# Unit 18: Calculating Food Costs, Selling Prices and Making a Profit 

The hospitality industry is largely made up of commercially focused businesses of various types (restaurants, hotels, bars, etc.) with the intention of making a profit so that they can survive (pay staff, suppliers and other bills) and make plans for the future.

In order to achieve this objective, it is essential to have an awareness of costs and how to calculate selling prices that will achieve enough profit to allow the business to meet its financial goals.

## Section A: Costings

To determine a selling price of a recipe or a dish, the first task is to calculate its cost.
When making multiple portions of food and using ingredients in many different quantities, it is important to be able to calculate ingredient costs accurately. Look at the example below when making a génoise sponge.

## Dish: Génoise sponge

Number of portions: 8

| Ingredient | Quantity required | Unit of purchase | Unit cost | Recipe cost |
| :--- | :--- | :--- | :--- | :--- |
| Eggs (number) | 4 | 30 | $£ 6.00$ | $£ 0.80$ |
| Caster sugar (g) | 100 | 1000 | $£ 2.50$ | $£ 0.25$ |
| Soft flour (g) | 100 | 1000 | $£ 1.20$ | $£ 0.12$ |
| Butter (g) | 50 | 1000 | $£ 4.00$ | $£ 0.20$ |
|  | Total cost | $£ 1.37$ |  |  |
|  | Cost per portion | $£ 0.17$ |  |  |

To calculate the recipe cost of this basic sponge, the unit cost has been divided by the unit of purchase (how the item is purchased) and multiplied by the amount required in the recipe.

## EXAMPLE:

Taking the caster sugar example above, the unit cost is $£ 2.50$ for $1000 \mathrm{~g}(1 \mathrm{~kg})$ and the amount required for the recipe is 100 g . To calculate the amount used in the recipe, the following calculation is used.
$£ 2.50 \div 1000 \times 100=£ 0.25$

## QUESTION 1

The costs for making 8 portions of génoise sponge are shown above. Now calculate the cost of making 12 portions of génoise sponge using the table on page 50.

## Dish: Génoise sponge

Number of portions: 12

| Ingredient | Quantity required | Unit of purchase | Unit cost | Recipe cost |
| :--- | :--- | :--- | :--- | :--- |
| Eggs (number) | 6 | 24 | $£ 4.50$ | $\mathbf{£ 1 . 1 3}$ |
| Caster sugar (g) | 150 | 500 | $£ 1.10$ | $\mathbf{£ 0 . 3 3}$ |
| Soft flour (g) | 150 | 500 | $£ 0.90$ | $\mathbf{£ 0 . 2 7}$ |
| Butter (g) | 75 | 250 | $£ 0.95$ | $\mathbf{£ 0 . 2 9}$ |
|  |  | Total cost | $\mathbf{£ 2 . 0 1}$ |  |
|  | Cost per portion | $\mathbf{£ 0 . 1 7}$ |  |  |

## Section B: Gross and Net Profit

Gross profit is a simple calculation that expresses the difference between the price that materials or goods (food) were bought for and the price at which they were sold.

## EXAMPLE:

If the food costs to produce a dish come to $£ 2.50$ and the dish is sold for $£ 7.50$, the gross profit produced is $£ 5.00$.
Selling price ( $£ 7.50$ ) - Food costs $(£ 2.50)=$ Gross Profit $(£ 5.00)$.

For budgeting and target setting purposes, it is common for gross profits to be expressed as percentages. To produce a percentage, the profit ( $£ .00$ ) has to be expressed in terms of how much of the selling price ( $£ 7.50)$ it represents. To achieve this, the profit ( $£ 5.00$ ) has to be divided by the selling price $(£ 7.50)$ and then multiplied by 100 .
$£ 5.00 \div £ 7.50 \times 100=66.66 \%$
This shows that the $£ 5.00$ profit represents $66.66 \%$ or two-thirds $(2 / 3)$ of the selling price at $£ 7.50$.

## Net Profit

Net profit (or loss) expresses the difference between the price that materials or goods (food) were sold for with all associated costs subtracted. This includes the materials costs (e.g. food), labour costs and all other overhead costs (e.g. packaging, power costs, rent, etc.)

For example, if the selling price (sales) of a dinner for 100 people came to $£ 1000.00$, the food costs totalled $£ 250.00$, labour costs were $£ 400.00$ and associated overhead costs came to $£ 150.00$, the net profit would be $£ 200.00$.

Sales $=$
$£ 1000.00$
Food costs $=\quad £ 250.00$
Labour costs $=\quad £ 400.00$
Overheads $=\quad £ 150.00$
Total costs $=\quad £ 800.00$
Sales $(£ 1000.00)$ - Total Costs $(£ 800.00)=$ Net Profit $(£ 200.00)$
In the same way as for gross profits, net profits are also commonly expressed as percentages.
Net Profit ( $£ 200.00$ ) divided by Sales ( $£ 1000.00$ ) and multiplied by 100.
$£ 200.00 \div £ 1000.00 \times 100=20 \%$

## QUESTION 1

Express the gross profit (GP) in money ( $£$ ) and as a percentage (\%) in the table below.

