

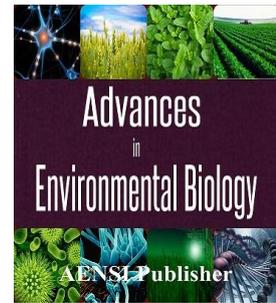


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### A Survey of the Reasons of Performance Variance of the State Firms in Bushehr Province from Budget Approved During 2007-2011

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#### ABSTRACT

The present study aimed to investigate the reasons of variance of performance of state firms in Bushehr province from the budget approved in the years and the main problem is as the variance is considerable or not? What are the reasons of variance or factors leading to major variances? To modify the variances and revision in estimation of budget, what are the solutions? There are some hypotheses as followings: 1- There is a significant difference between actual performance and prediction of the budget of state companies in province, 2- There is a significant relationship between increasing the budget of firms and their performance variance? 3- There is a significant association between products sale and services of state companies and budget performance variance of the firms. 4- There is a significant association between return on assets and budget performance variance of the firms. 5- There is a significant difference between budget performance variance of the state firms of the province. The study population is 12 state firms in Bushehr province. This study applied library method to express the theories and theoretical basics and for extraction of required information field method is used and the existing documents (financial and budget statements of the company in the studied years) and descriptive and inference statistics and relevant techniques are used for data analysis. The results of study test by SPSS software, correlation coefficient and variance analysis showed that hypotheses 1, 2, 4, 5 are rejected and hypothesis 3 is supported. The result showed that there is a significant relation between sale of products and services of state firms and budget performance variance of the firms.

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#### INTRODUCTION

Regarding optimal use of firm resources by applied techniques and tools of management, budget and budgeting is a tool by which all the management plans are expressed and we can coordinate all activities of firm or institution. After approving the budget or future period plan, the aim is controlling the costs, expenses based on approved figures in budget.

Indeed, in case of implementing budget in accordance to approved figures, profit is achieved by the company and sale estimation is fulfilled in the period. In other words, the consistency of costs and expenses with the performance, in case of non-fulfillment of sale estimation can not create the good result. However, if the sale estimation is based on correct calculations and prediction, we can expect the estimations are fulfilled in budget performance.

It is not expected that performance figures are similar with the approved budget figures without any change and in case of major variance of performance from approved budget, we should consider more and it is discussed from any aspect. If it is found that estimated figures of budget are non-realistic, the figures should be revised. On the other hand, if there is not defect for the approved budget, there should be adequate efforts to modify the conditions leading to variance.

##### Statement of problem:

The lack of logical basics and separation of operational costs and major and minor incomes and budget variance compared to the performance of recent years created some questions for managers and some problems

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are reported by independent audit of company. Whether the variance is considerable or not? What are the reasons of variance or factors leading to major variance? What are the solutions to modify the variances and revision in estimation of budget? These questions are investigated in this study.

#### *Significance of study:*

The state firms based on the goals of the country try to achieve economic, social and cultural autonomy and can make policies to increase the industrial activities and also can keep and increase the resources of the country. As there is a direct relationship between economic growth and using information, in the firm budgeting trend, by modern methods and technology and past performance and exact use of financial accounting and management, we can revise to help the company to determine and achieve the goals and keep the correct path of activities and correction of requirements by planning and budgeting and follow up and performance control. Budget is the plan of prediction (achieving) the required future. The incomes, plans and operation are the budget content for the close or far future. In future aspects, only prediction and estimation are important and this element defines budget in comprehensive issues and as inhibiting aspects of budget. The budget is provided based on predictions and estimation and is notified for execution. If the prediction is not fulfilled, variance issued is considered and it indicates the difference between the results of real performance with the predicted plans.

#### *Review of literature:*

Regarding the investigation of variance factors in budget of organizations and state companies and the analysis of factors, a few studies are performed in Iran. Some of the studies include as:

- 1- Khoshkrodian [6] in the study "investigation and presentation of the reasons of approved budget variance with the performance of Joint Company of Iran Shilat during 1994-1999. The results showed that reasons of creating approved budget variance with performance in Joint Company of Iran Shilat are associated to sale (sale rate, sale volume).
- 2- Arabzade in the study "investigation of the reasons of existing defects between budget and performance of the water and wastewater firms of the country" found that training and directing managers and executors to planning and control and investigation of budget performance to eliminate the existing defects between budget and performance of water and wastewater firms can be considered.
- 3- EsmailiDolayinejad [2] in the study "investigation of the budget variance factors in Keshavarzi bank from the view of managers with emphasis on six provinces Khorasan, Fars, Mazandaran, Kerman, Markazi and Hamedan.

