



*Aproximación a una propuesta de procedimiento para la
planificación presupuestaria en la Universidad de
Guantánamo*
*Approach to a proposal for a budget planning procedure
at Guantánamo University*

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Recibido: 20 de enero, de 2021

Aceptado: 2 de abril, de 2021

Resumen

Con el objetivo de sentar las bases para el diseño de un procedimiento que permita estimar el presupuesto en la Universidad de Guantánamo, a partir de las Normas Unitarias de Gastos, se sistematizan, en lo teórico, los métodos de planificación presupuestaria abordados diferentes autores, y en lo metodológico del análisis del procedimiento elaborado por el Ministerio de Educación Superior para estimar el presupuesto 2021. La propuesta de procedimiento que se aporta se estructura en cuatro pasos ordenados para captar, procesar y ofrecer información válida y confiable en una planificación presupuestaria más racional y objetiva.

Palabras clave: Normas unitarias de gastos; Planificación presupuestaria; Estimación del presupuesto; Gestión económico

Abstract

In order to lay the foundations for the design of a procedure to estimate the budget at the University of Guantánamo, based on the Unit Expenditure Norms, we systematize, theoretically, the budget planning methods addressed by different authors, and methodologically, the analysis of the procedure developed by the Ministry of Higher Education to estimate the 2021 budget. The proposed procedure is structured in four orderly steps to capture, process and offer valid and reliable information for a more rational and objective budget planning.

Keywords: Unit expenditure rules; Budget planning; Budget estimation; Economic management

Introduction

Financial planning, which includes budgetary planning, is considered by Borrás & Lauchy (2017) as (...).

A process by which the demand for human and material resources is estimated from the different possible alternatives to achieve the objectives defined in the strategic planning of the organization, using the financial and mathematical and financial methods, procedures, tools and techniques to do so. (p. 40)

Thus, thus, estimating the budget in higher education presupposes the use of various methods and techniques to capture the information to be processed. One of these methods is the normative one (Unit Expenditure Standards), defined as "the quantified expression, in terms of result, of the expenditures required per unit of measurement, of an identified level of activity" Ministry of Finance and Prices (MFP), (2013, p.1), and considered by the authors Lauchy and Fernandez (2020), "in conditions of scarce financial resources, a planning tool of great value in the purpose of making a rational use of public expenditure" (p. 10).

Its use contributes to the fulfillment of the Economic and Social Strategy of the Party and the Revolution, as it allows the "rational use and saving of resources", Communist Party of Cuba (PCC), (2017, p. 4) and to formulate, therefore, a budget estimate adjusted to the current requirements and demands of the economy.

In order to find out, in the specific case of Guantanamo University, which budget planning methods are currently used, an initial diagnosis was carried out, which revealed the following shortcomings:

- The normative method is not used in budget planning.
- The Unit Expenditure Norms are not considered in the budget estimation.
- Nor is there a specific procedure for their determination.

Therefore, the use of the Unit Expenditure Norms in the preparation of the preliminary draft budget at the University of Guantánamo continues to be a necessity.

In order to solve it, it is necessary, from the sciences, to design a procedure that allows it, but due to its scope and depth, it is difficult to address in such a reduced space, so this article only aspires to an approximation to the procedure sought.

Its introduction, in the practice of budget planning at the University of Guantánamo, could contribute to a greater precision in the estimation of some items and elements of budget expenditures.

Development

Budget planning

Budget planning is part of financial planning and corresponds to the Strategic Planning of the Organization; its projection in the short term should thus consider it, and moreover, in all its interrelations and integrality with the Economic-Financial Management Model assumed in the educational institution. The model shown in Figure I, abstracts and generalizes the set of relationships established in the complex planning process.