| Selling Price | Food Cost | Gross Profit (£) | GP as \% |
| :--- | :--- | :--- | :--- |
| $£ 10.00$ | $£ 2.75$ | $\mathbf{£ 7 . 2 5}$ | $\mathbf{7 2 . 5 0 \%}$ |
| $£ 12.50$ | $£ 4.30$ | $\mathbf{£ 8 . 2 0}$ | $\mathbf{6 5 . 6 0 \%}$ |
| $£ 7.95$ | $£ 3.10$ | $\mathbf{£ 4 . 8 5}$ | $\mathbf{6 1 . 0 1 \%}$ |
| $£ 14.90$ | $£ 4.65$ | $\mathbf{£ 1 0 . 2 5}$ | $\mathbf{6 8 . 7 9 \%}$ |
| $£ 31.65$ | $£ 7.90$ | $\mathbf{£ 2 3 . 7 5}$ | $\mathbf{7 5 . 0 4 \%}$ |

## QUESTION 2

Express the net profit (NP) in money ( $£$ ) and as a percentage (\%) in the table below.

| Sales | Food Costs | Labour Costs | Overheads | Total Costs | Net Profit (£) | Net Profit as \% |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $£ 140.55$ | $£ 40.99$ | $£ 50.50$ | $£ 23.34$ | $\boldsymbol{£ 1 1 4 . 8 3}$ | $\boldsymbol{£ 2 5 . 7 2}$ | $\mathbf{1 8 . 3 0 \%}$ |
| $£ 175.98$ | $£ 55.45$ | $£ 61.25$ | $£ 34.00$ | $\boldsymbol{£ 1 5 0 . 7 0}$ | $\boldsymbol{£ 2 5 . 2 8}$ | $\mathbf{1 4 . 3 7 \%}$ |
| $£ 268.94$ | $£ 81.38$ | $£ 90.45$ | $£ 74.88$ | $\mathbf{£ 2 4 6 . 7 1}$ | $\boldsymbol{£ 2 2 . 2 3}$ | $\mathbf{8 . 2 7 \%}$ |
| $£ 555.65$ | $£ 120.00$ | $£ 155.98$ | $£ 111.54$ | $\mathbf{£ 3 8 7 . 5 2}$ | $\boldsymbol{£ 1 6 8 . 1 3}$ | $\mathbf{3 0 . 2 6 \%}$ |
| $£ 1010.80$ | $£ 300.70$ | $£ 240.54$ | $£ 230.78$ | $\mathbf{f 7 7 2 . 0 2}$ | $\boldsymbol{£ 2 3 8 . 7 8}$ | $\mathbf{2 3 . 6 2 \%}$ |

## Section C: Calculating the Selling Price

Price can be a sensitive issue. If priced too high, a dish may not sell or customers may complain or not return to the business as they may feel they have not received value for money. Alternately, if a dish is underpriced and does not make a profit, the business will be damaged financially and will face problems in the future if it does not rectify the situation.

A method to ensure that a profit margin is achieved is to build a target percentage of gross profit into the selling price. For example, if the food costs for a dish total $£ 3.00$ and a gross profit target is set at $70 \%$, the food costs as a percentage of the selling price can only represent $30 \%$. It is important to note that the selling price is the total amount of money that will be received so this has to represent $100 \%$ for the purpose of this calculation.

The two charts below show how this is broken down in percentage and monetary formats.


In basic terms, food costs + gross profit $=$ selling price
To calculate the selling price on this basis, the food costs have to be expressed as a percentage of the selling price using the following calculation.

Food cost $\div$ Food cost as a $\%$ of the selling price $\times 100$
For example, if food costs for a dish come to $£ 4.50$ and the gross profit target is $75 \%$, the food cost as a percentage of the targeted sale is $25 \%$.

To calculate the selling price based on this information:
$\frac{£ 4.50}{25} \times 100=£ 18.00$
By dividing $£ 4.50$ by 25 , this brings the figure down to $1 \%$ of the selling price ( $£ 0.18$ ). By then multiplying by 100 , it brings the figure up to $100 \%$, the selling price ( $£ 18.00$ ). As long as you have the food cost and the target gross profit percentage, this is sufficient information to calculate the selling price.

To test the example above, divide $£ 18.00$ by 100 (to get $1 \%$ ) and multiply by 25 . The answer is $£ 4.50$ (food cost).
Doing the same in dividing $£ 15.00$ by 100 (to get $1 \%$ ), this time multiplying by 75 , the answer is $£ 13.50$ (gross profit).
$£ 4.50+£ 13.50=£ 18.00$ (selling price)


## QUESTION 1

Calculate the selling price from the food cost and gross profit target indicated in the table below.

| Food Costs | Gross Profit Target | Food Cost as \% of <br> Selling Price | Selling Price |
| :--- | :--- | :--- | :--- |
| $£ 3.55$ | $65 \%$ | 35 | $\boldsymbol{£ 1 0 . 1 4}$ |
| $£ 4.65$ | $70 \%$ | 30 | $\boldsymbol{£ 1 5 . 5 0}$ |
| $£ 2.32$ | $75 \%$ | 25 | $\boldsymbol{£ 9 . 2 8}$ |
| $£ 5.00$ | $80 \%$ | 20 | $\boldsymbol{£ 2 5 . 0 0}$ |
| $£ 1.24$ | $85 \%$ | 15 | $\boldsymbol{£ 8 . 2 7}$ |

