Management Accounting

Spring 2025

TA Pedro Perdigão - pedro.perdigao@novasbe.pt

Practical Class #10

Agenda

01

THEORETICAL RECAP

Losses

02

EXERCISE 26

The LiquiAdub Company

03

THEORETICAL RECAP

Alternative Costing Systems

04

EXERCISE 29

The Alfalinha Company

01
Theorethical Recap

Losses

Process Costing System with Losses

So far, we have examined situations in which there are no losses i.e., all output within each process is fully completed. However, that is not necessarily the case.

- **Normal Losses/Uncontrollable Losses:** losses that are inherent to the production process; these occur under efficient operating conditions and are **unavoidable**. (e.g. losses of wood when cutting wood to make furniture). As such, they **are included** in the **process cost**.

- **Abnormal Losses/Controllable Losses:** losses that are not expected to occur under efficient operating conditions; these losses are not an inherent part of the production process. (e.g. incorrect cutting, wrong mixture). As such, they are **not included** in the **process costs** (it is rather treated as a period cost -> goes directly into the P&L account and is not included in FG valuation).

- **Scrap Value:** the worth of a physical asset's individual components when the asset itself is deemed no longer usable

$$\text{COGM per unit} = \frac{\text{Input Cost} - \text{Scrap Value of normal losses}}{\text{Expected Output}}$$

Losses – Step by Step

1) Expected Production = production + abnormal losses
2) Value normal gains = normal losses units * scrap value
3) COGM unit = (total manufacturing costs – value normal gains) / Expected production
4) COGM = COGM unit * real production
5) Value abnormal losses = abnormal losses units * COGM unit
6) Sales of scrap abnormal units = abnormal losses units * scrap value