The purpose of this study is investigation of the reasons of variance in budget of Bank Keshavarzi with emphasis on 6 provinces of the country and found that formulating a good budget based on correct prediction of all parts and follow up and control in execution and it is considered as a valuable tool to achieve the bank goals and can be presented to the high managers of bank.

- 4- VafayiGilvani in the study "evaluation of the basic reasons of budget performance variance in the projects of regional electricity company projects of Fars found that the reasons of performance variance of the budget in projects of regional electricity company transfer lines is based on three factors of legal barriers (strict rules of public calculations and budget rules of the lack of strong guaranty for legal articles and legal problems of lines and ownership of land), structural barriers (non-economic stability of using common budgeting, shortage of liquidity and the lack of strong supervisory system), human barriers (adequate knowledge and specialization of the internal and external organizational human factors, not using information feedback system and the lack of correct expert studies of projects).

#### *Review of literature and theoretical framework of study:*

In theoretical basics, at first we can consider the formation, concepts, goals and duties of budget and budgeting. Then, by planning and strategic budgeting (ppbs), the macro goals of long and short-term plans, budget trend as providing, approving, execution and annual budget control and budget providing methods are explained. Also, in this chapter, the relationship between budgets and stages of providing a comprehensive budget are presented. Then, regarding the budget of state firms and factors effective on prediction of the budget of these firms, the providing, regulation, approving and execution of budget with presenting of forms and budget control as intra-organizational are defined by internal and external organizational units by valid organizations as completely.

#### *Study hypotheses:*

- 1- There is a significant difference between actual performance and prediction of approved budget of state firms in province.
- 2- There is a significant relationship between increasing the budget of firms and the variance of their performance.

- 3- There is a significant relationship between the sale of products and services of state firms and budget performance variance of the firms.
- 4- There is a significant relation between return on assets (profit before tax deduction plus the financial interest costs to average assets) and budget performance variance of firms.
- 5- There is a significant difference between budget performance variance of state firms of province.

*Study methodology:*

This study applied library method to express the theories and theoretical basics and for extraction of required information field method is used and the existing documents (financial and budget statements of the company in the studied years) and descriptive and inference statistics and relevant techniques are used for data analysis.

*Study population:*

The state firm in province is investigated.

*Study sample:*

The total study population, 12 state firms in province is investigated.

*Data collection method:*

The required information and resources are obtained in initial section with the interview with the managers and executive employees and study of existing instructions and in secondary section by extraction of required data, the balance sheet and actual profit and loss and approved budget of firms and justified reports investigation of previous year's budget are classified and collected.

*Hypothesis test:*

To test the first and fifth hypotheses, it is required to at first calculate the significant difference of actual performance variance of each of firms. The first step is to see how much the actual and budget figures are changed, the difference  $D=x-y$  is calculated, then the mean of difference of figures ( $\mu_d$ ) and standard deviation (sd) are used to determine the difference of pairs and the achieved formula are put in formula t and the result is compared with t-value of statistical table (t-student) with degree of freedom  $n-1$  and distinction level  $\alpha$ .

To test the second, third and fourth hypotheses, it is required to achieve variance (difference of the actual and budget figures) at first and then by SPSS and Minitab software, we can obtain regression coefficient or correlation between the required variances and we can put correlation coefficient ( $r$ ) in formula  $t_r$  and the result is compared with value of t-student and we can support or reject the above hypotheses.

*1- Description of variables:*

*4-1-1 Independent variables of model:*

To investigate the reasons of variance of state firms of Bushehr province, the following factors are applied:

- a. The sale of products and services sale of firms ( $x_1$ )

State firms in province produce products finally and others present services and each year by prediction and estimation, we can extract their value in approved budget and actual performance from tax statements.

- b: Assets of firms ( $x_2$ )

The size of firms depends upon the firm assets and they are achieved in the financial annual statements of firms.

- c. Debt of firms ( $x_3$ )

Debt of firms including creditors or long-term loans can be obtained from financial annual statements of firms.

