

# Zero-Based Budget System and its Active Role in Choosing the Best Alternative to Rationalise Government Spending

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The zero-based budget represents a system for preparation of the financial budget which includes all the expenses that must be allocated for each new fiscal year. The budget starts from the "zero points" and any function within the unity government is analysed according to their needs and costs. Then a budget is prepared based on the requirements of the next stage, regardless of whether the budget is more or less than its predecessor. This study was processed in one of the sub-units of the government in the province of Al Muthanna, Iraq. It is the municipality of the city of Samawah circle to a survey sample of accountants working in that department and auditors' opinions, as well as the practical use of the experimental method to determine the benefit of using the zero-based budget system. This study aims to develop the budget system in the sub-units of government, including the city of Samawah in the province of Muthanna, Iraq. The aim is to use the zero-based budget system, make the necessary steps to implement those budget applications and then reduce the waste in the public fund by reducing unnecessary public expenditure. Results of the study showed through statistical analysis that there is full acceptance by the respondents of the importance of adopting and implementing the zero-based budget system. The results of the study applied also showed that there is significant financial feasibility obtained by the sub-units of government through the trade-offs between the alternatives available for the use of the zero-based budget system. The study found a set of recommendations, the most important is the need to move the process of budgeting in government units from the traditional budget (budget items) to a zero-based budget. When applied it has several characteristics, the most prominent being flexibility.

**Key words:** *Zero Budget, Scratch, Budget, Government Units.*

## **Introduction**

Several systems have emerged in various countries of the world that are used in preparing the state's general budgets, the most prominent of which are the traditional budget system (items budget), the program and performance budget system, the planning and programming budget system, and the zero basis budget system. The zero-based budget seeks to achieve the high-level strategic goals that will be implemented in the budgeting process by linking these goals in specific functional areas of government unity, as costs are categorised and grouped first, then the previous results are measured against expectations. According to the nature of their detailed trends, the zero-based budget may be a rolling process that is performed over several years, with a few functional areas that are sometimes reviewed by managers or a group of administrative leaders in the government unit.

The traditional budget system cares more about the oversight side than the services themselves that funds were spent on. As the tab based on the type of expense does not clarify whether the expenditures have achieved the goal of their spending or whether they are just expenses that have been paid, a recent trend has emerged in preparing the budget which is the zero-based budget system as it focuses on how to achieve the goals and provide means for assessing the effects of levels funding.

## **The Problem**

It is known that the majority of government units prepare annual financial budgets according to the traditional budget system (budget for items), and since this system is not compatible with the circumstances of the financial and economic crises and their variables that the country lives in, the issue requires the optimal exploitation of the available economic resources in light of the actual need for the necessary expenditures and the exclusion of unnecessary expenditures. In addition, the traditional budget system does not truly and physically reflect the reality of services provided by government units to society.

Accordingly, the problem revolves around how these units move from the traditional system to the zero-based budget system, which looks at economic and service matters broadly by avoiding the disadvantages and limitations of the traditional system. This problem can be formulated by asking some questions that must be answered, namely:

1. When, how and why is the zero-based stabilisation system implemented?
2. What are the steps for setting up and implementing a zero-base budget system?
3. Is there a response by government units to shift from applying the traditional budget system to another more modern and objective system?

4. Is there a possibility for government units to implement a zero-based budget system (ZZB)?

### **Research Objectives**

The research aims to achieve the following goals:

1. Identify the theoretical side of the ZBB system, goals and steps, and implement the ZZBin sub-government units.
2. Detecting the extent of the sub-government units' response to the transition from the traditional budget system to the more advanced ZBB system.
3. To know the extent of the ability of the sub-government units to implement the ZBB system.
4. Knowing the applied aspect of applying the ZBB system in order to generalise it to other government units to take advantage of its advantages.

### **Research Hypothesis**

The research is based on two main hypotheses:

The first hypothesis: There is a statistically significant correlation between the capabilities of government units and the adoption of a zero-based budget application for the purposes of rationalising overheads.

Two hypotheses are sub-divided from this hypothesis:

- There is a statistically significant correlation between the capabilities of the sub-government units and the adoption of a zero-base budget application.
- There is a statistically significant correlation between the capabilities of the sub-government units in applying the zero-based budget and rationalising public expenditures.

