



# MANAGEMENT ACCOUNTING

Grado en Economía y Administración y Dirección de Empresas

LESSON 1:  
**INTRODUCTION TO  
MANAGEMENT  
ACCOUNTING:  
BASIC CONCEPTS**



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## LESSON 1: INTRODUCTION TO MANAGEMENT ACCOUNTING: BASIC CONCEPTS



Versión 1.0  
Septiembre de 2018  
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**1 INTERNAL ACCOUNTING, COSTS OR MANAGEMENT: THE ECONOMIC-TECHNICAL CYCLE OF THE COMPANY**

**1.1. CIRCULATION OF VALUES IN THE COMPANY**

Prior to the study of the details related to the phenomenology to be treated in this program, it seems that coming the delimitation of the conceptual and methodological framework in which the discipline we are going to study is inserted, under the name of "**Management Accounting**".

To do this, we will use the "Scheme of the circulation of values" in the company proposed by Professor Schneider, on which, considering the company as a system, we can make four subsystems of transactions independent: Financing, Investment, Production and Disinvestment.

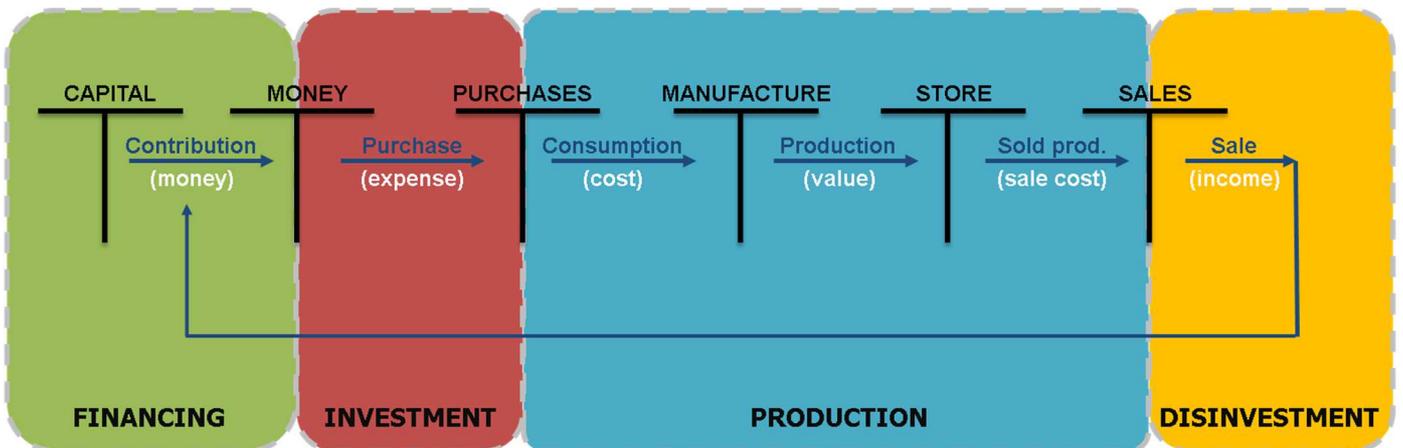


Figure 1. Circulation of values Professor Schneider

To develop this strategy, Professor Schneider uses 6 series of accounts: CAPITAL, MONEY, PURCHASES, MANUFACTURE, STORE AND SALES represented by a double line-each series includes several accounts related to the same phenomenology, for example Capital would include: Basic Financing (Required to Long Term and Non-Required), Money (Available, Realizable True and Compliant to Short Term), etc.

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Each of the arrows implies an accounting entry. The magnitudes that appear above the arrows (purchase, consumption, production, placed production and sale) are physical magnitudes and the ones that appear below (expense, cost, value of production, cost of sales and income) are monetary magnitudes.

The scheme starts with the financing when the company got money we use to buy all those factors we need to produce, by applying the production process all or part of them. As result of this application of production factors that we get to the store, here at cost-price, waiting to be sold. Once this is sold thereof will appear on the debit of the account sales at cost and the credit at sale price.

If we consider the company as a system we can define within it, as we have already mentioned, 4 Subsystems, perfectly represented in the Schneider scheme:

FINANCING SUBSYSTEM (F)

INVESTMENT SUBSYSTEM (I)

PRODUCTION SUBSYSTEM (P)

DISINVESTMENT SUBSYSTEM (D)

The financing subsystem includes all the phenomenology inherent in the search and obtainment of financial resources, that is, the financial accounts by their origin or by their application and their interrelations.

The investment subsystem involves the application or immobilization of the money obtained through the financing for obtaining inputs (short -cycle and long -cycle)

The incorporation of the investments for the obtaining of goods, will originate the to the production subsystem.

Finally, the disengagement of products, which will allow the resources applied at the beginning of the cycle to be dismantled, constitutes the disinvestment subsystem.

Precisely, the capture of all this problem can be done in two ways:

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- developing the entire accounting registry process with a single series of accounts for the four subsystems, that is, opting for a **Monistic link system**.
- or, independently considering the different problems or grouping them according to different combinations, that is, according to a **Pluralistic link system**. Within pluralism there can be three approaches: dualistic links (dividing into two groups), trialist links (combining the four subsystems into three groups) and tetralist link (considering each subsystem separately).

Of all of them, at present, there is a dualistic link, which brings together, on the one hand, the subsystems of financing, investment and disinvestment, which make up the *External scope* of the company and, on the other, the production subsystem, which individual way configures the *Internal scope* of the economic unit. The registration of these two areas will give rise to the external and internal Accounting, respectively.

This leads us to break the continuity of Schneider's circulation of securities scheme in order to limit both areas: the debit of the Purchases account is valued at acquisition prices, while the credit part is valued at consumer prices. For their part, in the Sales, debits value at production cost prices, and in the case of sale prices, which, as can be seen, in both cases, fall within different spheres. However, the debit of some accounts in the books of external Accounting can not be carried out, and the internal debit, or vice versa, therefore, we will have to define, according to the doctrine, the limits of the two areas, remaining, the accounts of Purchases and Sales wholly integrated in the external field, as the internal, will be configured, exclusively, by the accounts of Manufacture and Store

### 1.2. DEFINITION OF MANAGEMENT ACCOUNTING

Before defining and presenting the general objectives of Management Accounting, we must emphasize that traditionally **several terms** have been used to describe it, such as :

**Cost accounting.**- Fairly widespread but not entirely appropriate since it would be partial -costs and production-.

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**Industrial Accounting.-** Also partial since it is considered that there is production in industrial, commercial and service companies.

**Analytical Accounting.-** No very appropriate since both external and internal accounting are analytical.

**Management Accounting or Exploitation.-** Both accounts are responsible for the operation of the company but from different points of view.

**Internal Accounting.-** Name of Professor Schneider and the most appropriate because it is the one that best defines the content of the same.

Many authors point to Cost Accounting as a subset of Management Accounting and, to its core or a fundamental part of it. They consider also that is the Cost Accounting route of transmission between the bidirectional Financial Accounting and Management Accounting.

However, other authors consider that changing the name of Cost Accounting to Management Accounting has only meant modernizing the concept and adapting it to the role it currently plays in organizations. Considering both terms as synonyms, we position ourselves in this last position, so we will **combine the terms "management" and "costs"** to identify the accounting system used for the management of the organization.