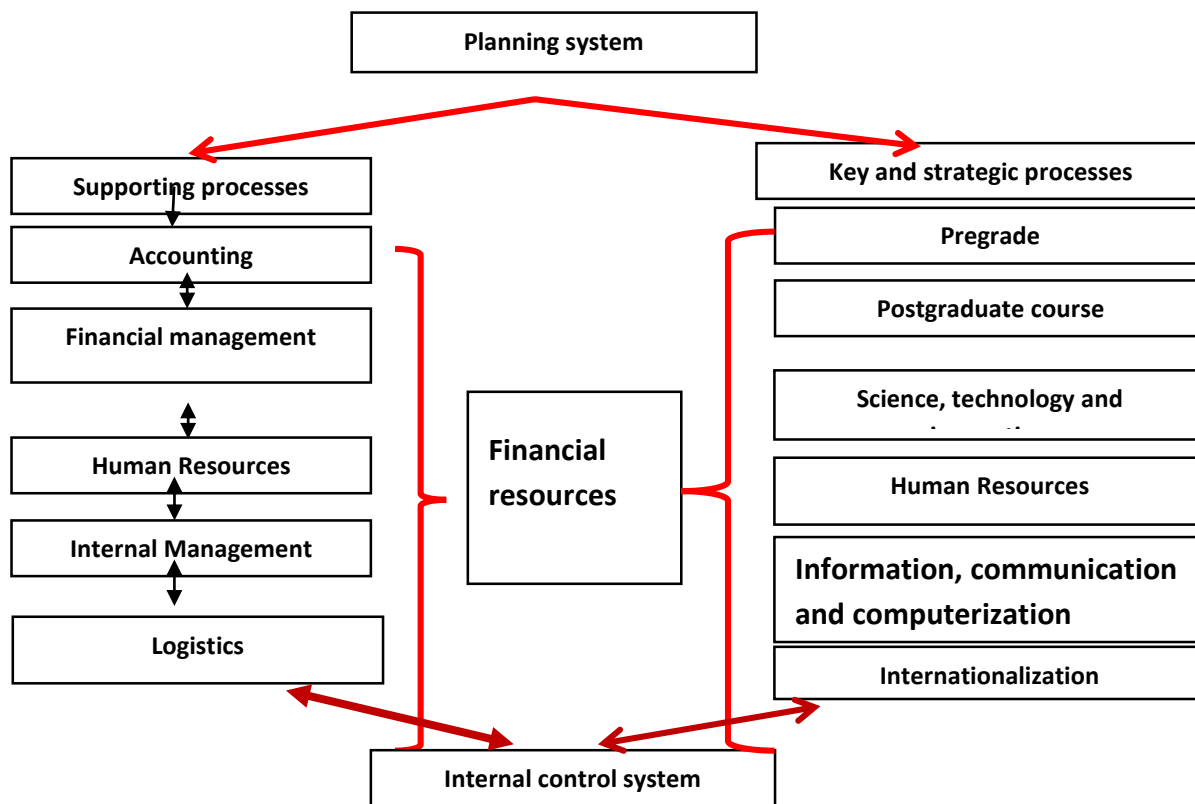


Figure 1. Economic-financial management model of the University of Guantánamo

Source: Self elaboration

Financial planning, a component of Financial Management, is based on the information provided by Accounting and the other areas of support, key and strategic processes to determine their financing needs.

According to Lauchy and Fernandez (2020),

It is the one that presents the greatest inadequacies, so they insist that the approach to financial planning should be from a conceptual vision different from the traditional paradigms, so that it integrates the main axes of its motricity and leads the organization to the effective fulfillment of its objectives and future goals. (p. 40)

Further on, they recommend taking into account the driving axes of each of the "Groups" and their relationships, having as a guide and center the objectives and goals of the organization.

The budget is the result of Financial Planning. In the encyclopedic dictionary Wikipedia it is defined as "the calculation, exposition, and planning and anticipated formulation of the expenses and income of an economic activity. The authors assume that of Leyva (2016) that considers it as an "accounting document that presents the anticipated estimate of income and expenses related to an activity or organization for a certain period of time" (p. 11).

Methods for budget planning

Turmero (n/d), Acevedo and Ramos (2017) and Lauchy Sañudo and Fernández Paz (2020) refer to the methods for budget planning. Lauchy and Fernández (2020), refer that the most used techniques in the projection of expenditure figures for budget planning have been: the economic analysis method, the coefficients method, and the normative method. They refer below to each of them, while recognizing the normative method as the most revolutionary.

They also consider that the norms of budgetary expenditures "must become, in conditions of scarce financial resources, a planning tool of great result in the purpose of making a rational use of public expenditures" (p. 11).

After recognizing that in budgetary practice its use has been attempted, without notable results, they highlight it for yielding figures that "(...) will always be more solid and better founded" (p.12). These criteria are shared and support the relevance of a procedural proposal based on Unit Expenditure Rules.

Acevedo and Ramos (2017), point out several methods to determine consumption standards or indexes: analytical, historical, and experimental, by analogy, by catalog and by national and

branch standards. For the specific case of the University of Guantánamo, the first two are considered in the estimation of the budget and in the analysis of its execution. They present, as shown in Table I, an example of calculation of the Unit Cost Standard for product X, which was taken into account in the proposal made.