- d. Return on assets of firms ( $x_4$ )

The return on assets of firms is achieved by the ratio of net pro fit plus the financial costs to average assets in financial year of firms and they can be computed by financial statements of firms.

- e. Increasing budget of firms ( $x_5$ )

By the development of firms annually, their budget is also increased and their increase is extracted and calculated based on approved annual budget of firms.

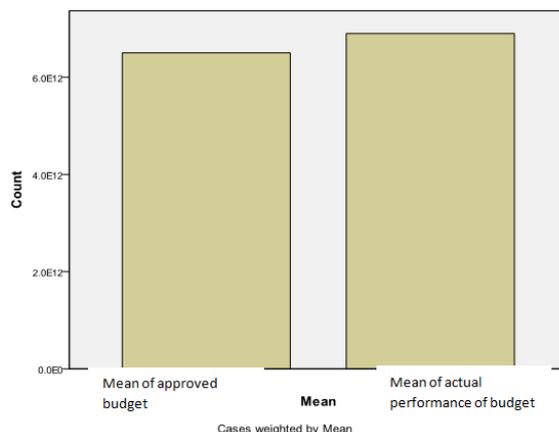
*4-1-2 Dependent variable of model:*

The performance variance of firms from approved budget ( $y$ )

Based on the actual value and performance in financial statements of firms and estimated value and prediction of approved budget of firms, we can calculate the performance variance of companies.

*The descriptive analysis of results of study:*

The descriptive results of study are stated in the form of three charts as:

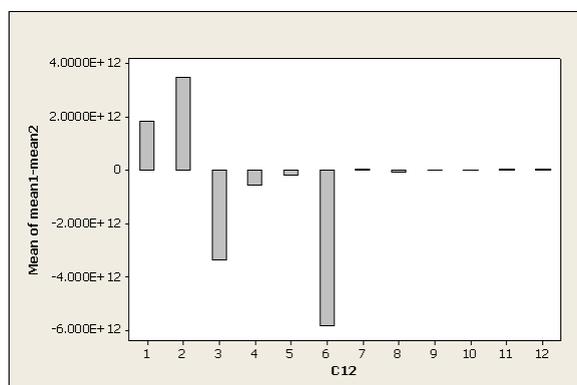


**Chart 4-1:** The comparison of the total mean of approved budget with the mean of actual performance of budget of 12 state firms of Bushehr province during 2007-2011.

In the above chart, the total mean of approved budget of 12 state firms of Bushehr province is shown in the table and the comparison with the total mean of actual performance of budget during 2007-2011 is shown. The result is as there is no significant difference between total mean and actual performance of budget and prediction of total mean of budget of 12 state firms in Bushehr province.

**Table 4-1:** The statistical distribution of the studied firms.

Company name	No
Company of southern Pars gas complex	1
Gas refinery company of Fajr Jam	2
Partnership company of petrochemical of Pars	3
Partnership company of petrochemical of Mobin	4
Iran oil terminals company	5
Petrochemical partnership company of Borzuyeh	6
The service partnership company of Pazargah	7
Partnership company of rural water and wastewater of Bushehr province	8
Partnership company of industrial townships of Bushehr province	9
Joint company of regional water of Bushehr	10
Joint company of industrial townships of Bushehr province	11
Joint company of new city of Ali Shahr	12



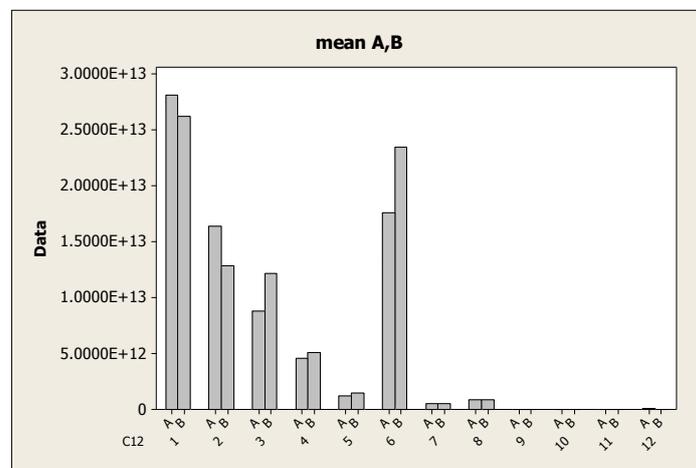
**Chart 4-2:** The variance mean of 12 state firms of Bushehr province during 2007-2011.