The second hypothesis: There is a possibility for sub-government units to use the zero-based budget system to choose the best alternative and achieve financial savings through rationalisation of government spending.

### **Research Methods**

The researchers used two methods of scientific research in this field. The first approach is the inductive approach that is based on viewing the situation in a sub-government unit and studying and analysing it through the questionnaire list, and then circulating it to the main government

units by enriching the topic from an intellectual and theoretical standpoint by relying on scientific sources from books, research and studies.

As for the second approach, it is represented in the practical (experimental) approach that is based on the concept of a benefit. After the researchers define the problem, they find a beneficial solution or benefit by finding a practical solution to achieve the goal of the research or by finding a practical interpretation of the research problem and reaching an acceptable method or rule acceptable Years by all other government units.

### **Research Limits**

Research limits include spatial and temporal limits:

1. Spatial boundaries: The research is conducted in a partial sample of government service units that affect society's life and is represented in the Municipality of Samawah City and its administrative formations within the organisational structure.
2. Time limits: The research depends on analysis and proof of hypotheses on the financial statements of the departments of the Municipality of Samawah City for the fiscal year 2019.

### **Research Community and Sample**

The research community is represented in all government departments that are subject to the allocated money theory and which currently applies the traditional budget system or the budget for items. As for the research sample, it is represented in one of the sub-government departments that perform service activities related to society, which is the Municipality of Samawah City.

### **Zero-Based Budget System: Conceptual Framework The Concept of Zero-Based Stabilisation System**

Zero-based budgeting is not a new concept, and it is not a budgeting process that is similar to the traditional and other modern budgeting systems. It is an administrative trend that can be used as a tool for making appropriate management decisions and represents an efficient way for management to use the best tools for decision-making. The zero-based budgeting system starts from the point of discussing programs and projects, the zero point, but the actual application clarifies the difficulty of achieving this requirement because of the difficulty of the annual evaluation of projects. Therefore the evaluation and review are approved for periods that may range from two to five years (Saadi, 35: 201 5).

A) The zero-based budget requires the administration to conduct a comprehensive and systematic evaluation of the previous and current programs and projects of the administration

included in the general budget proposal. It does not give any priority to existing programs and projects (under implementation, proposed new projects) when allocating financial credits to reduce financial allocations in the budget or cancel projects Continuing unless the administration finds that these projects are inefficient or low, or that future expenditure on them is not commensurate with the expected returns from them (Al-Saadi, 2015: 35).

B) The zero-based budget system relies on planning as a basic stage since preparing the annual budgets of the organisation, which leads to a re-monitoring and examination of all activities based on starting from scratch, which leads through the study and evaluation of ongoing activities at all levels and determining the decision to continue, amend or cancel them In addition to the possibility of exploiting and distributing resources according to the basic capabilities and requirements, and thus being able to monitor and control performance, which leads to reducing excess expenses and wasting public money (Uriwa, Buqra, 2015: 8).

C) The zero-based budget differs from following the gradual approach, as it starts from the foundation in which operations or changes must be made to the next budget items from one period to another because they occurred in a previous period, and everything that is included in the budget and these changes must be justified (2010: 7 Pidgeon).

### **Zero Foundation Budget Goals**

The aim of preparing the zero-based budget is to evaluate specific activities and programs towards their legal responsibilities and estimate the costs necessary to provide services to achieve the desired results from the application of the zero basis budget (3: 2015 Deal).

Therefore, the first step in the structure of preparing the zero-based budget system is based on setting goals for any effort, which usually requires that there be an informal meeting by the responsible officials when making decisions that are controlled by budget employee. There are some uses through which goals can be identified through Zero Baseline Balancing (2015: 23 Haxholli):

1. Preparing the operating plan (operations) for next year's budget.
2. Making efforts to reduce unnecessary costs in employee overheads.
3. Diagnosing what is going on in the organisation to improve the policy, set a broad policy or define a set of long-term goals.
4. Distributing the general expenses of workers from the expected output from the profit centres to be a basis for equity.
5. Evaluating the feasibility of the new long-term plan.
6. Achieving effective oversight of the programs of activities.
7. Providing a database to completely restructure the institution or government unit.

