

Plotting a Break-Even Point

Graphing data of cost-volume-profit relationships is beneficial because it allows the manager to obtain a perspective on wide ranges of activity

One type of graph is called the ***cost-volume-profit graph***.

It is prepared in three steps.

Step 1---draw a line parallel to the x-axis (volume of units) that represents total fixed expenses. In the example this amount is \$35,000.

Step 2---Choose a volume of sales and plot the point representing total expenses. In the example the variable cost of each unit is \$150. If we choose 600 units, the variable cost would be \$90,000. Therefore the total cost would be \$125,000. Plot a total expense line from the intersection of the y-axis (dollars) and the fixed expenses to the point of a total cost of \$125,000.

Step 3---Choose a volume of sales and plot the point representing the revenues generated by these sales. In the example we have chosen 600 units, which sell for \$250 each. Total sales revenue is \$150,000. Draw a line (the total revenue line) from this point to the zero point at the intersection of the x-axis and the y-axis.

(See Graph 1)

The anticipated profit or loss from any volume of sales is the vertical distance between the total revenue and total expense lines. The break-even point is where the total revenue and total expense lines intersect. In the example the break-even point is 350 ovens or \$87,500 in sales.

There is an ***alternative presentation for the cost-volume-profit graph***. The graphs are identical except the fixed expenses are plotted above the variable expenses, making it possible to have contribution margin depicted on the graph.

(See Graph 2)

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