Once you have a clearer idea of the discipline to be studied, proceed to enunciate a definition that serves to establish the study framework and the main characteristics of the subject. One of the most complete definitions of Management Accounting is that proposed by professor Requena Rodríguez, who defines it as " **that branch of applied accounting that, with respect to an economic micro-unit, allows us at all times the qualitative and quantitative knowledge of your economic reality -technical or internal, with the specific purpose of allowing the control of the production and the costs of said unit and the measure of the technical-productive efficiency of the same "** .

## **1.3. OBJECTIVES AND DEVELOP OF MANAGEMENT ACCOUNTING**

### **1. PLANNING, EVALUATION AND CONTROL OF MANAGEMENT**

- A. PLANNING is to quantify and interpret the effects of transactions and other economic events in the future of the organization.
- B. EVALUATE is to judge the implications of historical events in relation to the planned, to help choose an optimal course of action.
- C. CONTROL is to monitor and measure the performance and induce any corrective action necessary for the activity to return to the desired course.

### **2. THE CALCULATION OF THE COST**

The management accounting system must calculate the cost in order to:

- A. VALUING INVENTORIES, that is, the assets involved in the production process, such as raw materials, products in the process of transformation, semi-finished and finished products. The valuation of stocks is also necessary to transfer this information to the Financial Accounting.
- B. CONTROL OPERATIONS, ie providing information about the activities in the different work centers, its costs that this generates, for comparison with the data provided and check if done correctly.
- C. GET THE COST OF THE PRODUCT. This data is used to make decisions about prices, manufacture or buy or eliminate a line of products ...

Before focusing definitively on the discipline that occupies us this course, the Management Accounting, we must distinguish **the main differences between the CONTABILITY OF MANAGEMENT AND FINANCIAL ACCOUNTING**, summarized in the following table:

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|                              | FINANCIAL ACCOUNTING   | MANAGEMENT ACCOUNTING  |
|------------------------------|--|--|
| <i>Users</i>                 | External and internal: shareholders, credit entities, regulatory agencies, the Treasury, managers and workers. | Interns: workers, middle managers, managers and executives.  |
| <i>Purpose</i>               | Performance reports for interested agents or groups  | Report internal decisions made by employees and managers.  |
| <i>Restrictions</i>          | Regulated: rules issued by generally accepted accounting principles and by the State                           | Unregulated: systems and information determined by management to meet their strategic and operational needs                      |
| <i>Type of information</i>   | Mainly financial measures  | Financial, operational and physical measures   |
| <i>Nature of information</i> | Prima objectivity and reliability. The information is accurate and auditable (verifiable)                      | Relevance and flexibility for decision making are important. More subjective information (estimates) and discretionary           |
| <i>Ambit</i>                 | Aggregate and global: reports on the whole organization (External scope)                                       | Disaggregated and specific: informs about decisions and actions of departments and segments of the organization (Internal scope) |

As we have already studied, in other subjects, the Financial Accounting measures and records the operations of the company, focusing on the presentation of reports to third parties (shareholders, customers, workers, suppliers and public bodies). The Financial Accounting tries to project an image of the global situation of the company, mainly of a financial nature and of the results of the management to any interest group related to the organization.

The process of Financial Accounting, due to the diversity of agents involved, is regulated by the governmental authorities, which issue mandatory regulations, so that the financial reports must comply with the Spanish PGC and generally accepted accounting principles.

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However, this information is not enough to manage the day-to-day of the company. Managers need information that allows them to make routine decisions (for example, cost control and weekly billing of a chain of supermarkets, to plan and control operations) and non-routine (for example, the study of computer service costs for decide whether to do it outside or within the company), as well as answer questions that arise in their daily management, such as: is it worthwhile to carry out a certain activity or is it better to hire it? Which of my products is more profitable? How are productive resources being used? How is quality improved? Therefore, the company must design an information system oriented more towards its internal management.

But we must bear in mind that each company has differences in the type of information it needs, so the size, the activity sector, the complexity of the processes or the technology used, among others, can be aspects that influence in the design of this system of management accounting. Managers must use this discretionary character to design systems that help them make the best decisions regarding the resources used (human, physical and financial), as well as their products, services, processes, suppliers and customers. This information should also serve to learn about the management carried out and correct possible erroneous actions.

For this reason, Management Accounting **is not subject to external regulation** and the characteristics of the company and the needs of its members will influence the type of information offered. However, the information provided will have to be complemented with that of the Financial Accounting so that both can respond to the needs of the management.

Although, as we have already pointed out, there is no regulation of Cost Accounting, we must point out that with independence of some initiatives with greater or lesser diffusion success, the first and only attempt of standardization of the Analytical Accounting for companies in Spain took place with the first General Accounting Plan, approved by Decree 530/1973, although *Group 9. Analytical Accounting*, dedicated to the development of internal accounting, sees

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the light with several years of delay, by Ministerial Order of August 1 of 1978, and whose application was always voluntary.

The revision of the PGC approved by R D 1643/1990, leaves the group 9 undeveloped, indicating in the introduction that it may be used freely by the company, in whatever way is most convenient for its management. The last revision of the PGC approved by RD 1514/2007 does not develop the Internal Accounting (in this case group 9 has been assigned to the register of elements of external accounting).

Thus, there is currently no group of "official" accounts that serves as guidance to Spanish companies for the development of their internal accounting, although the foregoing does not mean that a dissemination of the application of Group 9 of the PGC of 1973, in its original version or with different variants.

### 1.4. THE 3 BASIC CONCEPTS OF MANAGEMENT ACCOUNTING

***Focusing on the problems that affect the Internal Accounting*** we must point out that **the process that defines the economic-technical cycle** of the company responds to the following phenomenology:

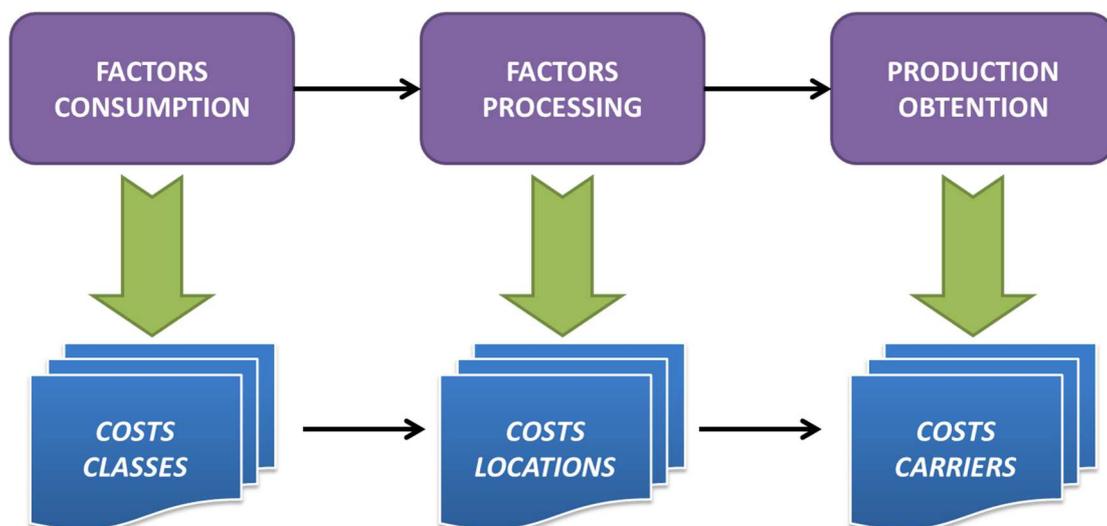


Figure 2. The economic-technical Cycle

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whose concretion determines the following concepts:

- Cost Classes
- Cost Locations
- Costs Carriers

Cost Classes answer to an idea classification and correspond to the various elements that, from an economic point of view, integrated production, ie, will become part of the product or collaborate in the production process for its preparation. They are the productive factors. Example: to produce skirts you will need cost classes as fabric, thread, labor, electric fluid, sewing machine, etc.

