + Target operating income) / UCM

Target Income sales in \$ = (Fixed Costs + Target operating income) / contribution margin %.

Using CVP analysis model for Sensitivity Analysis:

CVP analysis model can be used for a single product, multiple products & service companies as well to perform sensitivity analysis (also called what-if analysis). Sensitivity analysis shows how the CVP model will change with changes in any of its variables (fixed costs, variable costs, sales price, or sales mix). The focus is typically on how changes in variables will affect profit. Finally, sensitivity analysis can be used in break-even & target income sales calculations because it offers different scenarios whether by increasing sales, reducing variable cost or even cutting down the fixed cost. FP&A professionals rely on Microsoft Excel so much to perform CVP & sensitivity analysis models.

It should be noted that in order to change the volumes of production and sales production, its cost and financial results of the company are affected by many factors. Sometimes these indicators act in opposite directions. Thus, the relationship "volume of production - revenue - cost - profit" in the practice of economic activity is not absolute

### References:

1. Why Cost Volume Profit Analysis (CVP) Should Be a Main Step in Your Annual Profit Plan: website. URL: <https://fpa-trends.com/article/why-cost-volume-profit-analysis-cvp-should-be-main-step-your-annual-profit-plan>
2. James Don Edwards, Michael W Maher, and Roger Hermanson. Accounting principles: a business prospective. Eighth edition, Volume 1 Financial Accounting. USA: Academic press books, 2002. 716p
3. Одінцова Т.М. CVP-аналіз як інструмент управління фінансовими результатами підприємства / Т. М. Одінцова, О. В. Невмержицька, І. В. Чаус // *Фінансовий простір*. 2013. № 1. С. 90-95.