### **Characteristics of the Zero- Based Budget System**

The basis for the zero-based budget is the lack of attention to the figures mentioned in the previous budget when preparing the new budget project and starting again, that is, from scratch. Just as the zero-based budget does not give priority to programs and projects under implementation and previously approved on new projects when allocating credits and assumes a reduction of credits or cancellations of projects under implementation, as it was found upon evaluation that their efficiency is low and that the return from them is not commensurate with their cost (Karaz, 28: 2015). Therefore, the advantages of the zero-based budget system can be determined from the following points (Abdel Salam, Kamal, 2010: 202):

1. Improving the effectiveness of spending in achieving the goals adopted by the government, given the implications it includes setting goals for service centres and the necessity of linking them to the general goals of government spending.
2. To exclude inconsistencies in the goals of government units through the participation of different administrative levels in setting goals and preparing and arranging decision packages.
3. To achieve efficient distribution of resources between the different jobs due to the evaluation it contains of the decision packages, arranging them according to their priority and then allocating the resources to the important decision packages in each job.

### **Zero-Based Budget Preparation Steps**

Although there are some differences between the administrative units, it is necessary to have different procedures according to the needs of each of them. There are four main steps that the budget planners for each unit must define when preparing their budget project using the zero-based budget, which are:

1. Determine decision-making units (an important department or program, or at a specific level in the government unit).
2. Each director (responsible) analyses each decision unit into a set of decisions according to its importance, which together constitutes the overall budget requirements for this unit.
3. All decisions are arranged according to the declining characteristics and benefits of the government unit. Perhaps this arrangement determines the priorities based on the tasks defined in the entire set of decisions.
4. Distribution (allocation) of funding sources for the government unit (the actual allocation of the establishment's resources by using the arrangement according to the high degree of success of the separate levels in the unit structure) which reflects the programs and activities (set of decisions) with the structure of the unit's planning budget.

Consequently, the zero-based budget system can provide an effective cost control system, and it is truly a major and radical shift from traditional budget methods (Al-Sharari, Al-Rahahla, 2009: 512).

## Practical Application of Zero-based Budget

### *Statistical Description and Analysis of Study Results*

#### *First: The Study Sample*

The study sample consists of the accountants, auditors and unit officials (70), who are distributed as follows:

1. The accountants of Samawah City Municipality, whose number is 30 accountants.
2. The auditors working in the Municipality of Al-Samawa City, whose number is 20 auditors.
3. Unit managers and people working in the municipality of the city of Samawah who have interests in the topic of research, which number 20.

#### **Second: Distribution of the Study Sample**

Since the vocabulary number in each of the 70 categories that make up the study sample is not appropriate, a random, non-proportional stratified sample of 55 individuals was chosen to constitute a ratio of .578% of the total sample.

As shown in Table 1, the number of respondents from accountants reached 18 individuals, with a percentage of 72% out of 25 individuals. The number of respondents of auditors was 13, and by 72% of 18 auditors. The number of respondents from Unit and people officials was 6 individuals, 50% out of 12 individuals. Thus, the total number of respondents reached 37 individuals, or 67.3% of 55 individuals, which is the total sample size, and thus the response rate is a good percentage.

**Table 1:** Distribution of the study sample

| Distribution  | Accountants | Auditors | Officials of the administrative units and divisions | Total |
|---------------|-------------|----------|---|-------|
| Total sample  | 30          | 20       | 20  | 70    |
| The ratio     | %43         | %28.5    | %28.5   | %100  |
| the sample    | 25          | 18       | 12  | 55    |
| The ratio     | %83         | %90      | %60   | %78.5 |
| Respondents   | 18          | 13       | 6   | 37    |
| Response rate | %72         | % 72     | %.50  | %67.3 |

### Third: Measuring Stability (Self-Consistency)

Table 2 shows the final results of the alpha correlation coefficients (persistence coefficients).