These elements, through appropriate adaptation, will give rise to the products, and such adaptation will be carried out in a determined space of the company that constitute the places or cost centers.

The Cost centers or Locations respond to an idea of location and are the basic cells where the homogenization of the different cost factors for their transformation into cost carriers takes place.

There are four basic sections in the company:

- *Procurement or Purchasing*: storage and maintenance of the factor.
- *Transformation*: Product manufacture
- *Sales*: Product placement
- *Administration*: accounting, administration, etc.

Said sections are formed by different cost places, such as, for example, within the *Purchasing Section* there may be the places of Warehouse of First Matters and Purchasing Service. In the *Transformation Section* may exist various places depending on the characteristics of the production process of each company. *Sales Section*, places like Sales Service, Products store. Finishes, etc. And finally, *Management Section* can exist places like Management, Accounting ...

The Objects of costs or Costs Carriers, on the other hand, respond to an idea of affectation, insofar as, in one way or another, depending on the model of assignment that is adopted, they incorporate all the costs generated in the

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process (production - finished, semi-finished, in progress, by-products and waste and others - indirect cost, cost of sales, administration cost, etc.-).

In the event that there shall be no factors without using the input ed from the external environment, its cost elements, cost centers and cost objects added up the same amount, but classified based on different criteria, otherwise, the surplus of factors without consuming, will be reflected, again, in the external environment in group 3 of existing cias

If this point were to end the interest of the internal Accounting, this, would lose the opportunity of reali a series of controls and analysis of interest as well as calculating the Results, for which it will be necessary, introduce or reflect in the internal scope the magnitude, of the external scope, "Sales" and its monetary equivalent "Income", since this magnitude is generated in the AE This allows us to compare the Income with the cost stream and obtain the Result, which allows us to It will measure the technical-productive efficiency of the company.

## 2

## THE CONCEPT OF COST

Professor **Pedersen** defines the cost as "**the consumption, valued in money, of goods and services necessary for the production that is the object of the company**".

We can make different classifications of the cost depending on the criteria adopted to make the distinction:

1. Based on their variability or behavior, they are classified as FIXED AND VARIABLE COSTS.
2. Considering their ability to associate them with cost objects A distinction is made between DIRECT AND INDIRECT COSTS.

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3. Considering the extent to which they have intervened in production they differ in COSTS OF ACTIVITY AND COSTS OF SUBACTIVITY OR EXCESS CAPACITY.

### 2.1. FIXED COST vs VARIABLE COST

**TOTAL COST.**- The consumption valued in money of all the factors that in a period, intervene in obtaining a certain amount of production defines the total cost.

Of all these factors, some are usually determined in invariable quantities: the consumption valued in money, these factors will be called **FIXED COSTS** being able to define them as *those that are independent of the volume of production and exist even when there is none* - they do not vary when the production varies- (Eg cost of a guard). Other factors involved in the production should not be determined in a fixed manner, the consumption, valued in money of these factors, will constitute the **VARIABLE COSTS** what will we define as *those who are closely linked to the production volume and therefore to vary with it*.

Clearly, the dichotomy fixed costs-variable costs can be seen, characterized the former, because they are independent of the volume of production, and the latter, because they are linked to the volume of production, so that they are altered when production is varied.

Although the previous analysis may leave clear the difference between fixed and variable costs, however, this distinction has been questioned, among others, by Prof. Schneider, who does not understand the excessive importance given to the question, contrary to Schmalenbach who considers it fundamental.

But Schneider does not intend to deny such distinction, nor to end it, what he seeks, is, through a critical judgment, to give this dichotomy the importance it really deserves. That is, it aims to study and determine its true scope in terms of the treatment of the problem of costs in the company.

### THREE POINTS ON WHICH HIS CRITICISM ESTABLISHES:

1.- First, consider that you can not, a priori, absolutely, this to establish the fixity or variability of a cost, since in its judgment, a cost will be fixed or variable depending on its relationship with one or more independent variables a period, a certain nothing production, a certain degree of occupation, etc-. An additional problem will arise now of choosing the independent variable to be used as a comparison term, since, not only is there disagreement about the variable to be chosen, but there is also confusion regarding the concepts. There are four, according to the same author, the most **subactivities: activity, production, occupation and productivity**, terms, on which there is no agreement, except for the term "production" on which there is unanimity. In addition, for Schneider, "occupation" and "activity" are different words to name production, in view of the use made of them by different authors. Therefore, Schneider concludes that the variable on which the fixity or variability of a cost must be defined must be **production**, an opinion in which the economic theory also abounds.

2.- The second question pointed out by Prof. Schneider is that it is not enough, for the determination of fixity or variability of a cost, with the determination of a variable independent tooth, to eliminate part of the subjective character of such differentiation, since in the company there are costs that behave as fixed at a given time, as a result of the decisions of the employer. The amortization of the fixed assets based on a linear system or fixed installments, supposes establishing the fixity of such a system. On the basis of the decision to amortize according to such system, and not according to the intrinsic nature of the amortizations, if the entrepreneur opted for a variable amortization system, he would grant amortization the character of variable cost. The cost of labor may also represent a CF or CV depending on the type of contract established - fixed or piece-rate wage. Therefore, the decisions of the entrepreneur when analyzing the fixed or variable behavior of a cost should also be taken into account.

3.- The last issue presented by Schneider is the abstract distinction between the short and the long term, when considering that the short term is that period of time in which some costs of the company remain constant, while the long term would be that temporary period in which all costs are variable. According to the above, Schneider did not consider realistically such distinction, since the decisions of the entrepreneur could be those that determine the short or long term.

*Example : The company always analyzes by periods. Therefore, if I analyze a period of 2 years (more than the short term of economic theory) in it I will consider CF and CV, while for the economic T in that period, being greater than a year, all the costs would be CV.*

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For Schneider, then, the distinction between the short and long term is exclusively formal, since the company works and works in specific periods of time, and it is those periods that are incumbent on it, so that in those terms, and not in others, some costs will behave as fixed and other vari The question will be to analyze whether this fixity or variability is inherent to the intrinsic nature of each cost, or whether it is determined by managerial decisions.

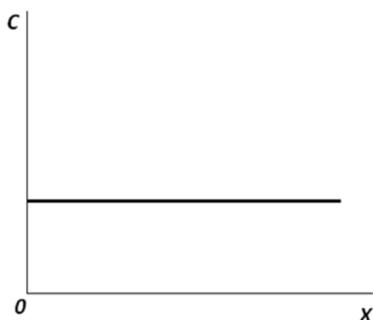
We can conclude, then, by saying, that the distinction between fixed costs and variable costs, although interesting, however, are less important for the study of the business, of what some consider, as Professor Scheneider indicates.

