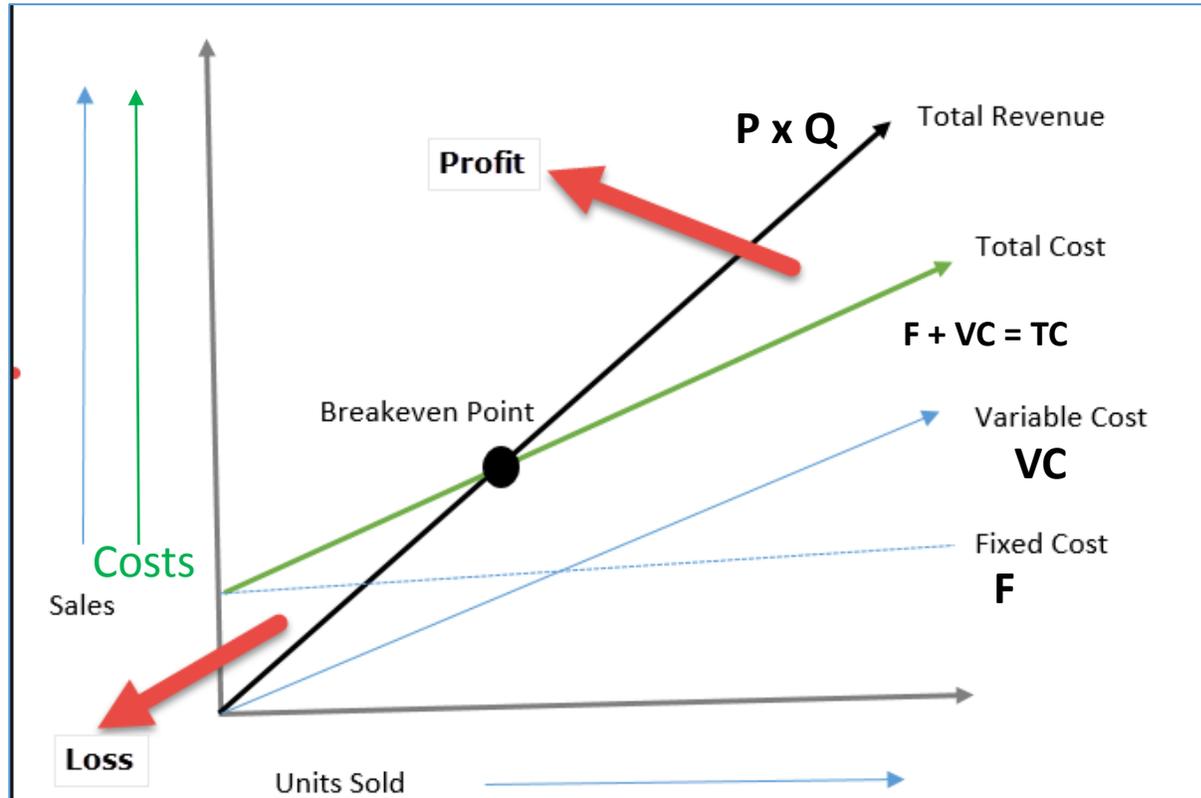# Break-even point analysis

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Graphical representation

BEP- Basic Statements

- Break-Even Point (sometimes called break-even point) is the amount of product at which total costs are equal to total returns. From this point, the company or project begins to generate profit.

- The break-even point, in its classic form, tells you how much product to sell to generate profit. It is a volume indicator.

- The break-even point in related currency thus basically means 0.

- In the next slides, we present a formula, where it is also possible to incorporate the required rate of profit (in related currency) into the calculation.

- As a result, we will shift to the right along the X-axis (sales volume) in the graph and the resulting Q (X pieces) will be higher than at the "classic" break-even point, where the profit is zero.

Calculation I

- The basic calculation of the **break-even point** is not complicated. All you have to do is put together the Price, Costs and possibly the Required profit.

- However, the challenge is to get to these aggregated variables. The data for partial calculations are obtained utilizing financial analysis, using data from accounting. Good financial management considers the break-even point analysis to be an absolute must. It is not just a "lesson from microeconomics" or "theoretical exercise"
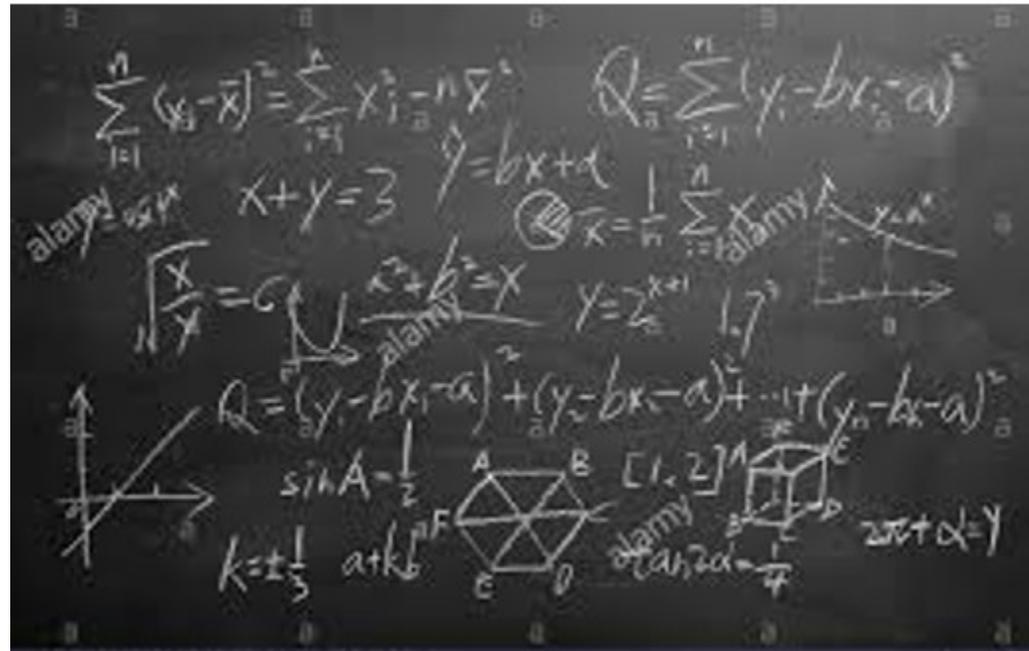
Calculation II

Profit = Price x Sold Products - Total Costs
Total Costs = F+VCxQ

Profit = P x Q - F- VC x Q

If BEP then Profit=0
Profit = Q x (P-VC)   - F = 0

Q= F/(P-VC)
VC- cost for one product unit

Simple example

- What is the turning point in practice can be shown in a model example?

- Let's imagine that you want to start confectionery production. How do you know how many cakes you have to sell to make a profit?

- **Real capacity consideration**
- **Price conditions analysis**
- **List of all costs**
- **Calculations and modeling**

$$Q = F/(P-VC)$$

BEP = 555 cakes [calculation: 250.000 / (750 – 300)].

Let's assume that the total input costs (fixed costs) will be 250,000 CZK.
Set the selling price of the cake at 750, - CZK
Variable costs for 1 cake = 300, - CZK
CZK=Czech crown