**Table 2:**

| Axis   | Indicators  | No. of steps | Alpha Cronbach Stability Factor |
|--------|---|--------------|---------------------------------|
| First  | Ability to adopt and implement zero-based budgeting         | 17           | 0.925                           |
| Second | The role of zero-based budgeting in rationalising overheads | 10           | 0.887                           |

### Fourth: The Scale of the Questionnaire

The five-degree Likert scale was adopted to determine the degree of importance of each item of the questionnaire, as shown in Table 3:

**Table 3:** Measure of relative importance

| Grade | Importance        |
|-------|-------------------|
| 1     | Strongly disagree |
| 2     | I do not agree    |
| 3     | Not sure          |
| 4     | Agreed            |
| 5     | Strongly agree    |

**Table 4:** A measure of the relative importance of the arithmetic mean

| Mean                 | Importance        | Importance         |
|----------------------|-------------------|--------------------|
| 1- Less than 1.75    | Strongly disagree | not important      |
| 1.75 - less than 2.5 | I do not agree    | Little important   |
| 2.5 - less than 3.25 | Not sure          | Average importance |
| 3.25 - less than 4   | Agreed            | Important          |
| 4 – 5                | Strongly agree    | very important     |

**Table 5:** Academic qualification, specialisation and number of years of experience for the study sample

| Academic qualification |            | Property |
|------------------------|------------|----------|
| percentage             | Repetition |          |
| 2.7                    | 1          | 1        |
| 16.2                   | 6          | 2        |
| 73                     | 27         | 3        |
| 5.4                    | 2          | 4        |
| 2.7                    | 1          | 5        |
| 100.0                  | 37         | Total    |
| Specialisation         |            | Property |
| percentage             | Repetition |          |
| 59.5                   | 22         | 1        |
| 5.4                    | 2          | 2        |
| 29.7                   | 11         | 3        |
| 5.4                    | 2          | 4        |
| 100.0                  | 37         | Total    |
| Years of Experience    |            | Property |
| percentage             | Repetition |          |
| 5.4                    | 2          | 1        |
| 21.6                   | 8          | 2        |
| 35.1                   | 13         | 3        |
| 13.5                   | 5          | 4        |
| 13.5                   | 5          | 5        |
| 10.8                   | 4          | 6        |
| 0                      | 0          | 7        |
| 100.0                  | 37         | Total    |

### Fifth: Analysis of the Results of the Questionnaire

Table 6 shows the extent of the ability to adopt and implement the zero-based budget through the calculation of mean, standard deviation and degree of importance for each of the questionnaire paragraphs:

**Table 6:** The first pivot: the capacity to adopt and implement zero-based budgeting arithmetic mean, standard deviation, and significance

| s | Paragraphs  | mean     | Standard deviation | Significance   |
|---|---|----------|--------------------|----------------|
| 1 | Government units have administrative, financial and organisational competencies with experience in preparing zero-based budgets through analysing activities and analysing alternatives to decisions and arranging them according to their priorities | 3.621622 | 0.828364           | important      |
| 2 | Each government unit in the organisational structure of government units is the centre of the budget where revenues and expenditures are estimated  | 3.540541 | 1.192444           | important      |
| 3 | The budget system applied in your department redistributes resources between the activities, programs, and projects of government units   | 3.459459 | 0.90045            | important      |
| 4 | There is an accounting system that helps in preparing zero budgets and achieving oversight and performance evaluation   | 3.756757 | 0.862986           | important      |
| 5 | Government units use the accounting system that contributes to providing the accounting data necessary to prepare and manage zero-based budgets to save time and effort.  | 3.648649 | 0.977986           | important      |
| 6 | The principle of disclosure and transparency is adopted in preparing and implementing budgets and accounts related to expenses and revenues   | 4        | 0.781736           | important      |
| 7 | In preparing the zero budgets, environmental requirements are taken into consideration in order to preserve the environment towards society   | 4.054054 | 0.814656           | very important |
| 8 | The Budget Preparation Committee answers any inquiries of employees regarding budgets, out of respect for the principle of accountability   | 3.837838 | 0.897946           | important      |
| 9 | Implementing zero budgets according to the goals and plans that have been   | 4.108108 | 0.657596           | very important |