### 2.2. CLASSES OF FIXED AND VARIABLE COSTS

#### 2.2.1 CLASSES OF FIXED COSTS

About fixed costs, we can distinguish two classes:

##### - Costs in a stationary state or structural costs:



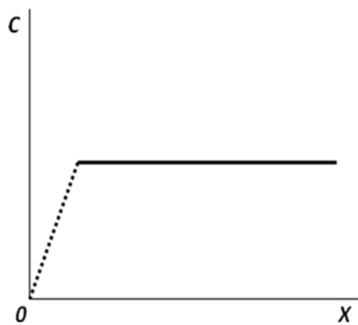
those borne by the company, although no type of activity is developed, which are due to the structure of the company and its maintenance, provided that its fixed structure is maintained to production (it is necessary to qualify the difference between the **unemployed state** - temporary companies **and inactivity** in specific periods -a machine is broken,

the company is in operation-). Ex:

- \* Surveillance
  - \* A certain staffing
  - \* Certain taxes-sewerage-
  - \* Physical amortization or as a function of time
- No functional or use depreciation.
- \* A rental

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### - Start-up or production preparation costs:



will be those that arise as a result of the adequacy of the company to be manufactured, but any product unit reaches occur.

Ex .: \* *payment of the corresponding license to start manufacturing.*

\* *Provision of a minimum staff, an administrative (a), in a blast furnace a worker for the boiler ignition and*

*maintenance of the ideal temperature.*

\* *Minimum administrative structure- computers, ovens, etc.*

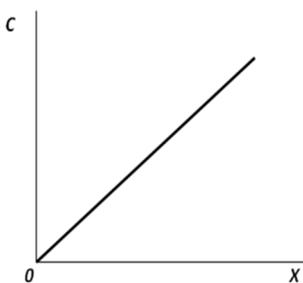
\* *Clean, etc.*

Therefore, the denomination of start-up costs is considered better than the preparation of the production because the company supports them even if it does not produce anything.

### 2.2.2 CLASSES OF VARIABLE COSTS

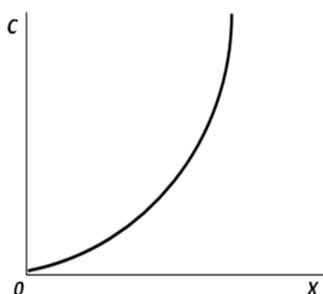
Not all variable costs behave in the same way with respect to production changes. So, you can distinguish between:

#### - Proportional costs:



those that behave proportionally with respect to variations in production (they double if production is doubled), such as raw materials, or labor. In unit terms it would be constant. For example : if to make a trouser I need 2 meters of fabric, to make 2 I need 4 m.

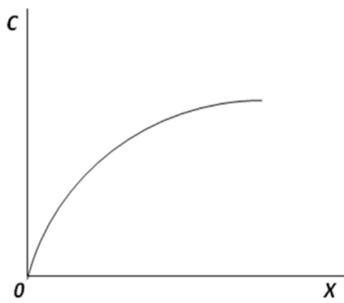
#### - Progressive costs:



they vary more than proportionately This is due to variations in production, for example labor with overtime because overtime is paid more expensively than the others. In unit terms it would be growing.

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### - Degressive costs:



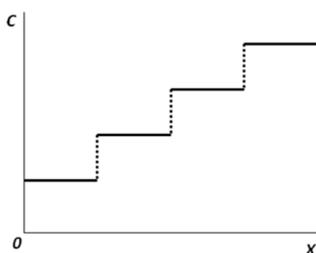
those that grow with production but less than proportionally, in total terms, but in unit terms would be decreasing with respect to increases in production. For example: the cost of electricity, which has degressive rates, because as more kw are consumed, they are cheaper, with the TC growing but less than

providing cional

Therefore, when deciding on production increases, on the acceptance of certain orders, a detailed study of the variable cost classes that make up the productive structure of the company: there is no problem with the proportional costs, which would not affect the unit or average cost, but not the progressive costs that will increase the unit cost, which could collide with the pre-pricing policy of the company and affect the expected benefits. On the contrary, the degressive costs would make nuir the cost uni and that would improve the benefit.

### THE RECURRENT COSTS

Prof. Schmalenbach speaks of another type of variable cost, which hardly appears in the accounting literature, the recurrent costs, such as those that decrease as production increases. They may do so proportionally, more than proportionally, or less than proportionately, being their CMA negative. Eg heating a movie theater, the more people watching the movie, the less heating is needed. They should not be confused with degressive costs.



In addition to the above costs, there is another type of variable costs, **semifixes or variable jumps**, which will be those that remain fixed at certain intervals, and then vary, they take a quantitative leap, to behave, again, as fixed in the next interval. They are irreversible costs, since they are not, in a clear way, variables.

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Finally, we have the so-called **Mixed or Semi-variable Costs**, that is, there are costs that are clearly fixed, others clearly variable and other Mixed or semi-variable that are those composed of 2 components: a fixed and therefore to support in any case, even when there is no activity and another variable, depending on this . As an example we have the case of electricity, with a fixed component, depending on the energy contracted or installed, and another, variable, depending on consumption.

### 2.3. DIRECT AND INDIRECT COSTS

This classification considers the possibility of allocating the costs to the so-called cost targets and which can be the activities, cost places and products. That is, the final cost objectives are usually the products produced by the company , although it can also be shared between the activities or between each of the so-called responsibility centers, which usually coincide with departments or parts of the organization.

***DIRECT COSTS*** , are those that can be assigned (affected) unequivocally and directly to the cost object. Therefore, they can be assigned without the need to use subjective distribution criteria. They can be fixed costs (fixed labor, amortization of a machine based on time ...) and variable costs (materials, variable labor ...)

***INDIRECT COSTS*** are those that are not known as carrying out their assignment to the cost object and, therefore, require subjective distribution criteria to be able to assign them. This is a consequence of being consumed simultaneously by two or more cost targets, so some distribution criteria must be used to be able to make the allocation. They can be fixed costs (amortization of the computer of the sales section on a time basis, the salary of the director ...) and variable costs (electric power, telephone ...)

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Direct costs are fully identified with an activity, product, department, etc. (For example, the salary of the sales director's secretary is a direct cost from the sales department). The costs can be direct in relation to a section, but indirect in relation to a product. Indirect costs can not be identified with a given product (for example, amortization costs and financial costs).

### 2.4. ACTIVITY AND SUBACTIVITY COSTS

**ACTIVITY COSTS** are those involved in the process of generating the business charges of the period because they are accurate for the level of occupation of the company, which is why they are usually known as costs of the activity. They are costs that are part of the level of production of the company, therefore to be originated in the production process, are costs of it and may affect the cost of the product. As part of the cost of the production, also contribute to the internal results.

The **SUBACTIVITY COSTS OR EXCESS CAPACITY** according to Schneider, are those whose consumption has no relation to the production of the period, that is generated in the company but not in relation to their level of employment, also denominating **costs dead or empty**, being that of excess capacity that best defines them.

Costs by overcapacity incid will realized It do Total, decreasing it, but does not address n in the cost of production and therefore also in the product cost, this is not considered internally, only in External Accounting, since in Internal Accounting only what is consumed is recorded. Thus, they influence the total result of the company, by decreasing it, but they do not participate in the internal result and, therefore, they will not be part of the cost of the productive process either.