Π = sales revenues - COGS + (Scrap value - COGM/unit) * #Abnormal Losses

02

Exercise 26

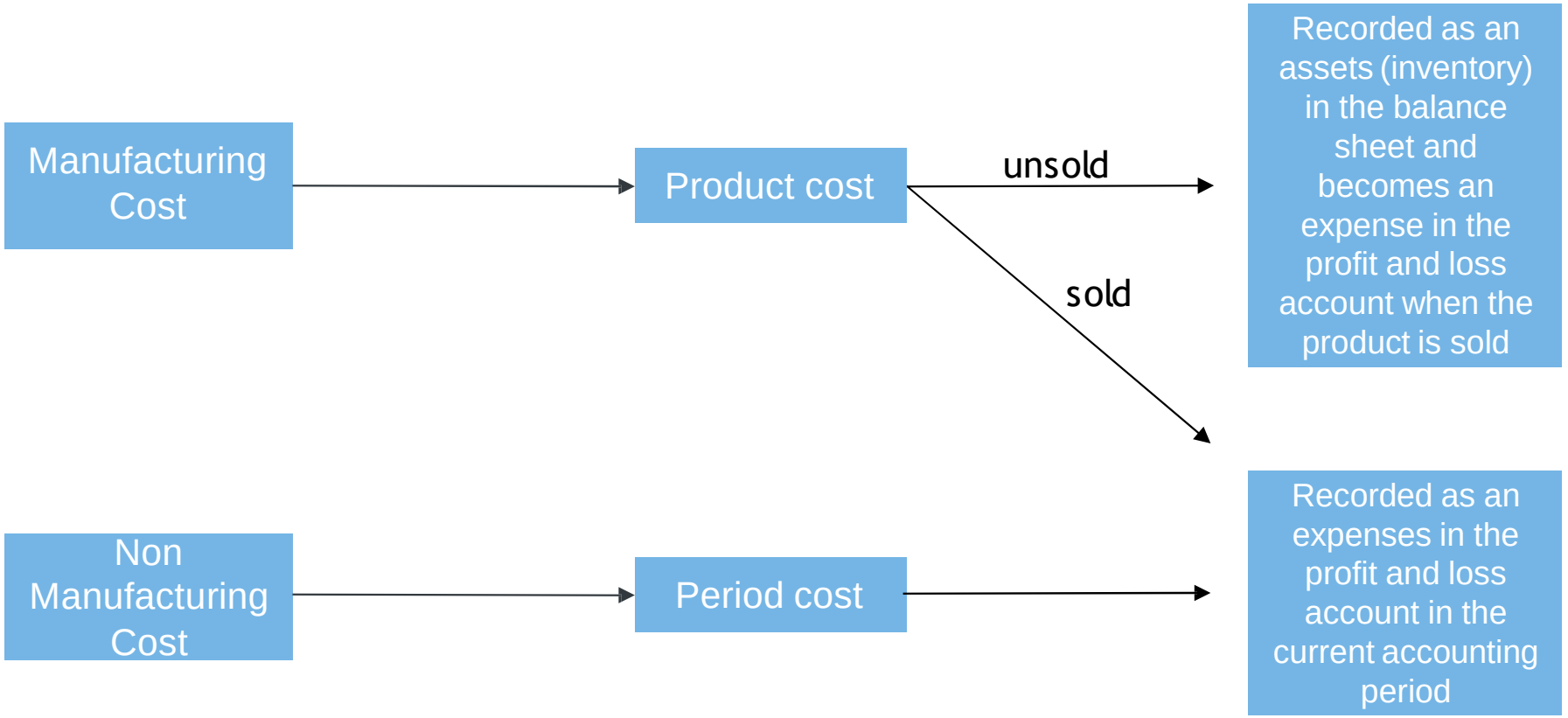
The LiquiAdub Company

03

Theorethical Recap

Alternative Costing Systems

PERIOD VS PRODUCT COSTS

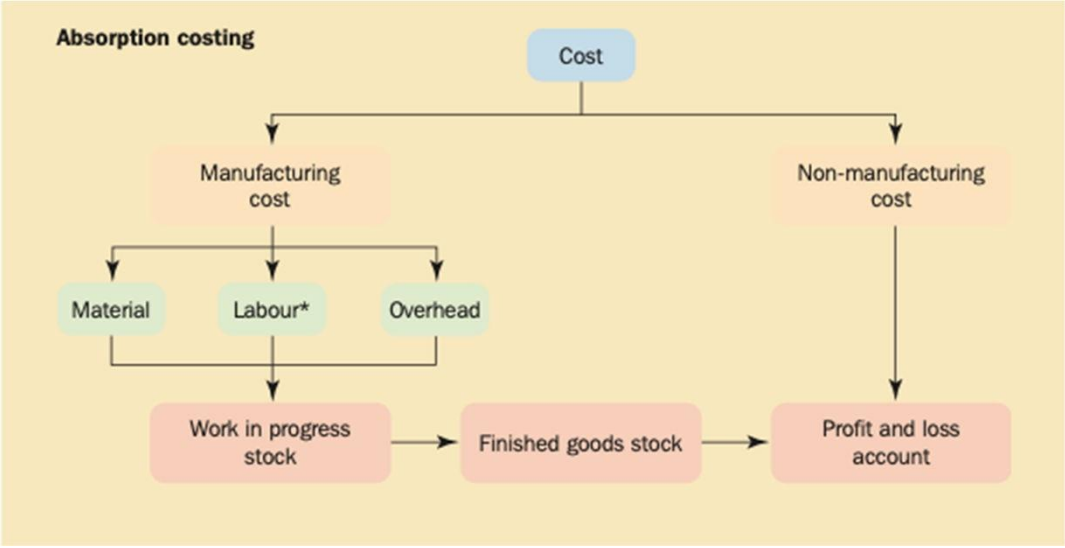


Alternative Costing System

So far, we have:

- allocate **all manufacturing cost to products**, and to value unsold inventories at their total cost of manufacture.
- **Non-manufacturing costs** were not allocated to the products but were charged directly to the **P&L** and excluded from the inventory valuation (period costs).