|    |   |          |          |                |
|----|---|----------|----------|----------------|
| 10 | developed accurately leads to rationalisation of expenditures in government units<br>Zero-based budget decisions are important decisions in formulating government unit policies                    | 4.216216 | 0.6296   | very important |
| 11 | The process of implementing the zero-based budget faces problems and obstacles, which reflects on its efficiency and financial effectiveness  | 4.054054 | 0.814656 | very important |
| 12 | The process of assessing the performance of zero-based budget work and achieving it for the goals of government units is characterised by the presence of impartial and objective internal controls | 4.378378 | 0.681149 | very important |
| 13 | Zero-based budget preparation requires a team of financial, regulatory, and administrative bodies to define the plan and oversight methods for implementing these plans                             | 4.243243 | 0.862986 | very important |
| 14 | The zero-based budget is one of the means of economic reforms used to achieve better financial performance for government units   | 4.189189 | 0.659875 | very important |
| 15 | The zero-based budget is an integrated philosophy that distinguishes from the traditional budget through continuous evaluation and review of government management strategic decisions              | 4.027027 | 0.644915 | very important |
| 16 | The zero-based budget serves the country's strategic plans to achieve greater efficiency and effectiveness in financial performance in government units   | 4.135135 | 0.855121 | very important |
| 17 | The zero-based budget can be described as a planning and monitoring tool that links the project goals with the various financial performance activities of government units                         | 4.162162 | 0.833784 | very important |

**Table 7:** The second axis: the role of zero-base budgeting in rationalising overheads  
Arithmetic mean, standard deviation, and significance

| s  | Paragraphs   | mean  | Standard deviation | Significance   |
|----|--|-------|--------------------|----------------|
| 1  | Zero-based budget implementation provides effective control over expenditures in public institutions   | 4.162 | 0.764              | very important |
| 2  | The higher management of government units seeks to reduce and reduce expenditures on the pretext of rationalising expenditures   | 4.108 | 0.699              | very important |
| 3  | Your department is working to introduce modern methods in order to rationalise expenditures to the greatest extent possible and increase their resources through the application of the zero-based budget. | 4.189 | 0.739              | very important |
| 4  | Zero-based budget provides high efficiency and effectiveness in reducing the expenses available to government units  | 4.081 | 0.829              | very important |
| 5  | Your department seeks to improve the effectiveness of spending in achieving the goals adopted by the government  | 4.054 | 0.815              | very important |
| 6  | The zero base budget enables the reduction of waste of financial resources in public spending  | 4.027 | 0.986              | very important |
| 7  | The skills of managers and the awareness of workers in your department contribute to rationalising government spending   | 4.135 | 0.855              | very important |
| 8  | Zero-based budgets help government units that have difficulty determining their output and output  | 4.216 | 0.854              | very important |
| 9  | Zero-based budget helps ease inflation in spending   | 4.378 | 0.639              | very important |
| 10 | According to the zero-based budget, resources are distributed according to the importance of spending and the expected goals   | 4.324 | 0.709              | very important |

## Sixth: Test and Validate Hypotheses

### The First Hypothesis

This hypothesis was tested by the following sub-hypotheses and with an assumed mean of 3, which was determined using the middle mark method on the quintile Likert:

#### The First Sub Hypothesis

"There is a statistically significant correlation between the capabilities of the sub-government units and the adoption of a zero-based budget application."

It is noted through the results shown in Tables No. 8-9 that the mean of the responses of the sample individuals is greater than the assumed mean, where the mean was 4.1676 with a standard deviation. 248390, and the value of t (102.059), which is statistically significant at the level of 0.00. This indicates acceptance of the hypothesis: There is a statistically significant correlation between the capabilities of the sub-government units and the adoption of a zero-based budget application.

**Table 8:** The mean and the standard deviation

|     | N  | Mean   | Std. Deviation | Std. Error Mean |
|-----|----|--------|----------------|-----------------|
| xx1 | 37 | 4.1676 | .24839         | .04083          |

**Table 9:** Test Results (T)

#### One-Sample Test

|     | Test Value = 0 |    |                 |                 |   |        |
|-----|----------------|----|-----------------|-----------------|---|--------|
|     | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |        |
|     |                |    |                 |                 | Lower                                     | Upper  |
| xx1 | 102.059        | 36 | .000            | 4.16757         | 4.0848                                    | 4.2504 |

#### The Second Sub-Hypothesis

It is noted through the results shown in tables 10-11 that the mean of the responses of the sample members is greater than the assumed mean, where the mean reached 3.9666 with a standard deviation of 0.34315, and the value of t (70.313). This is statistically significant at the level of 0.00 and indicates to accept the hypothesis: There is a statistically significant correlation between the capabilities of the sub-government units in applying the zero-based budget and rationalising public expenditures.