In the above chart, the total mean of variance of each of 12 state firms of Bushehr province during 2007-2011 is shown. Most of the firms with variance are those working in oil, gas and petrochemical. The highest

mean of variance is petrochemical firm of Borzuye and Pars petrochemical firm and Gas refinery Fajr Jam company.

**Table 4-2:** The statistical distribution of the invested firms.

Company name	No
Company of southern Pars gas complex	1
Gas refinery company of Fajr Jam	2
Partnership company of petrochemical of Pars	3
Partnership company of petrochemical of Mobin	4
Iran oil terminals company	5
Petrochemical partnership company of Borzuye	6
The service partnership company of Pazargah	7
Partnership company of rural water and wastewater of Bushehr province	8
Partnership company of industrial townships of Bushehr province	9
Joint company of regional water of Bushehr	10
Joint company of industrial townships of Bushehr province	11
Joint company of new city of Ali Shahr	12



**Chart 4-3:** The mean of comparison of approved budget and real performance of budget of 12 state firms of Bushehr province in 207-2011.

**Table 4-3:** The statistical distribution of the investigated firms.

Company name	No
Company of southern Pars gas complex	1
Gas refinery company of Fajr Jam	2
Partnership company of petrochemical of Pars	3
Partnership company of petrochemical of Mobin	4
Iran oil terminals company	5
Petrochemical partnership company of Borzuye	6
The service partnership company of Pazargah	7
Partnership company of rural water and wastewater of Bushehr province	8
Partnership company of industrial townships of Bushehr province	9
Joint company of regional water of Bushehr	10
Joint company of industrial townships of Bushehr province	11
Joint company of new city of Ali Shahr	12

In the above chart, a comparison is made between total mean of budget actual performance and total mean of approved budget of each of 12 state firms in Bushehr province during 2007-2011. In the above comparison chart, most of the firms with variance are those working in oil, gas and petrochemical. Based on chart, petrochemical firm of Borzuye has the highest variance of total mean of real performance with total mean of approved budget.

### 3. The investigation of study hypotheses and results:

#### 4-3-1 The analysis of first hypothesis:

There is a significant difference between actual performance and prediction of approved budget of state firms in province.

$$H_0: \mu_1 - \mu_2 = \mu_D \leq 0$$

$$H_1: \mu_D > 0$$

**Table 4-4:** The results of first hypothesis of study.

$\alpha$	N	T1	P-value
0.05	12	.56	.707

As p-value is 0.707, as  $0.707 > 0.05$ , with confidence interval 0.95, we can say the mean of actual performance of budget of state firms of province is less or equal to the mean of prediction of approved budget. Thus,  $H_0$  is supported and  $H_1$  is rejected. Thus, there is no significant difference between actual performance and prediction of approved budget of state firms in province.

#### 4-3-2 The analysis of second hypothesis:

There is a significant relation between increasing budget of firms and their performance variance.

$$H_0: \rho_1 = 0$$

$$H_1: \rho_1 \neq 0$$

**Table 4-5:** The results of first hypothesis of study.

$\alpha$	N	r1	T2	P-value
0.05	122	-0.374	-1.375	0.231

To perform this test, at first the percent of annual increase of budget is calculated based on geometry mean and then r1 correlation between the percent of annual increase of approved budget with budget variance (difference of approved budget and actual performance of budget) is calculated.

As p-value is 0.231, as probability is bigger than  $\alpha=0.05$ . Thus,  $H_0$  is supported and  $H_1$  is rejected. Thus, there is no significant relationship between increase of budget of state firms and their performance variance.

#### 4-3-3 The analysis of third hypothesis:

There is a significant relation between products and service sale of state firms and their performance variance.

$$H_0: \rho_1 = 0$$

$$H_1: \rho_1 \neq 0$$

**Table 4-6:** The results of first hypothesis of study.

$\alpha$	N	r2	T3	P-value
.05	12	-0.743	-5.193	0.006

To perform this test, at first the percent of annual increase of products and services sale of firms is calculated based on geometry mean and then r2 correlation between the percent of annual increase of sale of products and services with budget variance is calculated.