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**EXAMPLE** Suppose the production of the company "X", with the following structure of costs corresponding to the machinery - the productive capacity of a machine is 100 uc and its amortization cost of 100€

| Production | Machines   | Amortization cost | Consideration of Activity Costs                        |
|------------|------------|-------------------|--|
| 100 uc     | 1          | € 100             | € 100 Activity cost                                    |
| 200 uc     | 2          | € 200             | € 200 Activity cost                                    |
| 150 uc     | 2          | € 200             | € 200 Activity cost                                    |
| 100 uc     | 1st<br>2nd | 1 0 0 €<br>10 € 0 | € 100 Activity cost<br>100 € Coste for excess capacity |

For a production volume of 100 uc or less, the cost of the second machine is a cost for excess capacity. Arrival recession demand that forces to reduce production to 100 UCP or less, the depreciation costs of the second machine, which now I use do, and STARAN affecting the company but is considered n by overcapacity, but for 150 uc all the cost is for the activity.

These costs related to factors that are not being consumed constitute costs overcapacity, and so as to, even if it means an expense amortization accounting outsourcing is not going to make an impact on the cost of the production process and therefore neither in the product.

However, if we use the distinction between costs of the activity and costs for excess capacity, we will only take the costs of the activity to the cost of the product, affecting the unit cost thereof, while the costs for excess capacity do not affect in the product but only in the result of the company. Therefore, the company will not earn more, using this distinction, however if you plan to have more information and more accurate about what factors have actually affected in the manufacture of the product and on the competitiveness of its product, since the costs for excess capacity they are not passed on to the latter, which will make the costs of the product manufactured by the company comparable with that of others with the same characteristics. However, with respect to the result, the company that has an idle superstructure will earn less, since even if the excess

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capacity costs are not attributed to the product, the result will decrease in the external environment.

### THE HYSTERESIS OF COSTS

An important concept in relation to this distinction between costs of the activity and costs for excess capacity is that denominated, by Professor Pedersen, ***Hysteresis of costs***, which can be defined as the irreversibility of certain costs, which are increasing when the cost increases. production, but not the other way around, that is, they are not reduced by decreasing production. Costs with these characteristics, as we have already mentioned, are called ***semifixes or jump variables*** - which should not be confused with ***semi-variable*** or mixed ***variables***.

In short, it is that certain costs that up to a certain point had behaved as fixed have undergone changes such as, for example, the expansion of some of the facilities (s), the need for a greater number of foremen. to direct a job, etc. to subsequently return to behave as fixed. When surpassing certain intervals in the production a  $\Delta$  arises in the total sum of CF and they grow in jumps.

Of these costs, it should be noted that its behavior is not analogous to the decrease in production, thus giving rise to the problem of cost hysteresis .

The proposed distinction between costs of the activity and costs for excess capacity makes it possible, in part, to alleviate this problem of the hysteresis of the costs considering as excess capacity the cost incurred even if production decreases.

However, this would not completely solve the issue, because it will not completely avoid irreversibility, but only jumps - provided we move at the extremes of the intervals.

## 3

### CONCEPT OF INCOME, MARGIN AND RESULT

The development of any discipline makes it necessary for us to familiarize ourselves with a series of basic concepts that are frequently used in it. In this sense, in Management Accounting we will define three fundamental terms for it: income, margin and result.

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The **income** is the monetary equivalent of the sale which can be understood as any transfer of goods or provision of services . That is, it is the amount of the products sold by the company or the services it provides.

It means **margin** the difference between the income generated by the sale of a product or service and the cost of the necessary to obtain production.

In the context of cost accounting, different types of margins are established depending on the more or less broad sense given to the concept of production cost.

Thus, for example, a classification is the one that includes the *industrial* (or technical or manufacturing) margin, as a difference between the sales income and the manufacturing cost of the products sold, and *the commercial margin* , which will be obtained by subtracting the previous the cost of its distribution and sale.

The **result** is the surplus (gains or losses) obtained by differences between the income from sales and the costs corresponding to them, during a certain period of time. It can be referred to the company as a whole or to a segment of it (division, branch, etc.).

The term *margin* is often used to refer to products, while the term *result* is used to refer to a period.

It should be noted that the General Accounting Plan includes the results obtained from the comparison of income and expenses for the period in the Annual Profit and Loss Account. These results are characterized because they refer to the company as a whole, not reflected in the Financial Accounting the results obtained by the different products or services that the company sells or, consequently, what is the structure or composition of the costs that have generated the benefits or losses of each product or service sold.

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Therefore, in the company you can get 2 results:

- One with the data of the Financial Accounting
- Other with the data of the Management Accounting

A MBOs results do not coincide, since there are expenses and in the Financial Accounting that are not costs in Management Accounting and conversely, ie costs Management Accounting are not expenses in Financial Accounting.

### 4

### MODELS FOR ALLOCATION COSTS IN THE COMPANY

The company develops in its operation a factor application activity (cost classes), in accordance with the appropriate treatment of them, obtain products in order to sell them later and obtain benefits.

Because of this, the company, in the development of its activity will be related to:

- The market and external: With the world external makes the purchase or place factors, sale or disengaging product and funding. For which it goes to their respective markets in which they govern prices that they normally can not act on.
- With herself. But it also relates to itself because of the development of its production activity acting in the system of own costs or internal prices

The ability of the company to obtain benefits will depend on the ability to adapt its cost prices or internal prices to external prices that come almost tax. (In the case of companies that can decide on these systems external prices, are often controlled in our, as monopolies, as can be obtained, without you I force management, improved profitability management of these external systems).

It is, then, that the company has an adequate structure of internal prices so that when unlocking the finished products, at a price given by the market, it obtains benefits, and this will not be possible without an adequate knowledge of its generation process. cost so that the lack of a policy objective determination of

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costs or development, the company will not provide the necessary information to adapt their systems of internal costs for maximum profitability.

This need will raise two questions:

1. determine the **type of costs that we want to incorporate the product** , and so, we will set the **focus or cost allocation model** to use (if we include all costs or only varies bles...)
2. In **what way are we going to carry out the capture and treatment of the cost generation process**, and so we will choose the **cost system** we are going to adopt (historical, predetermined ...)

Regarding the first question, specifically, there are, from the point of view of the economics of the company, two approaches to assign tion cost:

- o **Full cost models**
- o **Partial cost models**

Models to **FULL COSTS**, which are based on the distinction between fixed and variable costs are those charged to carriers' **costs, both fixed and variables (of all kinds) generated in the production process**, models that Correspond in this group are:

1. FULL-COSTING OR COMPLETE OR TOTAL COST
2. FULL-COST ING EVOLUTIONARY OR PRODUCTION-COST ING OR DISCRIMINATION BETWEEN INTRINSIC COSTS (CI) AND COSTS TO REINTEGRATE (C to R)

Models **partial costs** historically appear to correct deficiencies of model information to complete costs Full-ing. These models **incorporate the carriers only part of the costs generated in the production process**. The DIRECT-COST I NG model belongs to this group in its different modalities.

Its development will be carried out in its order of appearance, so the first one that we will see will be Full-costing.

**4.1. FULL COST MODEL**

The first of the models at full costs was the **FULL-COSTING** according to which, the production is valued in such a way that each unit of quantity of product incorporates CF and CV, leaving no pending cost to incorporate.