Resource	UM	Price (pesos)	Consumption standard	Expenditure rule
Recurso 1	U	2,00	0,5	1,0
Recurso 2	t	3,00	1,0	3,0
Recurso 3	m	5,00	0,7	3,5
Otros recursos	peso	1	0,3	0,3
Expenditure standard				7,8

Table No.1. Unit Cost Standard of a product X

Source: Adapted from Acevedo and Ramos (2017).

Another method considered by the Ministry of Higher Education is the Permanent Balance of Needs. In the elaboration of the proposal of the plan of the economy, the universities, based on the established models, formulate their demands for resources to the various agencies of the economy, which they satisfy according to their possibilities, very reduced in the last years.

The Unit Expenditure Rules in budget planning

The Unit Expenditure Norm, hereafter NUG, is defined by MFP (2013), as "the quantified expression, in terms of result, of the required expenditures per unit of measure, of an identified level of activity" (p. 1), and is calculated, for Higher Education, as shown below.

1. *Unit Expenditure Norm (UER)=(Total Current Expenditures)/(Average Equivalent Enrollment)*

Where:

- *The Unit Expenditure Norm is the result of dividing the Total Current Expenditures by the Activity Level, in this case, Average Equivalent Enrollment.*
- *The Total Current Expenses is the result of the sum of the items 11, 30, 40, 40, 50, 70 and 80 of the Financial Statement of Expenses by item of Resolution No. 499 of the Ministry of Finance and Prices.*

- *The Average Equivalent Enrollment is calculated as shown in the formula:*

$$Mpe = (MrCt (8 months) + MpCi (4 months)) / (12 months) - B * Ib * Fe$$

Where:

Mpe- Average equivalent enrollment

MrCt- Actual initial enrollment of the course that ends (does not include withdrawals when subtracted from one course to another).

MpCi- Planned initial enrollment for the course to be started (does not include withdrawals when deducted from one course to another).

B- Drop-outs

Ib- dropout rate

Fe- Equivalency factor for daytime, encounter and continuation courses, the results of which will be the responsibility of each agency.

The NUG is a macro estimator, i.e., of the total expenditure budget, so that for specific items other levels of activity must be considered: average number of workers, number of meals, number of classrooms, number of laboratories, machinery and equipment, number of planned construction actions, among others, i.e., those in which the resources to be planned are consumed. For example, in the case of clothing and linen, the number of students and workers for whom they are intended would be taken into account.

If calculated from consumption norms, then these should be multiplied by the price of each sub-element of the expense, which would be the Expense Norm of that sub-element; the sum of each one of them would be the Unit Expense Norm of the element, in this case, clothing and linen. In the following we will show what is considered an approximation to the procedure sought.

Steps for estimating the budget from the Unit Expenditure Rules

In the search for references about the procedures used to estimate the budget in Higher Education, it was only possible to find the one elaborated by Lauchy and Fernandez (2020), so it is used as a starting point for the present proposal.

The procedure, they state, "is structured in phases, stages and steps, which are implemented in practice by complying with the formats designed in each module defined in the phases of the budget

management process cycle" (p.16). However, in the course of its reading it is not possible to distinguish the phases and stages referred to; therefore, the following steps are inferred.

Step 1. Determination of the level of activity, for which they recommend determining: enrollment, constructive actions, number of workers receiving means of protection and clothing and linen, among others.

Step 2. Determine consumption standards for the following items of expenditure: food, teaching materials, clothing and linen.

Step 3. Determine average expenditures based on the figures approved in the economy plan for the items: fuel and lubricants and energy.

Step 4. Estimate the 50.01-Salary element of Item 50-Personnel Expense from the unit norm expense for salary and the 80.01-Paid Expense element of Item 80.

It is valid to recognize, in this proposal, the options offered to estimate the budget of several of the items and elements of expenditure, both through the "Average Expenditure" and the "Unit Norm of Expenditure", and to validate the results with the Zero Base Planning (ZBB) technique, which "takes into account as its main characteristic to focus attention on the working capital necessary for the processes, activities and programs, and the consumption and expenditure norms" (Lauchy and Fernandez, 2020, p. 15). With this, the importance of the participation of the actors of the processes that are managed in the university institution is being recognized.

The analysis of this procedure, which was used in the 2021 budget planning, made it possible to issue the considerations described below, which served as the basis for the proposal of "steps" to be taken into account in the design of the procedure sought.

First: the activity level is the starting point for the procedures consulted, which is correct, but activity levels are as diverse as the items and elements of expenditure in the budget are different; this is why the validity of the budget estimate depends to a large extent on the closest approximation to the activity levels associated with the expenditures being estimated.