**Table 10:** mean and standard deviation

One-Sample Statistics

|     | N  | Mean   | Std. Deviation | Std. Error Mean |
|-----|----|--------|----------------|-----------------|
| yy1 | 37 | 3.9666 | 0.34315        | 0.05641         |

**Table 11:** Test Results (T)

One-Sample Test

|     | Test Value = 0 |    |                 |                 |   |        |
|-----|----------------|----|-----------------|-----------------|---|--------|
|     | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |        |
|     |                |    |                 |                 | Lower                                     | Upper  |
| yy1 | 70.313         | 36 | .000            | 3.96661         | 3.8522                                    | 4.0810 |

The results of the sub-hypothesis testing indicate that there is a possibility for the sub-government units to switch to applying the zero-based budget system to achieve the best performance and the optimum utilisation of available economic resources to the following:

1. The acceptance of the sub-hypotheses by the individuals of the sample included in the study means that there is a consensus among them that there is a possibility for the sub-government units to switch to the implementation of the zero-based budget system to achieve the best performance and optimal exploitation of the available economic resources.
2. The mathematical averages of their responses around it, respectively 4.1676 and 3.9666, indicate the implementation of the zero-based budget system (often) is aimed at achieving better performance and optimal utilisation of available economic resources (often).

The second hypothesis: There is a possibility for the sub-government units to use the zero basis budget to choose the best alternative and achieve financial savings through the rationalisation of government spending.

The researchers study the extent to which the zero basis budget can be applied in the Municipality of Samawah in the Environment Division / Garden and Parks Cleaning Unit in Samawah and its subordinate areas. The results are compared with the results of the applied system and prove the second duty of this study, which says that there is a possibility for sub-government units to use a zero-based budget for choosing the best alternative and achieving financial savings through rationalising government spending).

The Samawah Municipality operates according to the unified accounting system, except salaries, as they are funded by the Ministry of Municipalities and have no relation to the revenues obtained as a result of the activities it undertakes as it operates according to the central

system. To apply the zero-based budget in choosing the optimal alternative, some important steps must be taken to implement it. These steps are:

### **First Step: Determining the Decision-Making Unit**

This step aims to define the decision-making unit in the Municipality of the city of Samawah, based on the administrative structure of the Municipality of the city of Samawah. The Environment Division / Parks and Gardens Cleaning Unit has been chosen as a basis for applying the zero-based budget because of the importance of this unit among the rest of the units as it represents the appearance of a city Samawah in terms of cleanliness and order.

### **Second Step: Identifying and Formulating Alternatives to Achieve the Goals of the Department**

The Environmental Division official, in cooperation with the official of the Gardens, Parks and Public Street Cleaning Unit, formulates decision groups and determines the best alternative to achieve the best representation to rationalise administrative decisions through the following:

1. Reducing the number of workers to 500.
2. Renting 10 machines, as well as reducing the number of workers to 400.
3. Agreement with an external company to clean streets, while retaining 100 employees as supervisors.

The Environment Division / Parks and Gardens Cleaning Unit was chosen as the number of workers with daily wages reached from 740 to 750 workers during the year 2015, their annual wages reached two billion and four hundred million Iraqi dinars and the average daily wage ranged from 7,250 to 8,000 Iraqi dinar. There are 40 mechanisms for cleaning streets and parks, and accordingly, the annual cost for 2015 of the Gardens and Parks Unit was as follows:

**Table 12**

| The statement                              | Amount (in dinars) |
|--|--------------------|
| Wages of workers in 2015                   | 2,400,000,000      |
| The cost of oils and fuels                 | 49,188,000         |
| Maintenance cost of machines and equipment | 18,563,000         |
| The cost of petroleum products             | 25,675,000         |
| Maintenance of nurseries and gardens       | 25,310,250         |
| Total                                      | 2,518,736,250      |

### **The First Alternative**

Reducing the number of workers with daily wages from 750 workers to 500 workers, whereby the oldest employees are excluded, as well as layoffs who do not perform their work correctly, and fixing a daily wage of 7,000 dinars, taking into consideration the financial and economic conditions that the country is going through.