The Results account will be calculated by the difference between the **income from sales and the cost of production sold (cost of sales)**, so that unsold inventories will include CF and CV, that is, **production inventories will be performed at full cost**.

$$\text{RSLT} = \text{Sales revenue} - \text{Cost of Total sales}$$

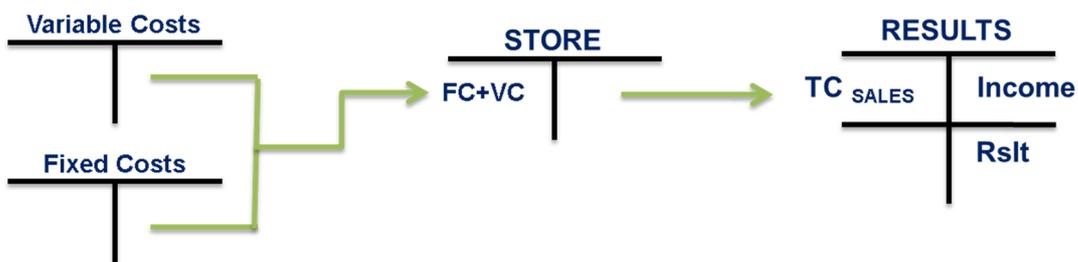


Figure 3. Schema for Full Costing without distinguish Cost-locations

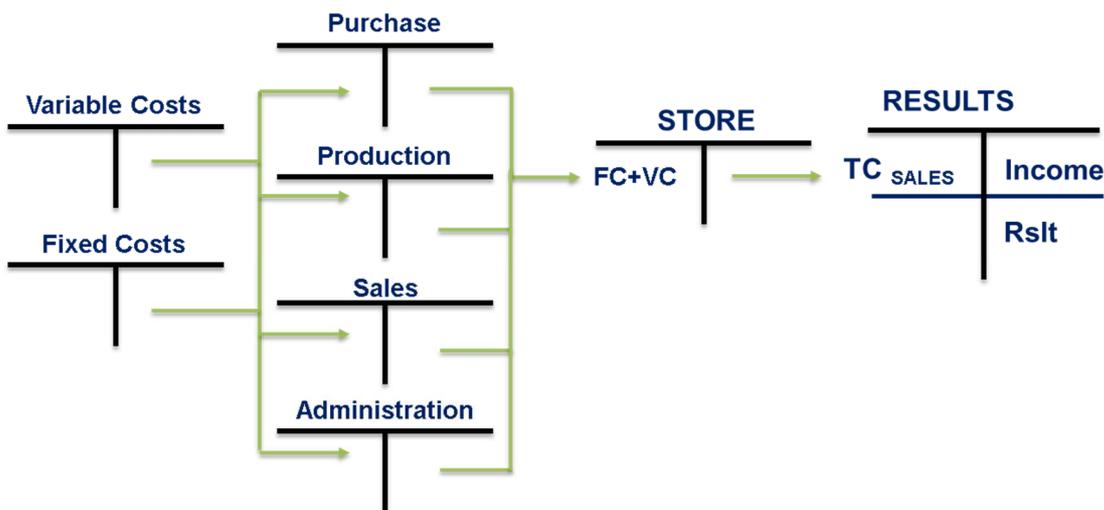


Figure 4. Schema for Full Costing with distinguish Cost-locations

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### Example:

Total Cost = Fixed Costs + Variable Costs ( X )

$$TC = 300 + 10X$$

X (number of units manufactured) = 30 uc

No. of units sold = 20 uc

TI<sub>v</sub> (Total revenue from sales) = €1,000

$$\text{Average } TC = \frac{\text{Total Cost}}{X} = \frac{300+10 \times 30}{30 \text{ u.c.}} = \frac{600}{30} = 20 \text{ €/uc}$$

As there are no initial stocks, the total cost of sales (TC<sub>v</sub>) is

$$CT_v = 20 \text{ €/uc} \times 20 \text{ uc} = 400 \text{ €}$$

$$\text{Rslt} = TI_v - TC_v = 1,000 - 400 = 600 \text{ €}$$

This model raised a series of criticisms:

1.- An inventory of CF is produced, so that if nothing is sold, the Rdo. = 0, would not lead to losses, because the income will not have income, but tam little will cost, since they are inventoried, and this does not make sense.

$$\text{Rev.} = 0 - 0$$

What according to the detractors of this approach, is not logical, since the CFs have to endure, whether or not it occurs, therefore, in their opinion, we should compensate them, in each period, as far as possible, which is why they are considered costs linked to time, not production

From this point of view, this inventorying of the FC will lead us to an overvaluation of the stocks

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2. The level of employment of the company will be excessive in flow in the unit cost of the product as with equal CF, ranging tions of production will lead to fluctuations in prices without real improvements or deteriorations in the production process -. Without em ever, you can not depend on the cost of extrín circumstances dry production. Clearly, if the company is operating efficiently the unit price must be uniform - not only companies that have idle resources to work competiti prices you-.

### Example:

A company has a CF = € 300 and CVMe = 10 X

**In the case that manufactures 30 uc:**

$$CT = 300 + 300 = 600 \text{ €}, \text{ therefore } C.\textit{unitario} = \frac{600}{30} = 20 \text{ € / uc}$$

**In the case that manufactures 50 uc:**

$$CT = 300 + 500 = \text{€ } 800, \text{ therefore } C.\textit{unitario} = \frac{800}{50} = 16 \text{ € / uc}$$

3. Relativism and subjectivity of unit CF involvement, since, as there is no direct cost product for CF relationship, we must resort to the charging of this type of car gas, criteria in some cases can be subjective, objectivity subtracting calculations, although it depends on the judgment of the responsible, and in any case, what im carrier is that the criterion is rational, since internal accounting is, for the most part, subjectively. (Eg assignment to the product of the cost of the guard, or the secretary of the director, etc.)

## 4.2. DIRECT-COST MODEL

COSTING arises **DIRECT COSTING** is an allocation model partial costs characterized in that, incorporated carriers only part of the costs incurred in the productive process.

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At first, in DC, the distinction between Direct Costs and Indirect Costs was discussed, hence the name of the model. However, what was really done was to identify the CDs with the CVs and the CIs with the CFs, as if they were equal, but these concepts are not the same:

There are two alternatives:

- distinguish between CF and CV, incorporating only the latter to the carriers,
- differentiate between direct and indirect costs because of its unequivocal incorporation -through an accurate measurement can you dad of consumida-factor, or not the carrier.

In the first case, the variable costs will be assigned to the product, only CVs being inventoried, with the CFs absorbed in the period in which they are generated with the margin resulting from deducting the variable costs corresponding to the production placed to the income of the period.

$$M = \text{Sales income} - C. \text{ Sales variables}$$

$$REV. = \text{Margin} - C. \text{ Fixed period}$$

When the margin is zero  $M = IV - CV = 0$ , the coverage of the CVs will have been produced, it is therefore the **minimum of the exploitation or threshold of production**. It is about generating higher margins, until CFs are covered, at this **point being the threshold of profitability or deadlock**, after which the company will start to obtain benefits.

### Example :

Total Cost = Fixed Costs + Variable Costs (X)

$$CT = 300 + 10X$$

X (number of units manufactured) = 30 uc

No. of units sold = 20 uc

IT (Total revenue from sales) = € 1,000

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$$M = ITv - CVv = \text{€ } 1,000 - (\text{€ } 10 \times 20u.c.) = \text{€ } 1,000 - \text{€ } 200 = \text{€ } 800$$

As there are no initial stocks, the Cost Variable of sales ( $CV_v$ ) is € 10 / uc

$$Rev. = M - CF = 800 - 300 = \text{€ } 500$$

In case the company manufactures several types of products (i), it would not calculate a result for each type of product but a margin for each of them and a single Result:

$$M_i = \text{Sales revenues}_i - \text{C. Sales variables}_i$$

$$Rdo. = \sum_{i=1}^n M_i - CF$$

These models failed partial costs as cost allocation models, however manifest themselves very useful in analyzing profitability of product lines, especially in Empre commercial sas.