As p-value is 0.006, as probability is bigger than  $\alpha=0.05$ . Thus,  $H_0$  is rejected and  $H_1$  is supported. Thus, there is a significant relationship between sale of products and budget performance variance of firms. Equation of linear regression between products sale increase and performance variance is as:

$$BX + Y = A$$

Variance of annual budget performance =  $240/000/000/000 - [5.120/000/000/000]^2$  \* The percent of increasing products sale

#### 4-3-4 The analysis of fourth hypothesis:

There is a significant relation between return on assets (profit before tax deduction plus financial costs to average assets) and budget performance variance.

$$H_0: \rho_1 = 0$$

$$H_1: \rho_1 \neq 0$$

**Table 4-7:** The results of first hypothesis of study.

$\alpha$	N	r3	T4	P-value
0.05	12	-0.22	-0.732	0.569

To perform this test, at first the return on assets, the ratio of profit before tax deduction plus financial costs to average assets of firms is calculated and then r3 correlation between the return on assets with budget variance is calculated.

As p-value is 0.569, as probability is bigger than  $\alpha=0.05$ . Thus,  $H_0$  is supported and  $H_1$  is rejected. Thus, there is no significant relationship between return on assets (profit before tax deduction plus financial costs to average assets) and performance variance of firms.

#### 5-3-4 The analysis of fifth hypothesis:

There is a significant difference between budget performance variance of state firms of province.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \dots = \mu_{12}$$

$H_1$ : At least two of firms are different in terms of mean of budget performance deviation

To do this test, one-way variance analysis is used. The output of this model is based on the comparison of the mean of budget performance variance of 12 state firms during 5 years as:

**Table 4-8:** The results of first hypothesis of study.

Variance	Sum of squares SS	Degree of freedom df	Mean of squares MS	F test	P
Groups	$SS_{tr} = 2/97804 \times 10^{26}$	11	$MS_{tr} = 2/70731 \times 10^{25}$	$F_o = \frac{MS_{tr}}{MSE}$ $= 0/84$	0.598
Error	$SSE = 1/53924 \times 10^{27}$	48	$MSE = 3/20676 \times 10^{25}$		
Total	$SST = 1/83705 \times 10^{27}$	59			

Based on F test and P-value, as shown in above table, as p-value is 0.598 and bigger than  $\alpha=0.05$ ,  $H_0$  is supported and  $H_1$  is rejected and there is no significant difference between means of budget performance variance of 12 state firms of province.

#### Conclusion:

The results of test by SPSS software, correlation coefficient and variance analysis showed that hypotheses 4, 2, 1, 5 are rejected and Hypothesis 3 is supported and the result show that there is a significant relation between sale of products and services of state firms and budget performance variance of the firms. These results are in line with the results of the study of Khoshkrodian (2000).

#### Recommendations:

Indeed, budget system should be as the role of state firms is kept as tool of government in economy and the nature of firms is also considered. In the current conditions, all payments and receiving of state firms are not considered in budget calculation and most of chapters don't have any position in classification of budget accounts.

For good budgeting and using its benefits and avoiding budget variance of state firms and modification of the current system, the following items are proposed:

- 1- Using organizing of holding specialized companies in new system design for budget of state firms.
- 2- Reviewing in budget chapters of state firms with the aim of avoiding inflation and non-actualization of total figures of budget of company.
- 3- Determining the unit reference of budget approving of state firms (general assembly, government or law making parliament)
- 4- Determining goals and strategy of firm via board of managers and exact collection of budget information for correct estimation of income (sale of products and services) and costs by relevant experts
- 5- Achieving information of the condition of global market of sale of products and exact determination of sale rate of products based on the conditions and policy of government in changing foreign exchange before estimation and prediction of annual income of firm
- 6- Reviewing the mechanism of estimating distribution and sale costs based on the changes and modification of sale of products and services.
- 7- Establishing a good information system relevant with budgeting system to present required information and reports and comparison of actual figures and budget permanently and at required periods.

#### Recommendations for further studies:

It is recommended that researchers can study in the following topics in future:

- 1- The investigation of the reasons of budget performance variance of state firms of approved budget compared to the reasons of variance of non-state firms performance of approved budget
- 2- Operational budgeting in state firms and its impact on transparency and responsiveness
- 3- The investigation of the strategic condition of firm in state firms and its relation with evaluation indices

#### Study limitations:

- 1- The lack of database of state firms in country

- 2- The lack of required foreign books and journals and the lack of database about budgeting and required information of industries of other countries with advanced industry in this regard.
- 3- The lack of research history in this field namely in the industry of country.

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