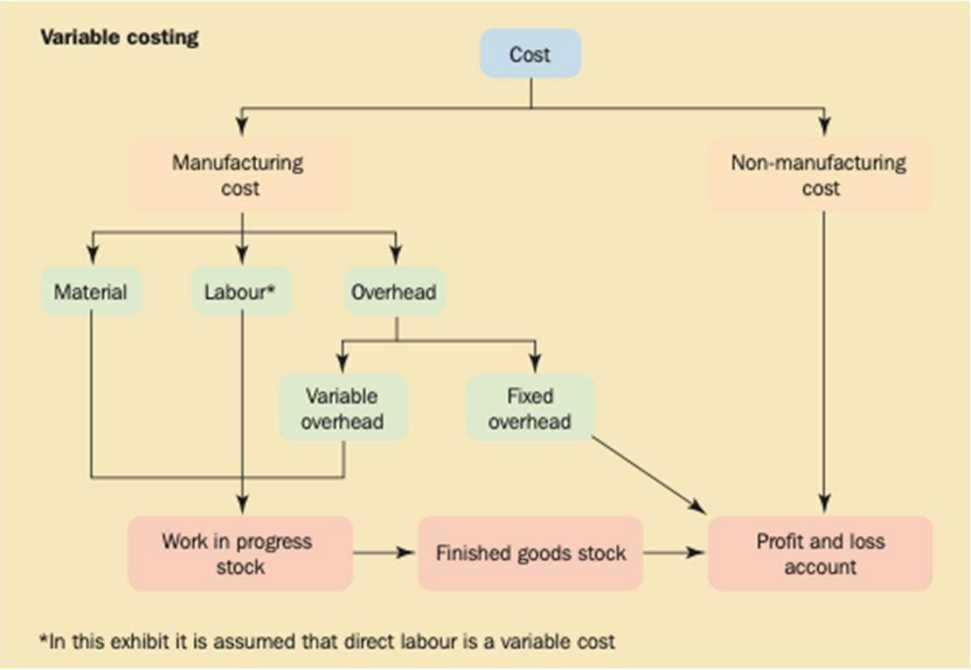
•A costing system based on these principles is known as an **absorption or full costing system**



Alternative Costing System

Variable Costing System:

- Non-Manufacturing costs go directly to the P&L
- Manufacturing costs: **only variable costs go to the product**



- **Difference:** Fixed Manufacturing Overheads -> Full Costing (Product Cost), Variable Costing (Period Cost)

Alternative Costing Systems

In short:

- **Absorption** or **full costing** traces *all* manufacturing costs to products and treats non-manufacturing costs as a period cost (go directly to the P&L)

- **Variable costing** traces all variable manufacturing costs to products and treats fixed manufacturing overheads and non-manufacturing costs as period costs (go directly to the P&L).

Alternative Costing Systems

In between we have:

- **Full costing Based on Practical Capacity:** It assigns MVC plus a share of the total MFC to products, after taking into account practical capacity;

- **Full Costing Based on Budgeted Activity:** It assigns MVC plus a share of the total MFC to products, after taking into account the budgeted activity;

- **Practical capacity:** the production that is likely to be produced by the machine after taking into consideration unavoidable interruptions arising from machine maintenance and plant holiday closures

- **Budgeted activity:** the activity level (volume of production) based on the capacity utilization required for the next budget period

Alternative Costing System

Cost Accumulation Systems

Non-Manufacturing Costs -> Always go to the P&L (period cost)

System	COGM	Under-recovery of OH (UROH)
VC	$MVC_{un} * Real\ Production$	MFC
TFC	$MVC_{un} * Real\ Production + MFC$	0
FCPC	$MVC_{un} * Real\ Production + MFC * \frac{Real\ Production}{Practical\ Capacity}$	$MFC * (1 - \frac{Real\ Production}{Practical\ Capacity})$
FCBA	$MVC_{un} * Real\ Production + MFC * \frac{Real\ Production}{Budgeted\ Activity}$	$MFC * (1 - \frac{Real\ Production}{Budgeted\ Activity})$

04

Exercise 29

The Alfalinha Company

Alternative Cost Accumulation Systems – Profit Comparison

There are two ways of **explaining differences in profit** when using alternative costing systems:

1. Based on the **Manufacturing Fixed Costs** considered as an expense in the **P&L** (UROH + COGS)
2. Based on **Inventory Valuation** (how much MFC stay in closing inventory)

Note: it does not matter if we look at the total value of UROH/COGS/Inventory or only at the MFC present in there. Because we will be looking at variation from one cost accumulation system to the other, what matters is that we stay consistent and use the same technique for both. Result will be the same because allocation of MVC is the same for every method (always goes to the COGM)

E.g.
MVC = 1
MFC assigned to FGcl under TFC = 1
MFC assigned to FGcl under FCPC = 0.5

Difference in profits from looking at total value = (1+1) – (1+0.5) = 2 – 1.5 = 0.5
Difference in profits from looking at MFC in FGcl = 1 – 0.5 = 0.5

Alternative Cost Accumulation Systems – Profit Comparison

If:

Production > Sales (increasing stock levels), **full costing systems** produce **higher profits**

Sales > Production (decreasing stock levels), **variable costing systems** produce **higher profits**

Sales = Production, profits are the same for any costing system