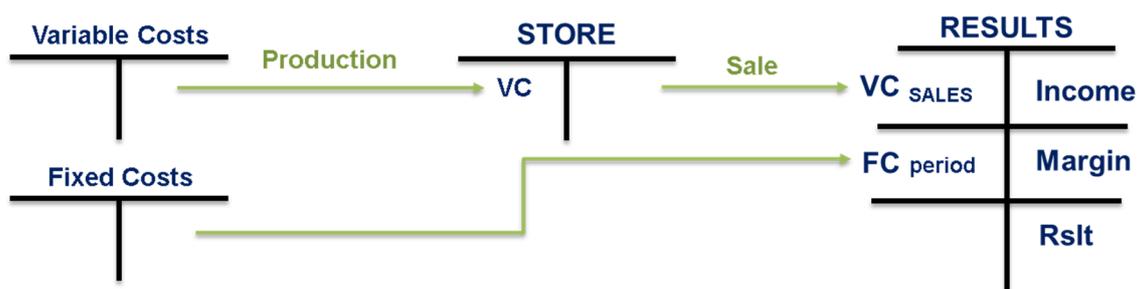


Figure 5. Schema for Direct Costing without distinguish Cost-locations

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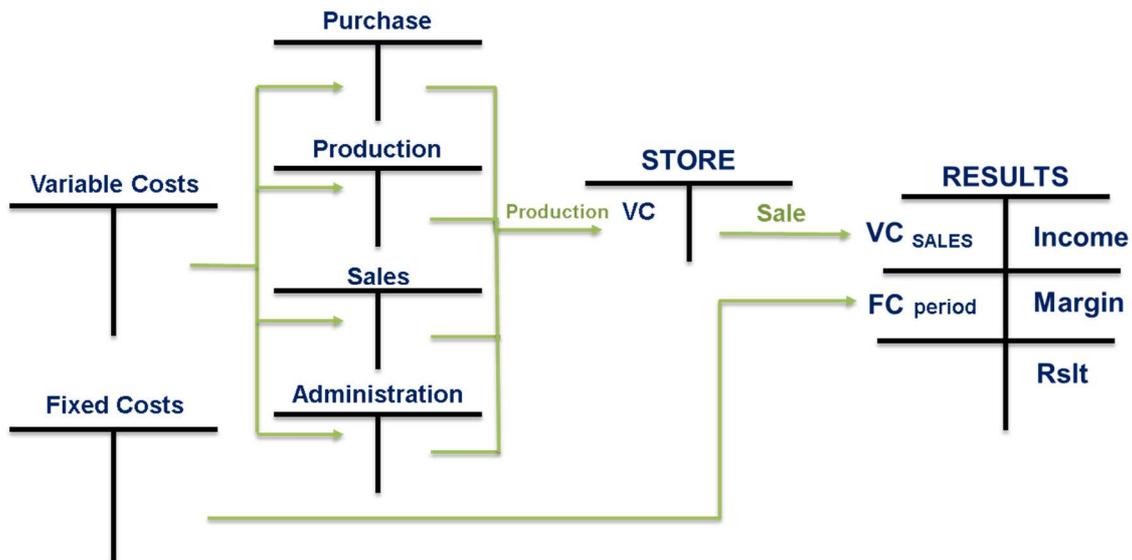


Figure 6. Schema for Direct Costing with distinguish Cost-locations

If we compare the Full-Costing and the Direct-Costing when all the production is sold, the Results obtained according to the different models of cost allocation will coincide, however, when there are unsold stocks or inventories are generated ( $A_v < A$ ), the greater the result obtained by Full-costing, because they have not charged all loads fixed period, since the CF units in stock have been inventoried. The valuation of stocks will be higher models to full costs, producing greater results in the full-costing in the Direct-costing when stocks are created, while it will be me nor, if they are destroyed or consumed stocks ( $A_v > A$ ).

### 4.3. PRODUCTION-COST MODEL

The improvement in allocation models led to the appearance of this other model at full costs, developed in Spain, mainly by Prof. CALAFELL, who called it the Model of Discrimination between Intrinsic Costs and Costs to be reintegrated. This model resulted in the differentiation of production and placement currents, and in the treatment of costs according to the functional nature of the cycle where they arise.

Part of the fact that the usual activity em prey can differentiate two cycles:

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- **the production cycle** , comprising the series of transactions leading to increase the value of its economic asset, constitute investment for the company, involving the acquisition and application of means for obtaining processed products.

- **the marketing cycle** , which includes transactions whose objective is the conversion of its economic asset into a financial asset, by transferring the processed products to the outside world, and involving divestments.

The values generated in both cycles must be calculated independently. I call the first Calafell "**intrinsic costs** ", and the second, "**costs to reintegrate** ".

The **intrinsic costs** or production costs (C.Materiales direct + CSAprovisionamiento + CS Transformation), involved in ob intention of production, so that the higher production costs more intrinsic, therefore, be incorporated into carriers in its all, it is inventoried unsold stocks intrinsic cost or production cost, -CF CV cycle and pro ducción-.

The **costs to be reintegrated**, or also denominated doctrinally of commercialization, for their part, are independent of the production, and are related to the placement or sale of the production in the period. When considered costs linked to time, they will not be part of the cost of the product, and will go directly to result.

$$M = \text{Sales revenue} - C. \text{ Intrinsic sales}$$

$$RDO. = \text{Margin} - C. \text{ to Reintegrate period}$$

$$\text{Dead point} \Rightarrow M = C. \text{ to R.} \Rightarrow RDO. = 0$$

This approach is called "**Full-cost ing evolved**" , "**Pr oduction-cost ing** " or **Discrimination between Intrinsic Costs and Reintegrate** .

All the above is summarized in the following scheme:

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|  |                   |   |                       |
|--|-------------------|---|-----------------------|
| Direct Materials<br>+ PURCHASE                 | <b>PRODUCTION</b> | <b>SALES</b>                                      | <b>ADMINISTRATION</b> |
| <b>PRODUCTION CICLE</b>                        |                   | <b>SALES CICLE</b>                                |                       |
| <b>INVESTMENT</b>                              |                   | <b>DESINVESTMENT</b>                              |                       |
| <b>Intrinsic Costs<br/>or Production Costs</b> |                   | <b>Cost to be Reintegrated<br/>or Sales Costs</b> |                       |

For the calculation of the Result, it also uses the concept of margin, which on this occasion will be determined by the difference between the total income of net completed sales during the period minus the intrinsic costs of sales or also known as production cost of the production sold.