The total cost is as follows:

- 1- The cost of workers annually =  $500 \text{ workers} \times 7000 \text{ dinars} \times 30 \text{ days} \times 12 \text{ months} = 1,260,000,000 \text{ dinars}$ .
- 2- The cost of oils and fuels = 49,188,000
- 3- The cost of petroleum products = 25,675,000
- 4- The cost of maintenance of machinery and equipment = 18,561,000
- 5- Maintenance of gardens and parks = 25,310,250

The final total of the first alternative = 1,378,734,250 dinars

### **The Feasibility of this Alternative**

1. This alternative can save an amount of up to 11.4 million dinars.
2. When using this alternative, the oldest workers will differ from the younger ones by age, in addition to dispensing workers who do not exercise the right job.
3. Reducing the number of workers contributes to reducing the deficit that most government units suffer from.

### **The Second Alternative**

Renting 10 machines from private offices with 10 cars to clean the streets in addition to the old machines. This requires running 10 drivers with a daily wage of 10,000 dinars. The daily car rental will be 100,000 dinars. This is in addition to reducing the number of workers to 400 and with a daily wage of 7,000 dinars.

Therefore, the total cost is calculated as follows: -

- 1- The cost of renting the machines is  $10 \text{ cars} \times 100,000 \text{ dinars} \times 30 \text{ days} \times 12 \text{ months} = 360,000,000 \text{ dinars}$ .
- 2- The cost of the driver's wages is  $10 \text{ drivers} \times 10,000 \text{ dinars} \times 30 \text{ days} \times 12 \text{ months} = 36,000,000 \text{ dinars}$ .
- 3- The cost of worker's wages is  $400 \text{ workers} \times 7,000 \text{ dinars} \times 30 \text{ days} \times 12 \text{ months} = 1,008,000,000 \text{ dinars}$ .
- 4- The cost of oils and greases = 49,188,000 dinars
- 5- Petroleum materials = 18,561,000 dinars

- 6- Maintenance of machines = 25,675,000 dinars
- 7- Maintenance of gardens and parks = 25,310,250 dinars
- 8- Total final cost = 1,522,734,250

### **The Feasibility of this Alternative**

1. The alternative can save an amount of 99,600,000 dinars
2. This alternative contributes to the use of modern methods in cleaning the streets and parks, reducing the number of workers who are not able to work will contribute to encouraging other workers to perform their work in the best possible way.
3. Reducing workers will contribute to reducing natural and abnormal wasted time at work and selecting the most energetic and active workers.

### **The Third Alternative**

Agreement with a foreign company to clean the streets, while retaining 100 employees as supervisors to work and providing their daily wages of 10,000 dinars. This company is obliged to clean the gardens and parks under the supervision of the employees appointed by the Municipality of the city of Samawah and the annual contract is the amount of 180,000,000 Iraqi dinars, i.e. the monthly amount is 1,500,000,000 Dinars, and thus the total cost is calculated as follows: -

- 1- The cost of the company contract = 180,000,000 dinars
  - 2- Wages for supervising workers = 100 supervisors x 10,000 dinars x 30 days x 12 months = 360,000,000 dinars
  - 3- The cost of oils and greases = 49,188,000 dinars
  - 4- Petroleum materials = 18,561,000 dinars
  - 5- Maintenance of machines = 25,675,000 dinars
  - 6- Maintenance of gardens and parks = 25,310,250 dinars
- The final total of the third alternative is 2,278,734,250 dinars

### **The Feasibility of this Alternative**

1. This alternative can achieve a financial saving of 24,000,000 dinars
2. The trend towards modern methods and keeps pace with developments in Arab and foreign countries, including in giving cleaning contracts to private companies. These companies are under the supervision of the municipality and responsible for cleaning the city.
3. Reducing workers to the largest possible degree will reduce administrative pressure on the municipality, will get rid of elderly workers and workers who are not working hard,

and will avoid the pressure of the influential authorities in the province to appoint workers.