Second: the expenditure elements: food, teaching materials and clothing and linen allow for the precise determination of consumption standards, but they are not the only ones; for others, such as element 11-06: Materials and consumables; 30-02: Fuel; 30-03: Lubricants and oil; 30-04:

Firewood and 30-05: Coal, it is also possible, which would allow for the participation of the areas that consume them in their determination.

Third: the average expenses calculated by Groups of Universities for Items such as: "Fuel and Lubricants" and "Energy" and the levels of activity: Average Equivalent Enrollment and Average Number of Workers, should not be assumed as the only referents for their calculation, since it is also possible to determine Unit Expense Norms for the items and elements where it is not possible to determine consumption norms. To do so, the execution of expenses for the previous year and an estimate of activity levels associated with them are used: number of construction actions to be executed, equipment to be repaired, number of diners using the dining room, number of gasoline and diesel transport equipment, and others to be considered.

Fourth: the unitary norms of expenditures for item 50.01-Salary, of Item 50-Personnel Expenditures and item 80.01-Travel expenses of Item 80, can be determined for all items and elements of expenditures, either from consumption norms, as specified above, or from Expenditure Norms, as long as the level of activity to which they are associated is specified and determined, as stated in the third consideration.

Based on these considerations and the theoretical references assumed, the steps of the procedure for budget estimation at the University of Guantánamo are proposed as shown in Figure 2. In the grid on the right of each step, the type of information is specified: activity levels or expenditure items to be used and the way to fill them in.

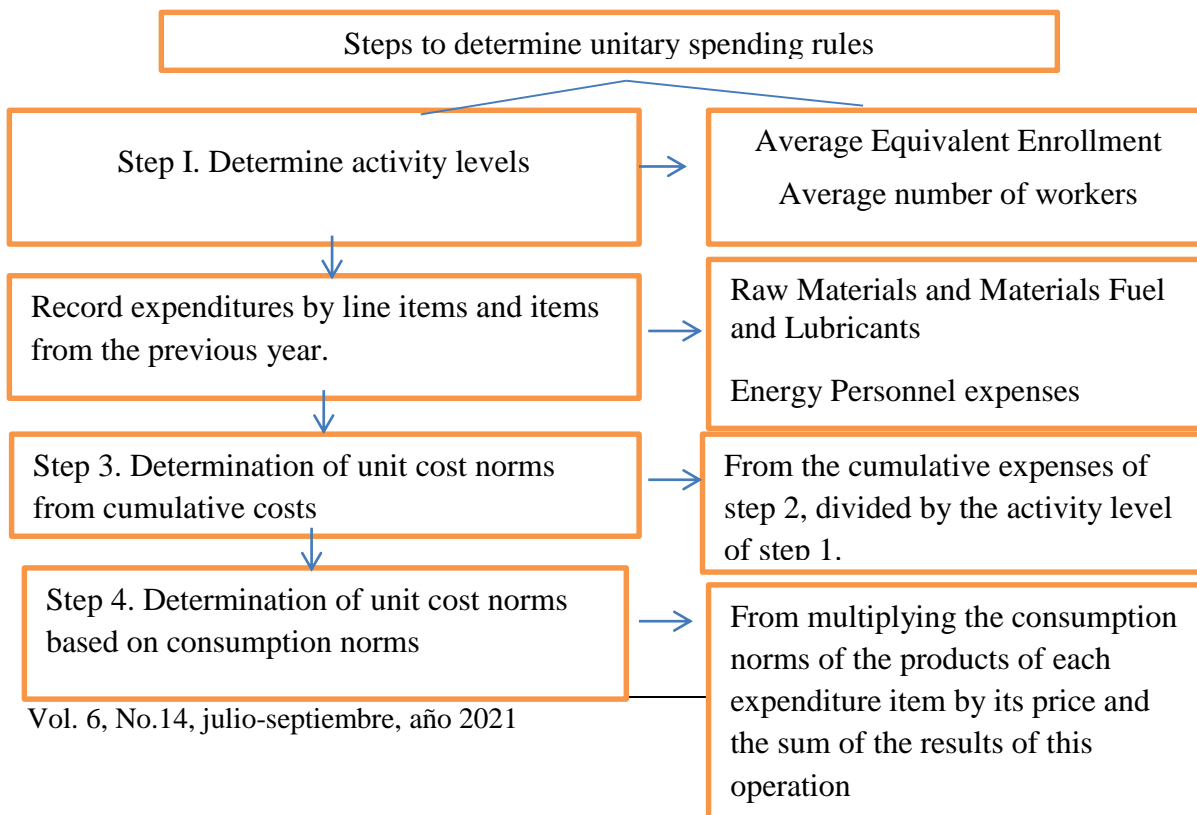


Figure 2. Procedure for determining unit cost norms at Guantanamo University

Source: Self-prepared by the authors.