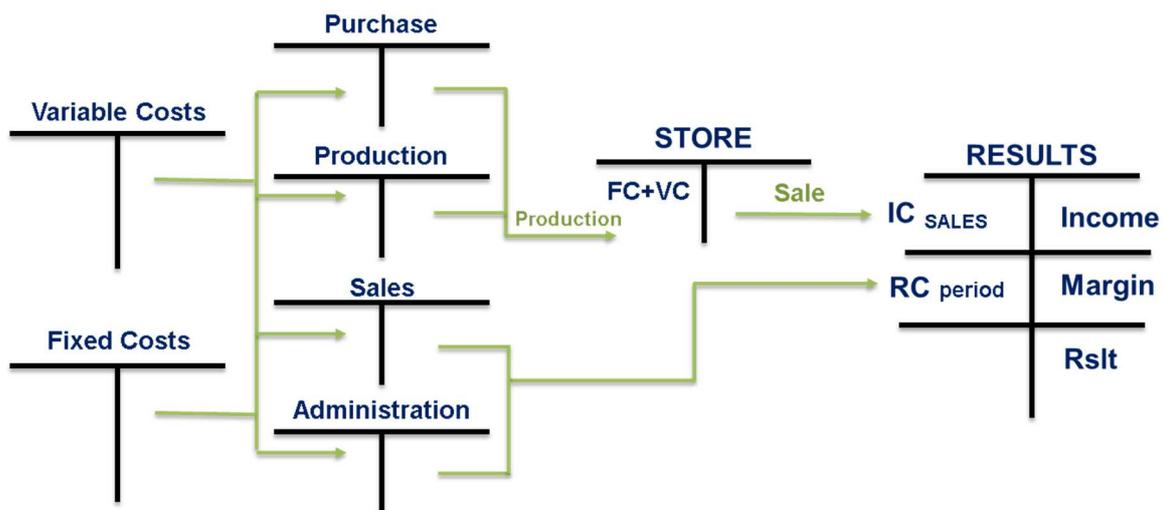


Figure 7. Schema for Production Cost Model

Regarding previous criticisms of Full-cost :

1. As inventurisation CF, also it occurs in this case, but with the proviso that the costs inventoried in this case are inventoried by their very nature, with independency of its fixity or variability.

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2. Finally, regarding the influence of levels occupation in unit costs with the use of Production-costing is eliminated, since only the costs actually applied to production are included especially following the distinction between costs of the activity or necessary and costs of the subactivity, due to excess capacity or not necessary.
3. There is no subjectivity in the allocation of the CFs, given that the CFs that are distributed in this model are those directly related to production.

Nowadays it is the most used since according to the norm 10 of valuation of the PGC - valuation of existences - the existences must be valued at cost of production. Although in the domestic sphere, theoretically, you can do what you want, because there is no rule that forces us to anything, this is relative because in the AE the data have to be included in a certain way and therefore it will have to be given that way So, as long as the AE does not say anything incoherent, it must be treated that both areas are coordinated and do not do double work without meaning.

### 5

## CAPTATION SYSTEMS AND ECONOMIC-ACCOUNTING TREATMENT OF COSTS

Regardless of cost allocation model used, some schemes uptake, processing will be needed in formation and emission, relative magnitudes operating internally, ie need **cost systems**.

There are different cost systems, the choice of one or the other will depend on the options presented to elaborate the information tion.

A) A first alternative, makes the distinction, taking into account the bearer cost allocation process and in this sense distinguishes between **organic systems** and **inorganic systems**.

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This distinction is based on the three fundamental concepts, basic pillars, of the productive process that are: Classes, Places and Cost Carriers.

From this point of view, when the collection system costs- costs -System contemplates three stages or concepts we face the **Systems Organic Costs** which are the factors that link the productive (CC) to the activity centers (LC), and at the same time, the activity with the product or service (PC), according to its actual nature

When the cost system does not include the cost places, we will be faced with the so-called **Inorganic cost systems**, which are those that relate the value of the consumption of the factors directly with the carriers, ignoring the real structure of the training process of the cost, that is, the cost places.

The incorporation of the cost incurred in the production process it happens, from the point of registration view class bearers cost, which in or mean that the sections do not exist in the company, what happens is that when treat them accountable I can consider them or not.

B) The second alternative, based on the type of magnitudes used, distinguishes between **Historical Cost Systems** and **Predetermined Cost Systems**.

The **Systems Historical Costs** are here é Llos in which the determination of magnitudes is carried out once the period has elapsed, ie with actual or retrospective data. By responding to a retrospective approach, you can only provide us with information afterwards. As a consequence, the company will have more or less exact information, but will not be able to establish control.

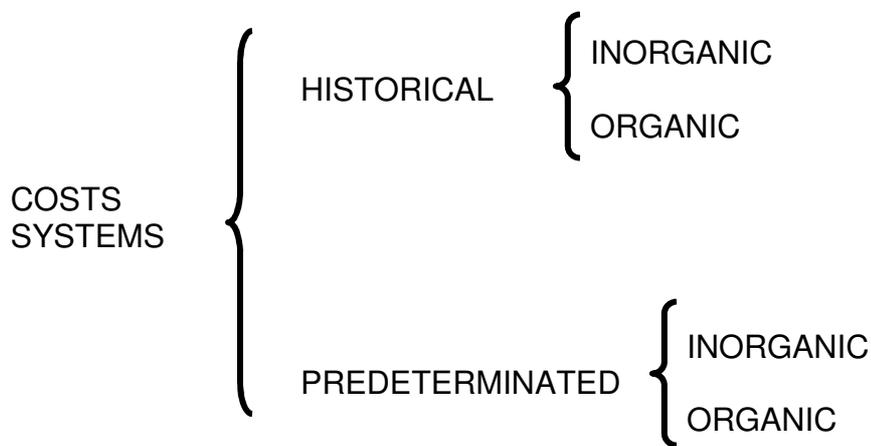
In the **Default Cost Systems**, the determination of the magnitudes is made based on a forecast of costs that serves as a basis for a later comparison with the realization, analyzing the deviations and adopting the corrective measures that are necessary. As a consequence of this, in this cost systems information is

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obtained that serves the company in order to establish a control that did not occur in the Historical.

These predetermined magnitudes are forecasts of a reality that has not yet happened but that responds to a scientific, economic-technological analysis, and objectively carried out to establish what the next reality should be in the event that the set of conditions of technical and economic efficiency.

From the combination of these two classifications, the four basic systems for determining and analyzing costs are obtained.



**HISTORICAL INORGANIC MODELS:** They only calculate real magnitudes and do not contemplate the information relative to the places of cost of the company, therefore, they only allow to obtain a posteriori information of the incidence of the different productive factors in the carriers.

*Eg Anglo-Saxon model of costs for orders or work orders*

**PREDETERMINED INORGANIC MODELS:** They ignore the existence of cost places in the company and work with predicted magnitudes, which allow, after the end of the period, to compare them with real ones and obtain deviations. Therefore, they suffer from the possibility of knowing the incidence of places in the carriers, however, it is possible to exercise a certain degree of control over the influence of the factors on the carriers.

*Eg Anglo-Saxon model of standard costs.*

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**HISTORICAL ORGANIC MODELS:** They allow to capture the incidence of the factors in the places and of these in turn in the carriers, although working only with real magnitudes. They are more complete than the first, in that they reflect the real process of generating the cost in the company, although the information is only real.

*Eg Model of group 9 of the PGC of 1973 at historical costs.*

**PREDETERMINED ORGANIC MODELS:** These are the most complete models since, in addition to reflecting the real cost generation process in the company, they work with predicted magnitudes, which allow, after the end of the period, to compare the former with the real ones and obtain the deviations That occurs. Therefore, they provide maximum information and allow control to be exercised.

*Eg Model by section of Schneider or Model of group 9 of the PGC of 1973 at predetermined costs*

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