### The Third Step: Analysis and Arrangement of Decision Groups

In this step, the decision groups are analysed and arranged, and this arrangement is in the form of a descending arrangement in terms of the financial savings achieved by public spending and an ascending arrangement in terms of the proportion of alternative costs compared to the total costs.

This analysis also includes identifying the main and subsidiary goals in the municipality of Samawah and then evaluating these decisions in the extent to which they achieve the goals, taking into account the benefit and revenues (resources) that these decision groups have achieved and the extent to which the decision groups benefit from other activities in achieving the general goals.

**Table 13**

| Alternative number     | Total annual costs for 2015 | Total alternative annual costs | The ratio of alternative costs to total costs | Savings realised | Ranking |
|------------------------|-----------------------------|--------------------------------|---|------------------|---------|
| The first alternative  | 2,518,756,250               | 1,378,734,250                  | %55   | 1,140,000,000    | first   |
| The second alternative | 2,518,756,250               | 1,522,734,250                  | %60   | 996,002,000      | second  |
| The third alternative  | 2,518,756,250               | 2,278,734,250                  | %90   | 240,002,000      | third   |

It is clear from the above table that when the Municipality of Samawah city put three alternatives to apply the zero-based budget, the first alternative was ranked first, as it achieved a financial savings of 1,140,000,000 dinars. In addition to that it has achieved a reduction in costs amounting to 1,378,734,250 dinars i.e. 55% of the total annual costs of 2,518,756,250 dinars for the year 2015. This thus proved the validity of the second hypothesis that: "There is a possibility for sub-government units to use the zero-based budget to choose the best alternative and achieve financial savings through the rationalisation of government spending."

### Step 4: Preparing and Presenting the Budget

After the arrangement and horizontal and vertical merging of the decision-making groups are completed, the differential budgets of the government decision-making units are collected and

prepared using the proposed decision groups of forming the decision groups for each activity and each decision-making unit.

## **Conclusions and Recommendations**

The research reached a set of conclusions and recommendations that can be presented as follows:

### **Conclusions**

There are number of theoretical and practical conclusions that can be summarised as follows:

1. The philosophy of the zero-based budget system is based on a logical scientific theory based on a set of principles, rules, concepts and practices that help government departments to provide the best solutions and conditions for creativity and innovation in the field of budget preparation.
2. The zero-based budget preparation system leads to the practice of continuous evaluation and review of strategic decisions of government departments to adapt to unstable conditions and confront financial and economic crises.
3. The implementation of the zero-based budget system faces some difficulties, such as the high costs of preparing it and the need for substantial and accurate information as well a qualified accounting and administrative cadres and its need for a longer time to prepare it. But these difficulties do not constitute an obstacle to its application.
4. The preparation of the zero-based budget system faces other difficulties that may hinder its implementation. Among the most prominent of these difficulties are the fear of the directors of departments and the people of the application of this system and the conflict of personal interests of the relevant parties, as well as the difference of views of the budget preparers, which causes delay in its final form submission at decision time.
5. There is a complete agreement by the members of the study sample to adopt and implement the zero-based budget in the sub-government units, and this is evident through the answers to the questions that a large percentage of them got at a high level of importance.

### **Recommendations**

Based on the findings of the research, theoretical and practical recommendations can be presented as follows:

1. The necessity to adhere to the principles, rules and practices that underlie the philosophy of the zero-based budget system or law by all sub-government departments, as this system creates a state of creativity among government budget preparers and provides them with the best solutions.

2. Inviting the sub-government departments to take their strategic decisions based on the data of the zero-based budget system, because the latter helps in the practice of continuous evaluation and review of these decisions to face financial and economic crises and address unstable conditions.
3. The necessity of sensitising and educating department managers, people and budget preparers in government units on the importance of implementing the zero-based budget system and its effective role in achieving positives that do not affect their positions at work and do not conflict with their personal interests.
4. The necessity of creating and providing financial and accounting data with the least possible time, effort and cost, as well as providing efficient and qualified human, administrative and accounting elements to apply the zero-based budget without difficulties and problems impeding its application.
5. Obliging the sub-government units to adopt and apply the zero-based budget system, based on what the results of the questionnaire showed, that there is a statistically significant correlation between the capabilities of the sub-government units and the adoption of the application of this system, as the answers got to a high level of relative importance.

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