Each of these steps is explained below.

Determine activity levels for the period being planned.

Activity levels are associated with the processes, areas and activities that generate expenses by transforming "Input" inputs into output results. To achieve an estimate of expenditure for an item or element as close as possible to its expected behavior, the activity level to which it is associated should make it possible to estimate the largest percentage of expenditure. This recognizes the existence of other levels of activity to be considered.

The Average Equivalent Enrollment is the main Level of Activity in Higher Education, since it is directly or indirectly present in all the processes of the educational institution, but some elements of expenditures, for example, those of Constructive and Current Maintenance, correlate positively with the levels of activity: planned constructive and current maintenance actions and thus occurs with other sub-elements of expenditures.

The Total Activity Level should also be considered, which is the sum of the Equivalent Average Enrollment and the Average Number of Workers, which is determined, according to MTSS (2018), from "(...) from the Number of Workers in the register, after the corresponding additions and deductions, divided by the number of working days in the period being reported" (p. 12).

In order to determine the levels of activity associated with the reference expenses that should be considered in the budget estimate, the criteria of specialists from the Planning and Logistics Department and of cadres who serve as Vice Chancellors or directors of support areas should be taken into account. Some of the following levels of activity may be considered.

Item 11. Raw Materials and Supplies		
	Principal	Others to be considered
Food	Total number of guests	
Construction materials	Constructive maintenance plan	Investment plan

Clothing and Lingerie	Scholarships	Service workers
Teaching Materials	Average equivalent enrollment	Average number of teaching staff
Materials and Consumables	Total activity level	Number of administrative areas
Books and Magazines	MES Assignments	Signed contracts
Parts and Spares	Transportation needs	Total number of equipment

Table 2. Activity levels for budget estimation

Source: Own elaboration

Step 2. Record cumulative expenditures by line items and prior year items.

The information required is contained in the above referenced Financial Statement of Expenditures by Line Item. The following table format is proposed as an example for the collection of this information.

Items / Elements	Plan 2020	Actual accumulated December
Raw Materials and Supplies		
Fuels and Lubricants		
Energy		
Personnel Expenses		
Depreciation and amortization		
Other Monetary Expenses		

Table 3. Accumulated expenses at the end of December of the X year

Source: Own preparation

Determining and comparing the planned and actual unit cost norms allows the degree of planning certainty to be assessed.

Step 3. Determine the Unit Expenditure Norms from the previous year's cumulative expenditures.

To determine the unit expenditure norms, the data in Table 4 is used. The cumulative expenditure at the end of December (1) is divided by the level of activity (2) to obtain the Unit Expenditure Norms (3) for each of the items.

Items	Cumulative December (1)	Activity level (2)	Unit cost standard (3)
Raw Materials and Supplies			
Fuels and Lubricants			
Energy			
Personnel Expenses			
Other Monetary Expenses			

Table 4. Determination of unit expense norms from accumulated expenses at the end of December

Source: Own preparation

Step 4. Determination of unit cost norms from consumption norms.

The consumption norms for certain products or inputs, if not established by the MES or determined by the entity itself, are set from the distribution norms, for the reasons explained by Lauchy and Fernandez (2020). These standards multiplied by the price of each product would be its Unit Expense. From the sum of the unit expenses of the products, for example, food would result the Unit Expense Norm of the food item; the table shows how to proceed for its calculation, in the specific case of the scholarship student.

No.	Products	U/M	Consumption Standard Annual Scholarship Recipients	Price per unit	Annual unit cost per scholarship recipient
1	Grains	Kg			
2	Eggs	U			
3	Fish	Kg			
4	Rice	Kg			
5	Oil	Kg			

6	Bread	U			
Unit Expenditure Standard per grantee					

Table 5. Calculation of the unit cost norm based on consumption norms

Source: Own elaboration

Once the unit expenditure norms have been determined for each item and element of expenditure, they are multiplied by the Activity Level to obtain the estimated expenditure for the year or period being planned, using the format, in tables, established by the Ministry of Higher Education.

Conclusions

In order to fulfill the proposed objective, to lay the foundations for the design of a procedure that allows estimating the budget at the University of Guantánamo based on unitary norms of expenditures, the theoretical and methodological foundations are offered, which made possible an approach to its design. The analysis carried out, based on the recommendations of the Ministry of Higher Education for budget planning 2021, made it possible to structure the proposed procedure, composed of four steps and their corresponding procedures, which if assumed by the university institution, would put it in a better position to estimate more accurately and rationally the budget for the coming years.

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