

## The Effects Of Privatization On The Efficiency Of Educational Units, Case Study Of Iran

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**Abstract:** The purpose of this paper is to examine the effects of privatization on the efficiency of educational units of Iran. The method of collecting data is questionnaire and the statistical method is inference. In order to evaluate the assumptions we use the spearman correlation method and OLS regression model. The results show that privatization of educational units in Iran affects positively on labor productivity and investment, but does not effect on costs. Also privatization has a negative effect on the efficiency of educational units.

**Key words:** Privatization, efficiency, labor productivity, education.

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### INTRODUCTION

Privatization is the process of transferring ownership from the public sector to the private sector. In fact, the aim of the private educational units is minimizing the cost and maximizing the benefits. This is the meaning of efficiency. Efficiency depends on the quantity of services and products.

Privatization in Iran was started at 1997, and during these years, it has not happened according to expectations of policy makers. In this study, we investigate the effect of privatization on the efficiency of educational units in the department of education in Mahshahr city as a case study of Iran.

#### *Review of literatures:*

CaglaOkten and PerenArin (2006) in their article showed that realizing the effects of privatization is very difficult. This paper investigates the effects of privatization on productive and allocative (market) efficiency of privatized cement plants from Turkey.

Since all public (governmental) cement companies had been privatized and they had available all information from before and after the privatization, they were able to prevent the emergence of problems associated with the selection of the system. In this analysis they just investigate the effects of privatization and discover how the privatization works.

More ever their results with respect to efficiency and locative efficiency, are related to changes in the competitive environment. They also know that after privatization while employment decreased, investment and working ratio capital increases. It means that a private company is changing the way in order to use the investment technology as capitalize.

Salawu and Akinlo (2005) in another study investigate the efficiency of privatization through evolution of financial performance of a productive company that privatized between the years 1978 to 2001. This period has covered productivity of investigated company before and after privatization.

Privatization has been identified as a key element for improving productivity reducing financial burden and helping to development of capital market.

In order to achieve the purpose of the study, secondary data on performance indicators have been collected from the annual reports of organization.

However, the results showed that privatization program has been studied significant combined effect on the performance of company.

The program also shows a positive effect in performance of company, because in the period of study the company had constant rate in returning investment, by this impact had greater effect particularly and in the period after privatization.

Despite the positive effect of privatization on company's financial performance the period after privatization by increasing operating costs due to high rates of inflation, the privatization was a serious obstacle to the investment and manufacturing growth. The policies of inflation control should have necessary balanced increase to the production of plant.

Sarboland (2012) in his study, shows that there is a significant relation between the privatization of Telecom Corporation in Iran and performance and in all cases the positive hypothesis (H1) is confirmed, that is, ratios average after being privatized was greater than before such a phenomena.

**The Research Hypothesis:**

The main hypothesis of this study is to investigate the effect of privatization on efficiency of educational units in Mahshahr.

Meanwhile, the following objectives have been considered:

To investigate the effect of privatization on cost reduction in Mahshahr educational units.

To investigate the effect of privatization on capital increase in Mahshahr educational units.

**Methods And Data Analysis:**

Method of data analysis is according to correlations between variables and regression model. Meanwhile "the software SPSS will be used to analyze the data.

The steps for regression analysis is according to:

1. Data integration: we have created data integration table and a table consisting of 38 rows and 35 columns.

2. Through a questionnaire, we obtained the correlation between dependent variable(Y) and independent variables include cost reduction (X<sub>1</sub>), labor productivity (X<sub>2</sub>) and increasing capital (X<sub>3</sub>).

3. Average of variables: Calculating the means of all variables (Y, X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>) by related questions in questionnaire.

4. By SPSS software, calculating multiple variables and analyzing its output was processed.

5. Deleting nonsignificance coefficient of variable (X<sub>1</sub>) and re-estimating the model.

6. Estimating the final model, which the details are as below:

Table 1: results of model estimation

Model	standardized Coefficients		Coefficients t	Sig.
	B	St. Error		
(Constant)	-1.128	.308	-1.128	.3663
Variable cost reduction (X1)	.014	.061	.020	.821
Variable labor productivity (X2)	.517	.067	.532	.000
Variable capital (X3)	.782	.099	.655	.000
D	-.194	.09	-.139	.056

Durbin-Watson 1.700  
R Square 0/858

So the results are as below:

- 1- Privatization has an impact on cost reduction,
- 2- Privatization has an impact on labor productivity,
- 3- Privatization has an impact on increasing capital.

$$\left\{ \begin{array}{l} H_0 : \rho = 0 \quad \text{There was no significant correlation} \\ H_1 : \rho \neq 0 \quad \text{There is a significant correlation} \end{array} \right.$$

**Table 2:** Results of the Spearman hypothesis

The significance level(sig)	Spearman correlation	Variable
0.821	0.020	Cost reduction
0.000	0.532	Labor productivity
0.000	0.655	Capital increase

Since, the significant level of cost reduction variable is about 0/821 and more than %5, it indicates to reject the positive correlation between privatization and educational department of Mahshahr.

Since, the significant level of labor productivity and increasing capital variables is equal to 0.000, and the correlations respectively are 0/532 and 0/655. Therefore we can say that the labor productivity and increasing capital have a significant impact on efficiency.

**Autocorrelation Test:**

To perform this test, we must first consider the amount of Durbin–Watson statistic from the table.  $K'=k-1$

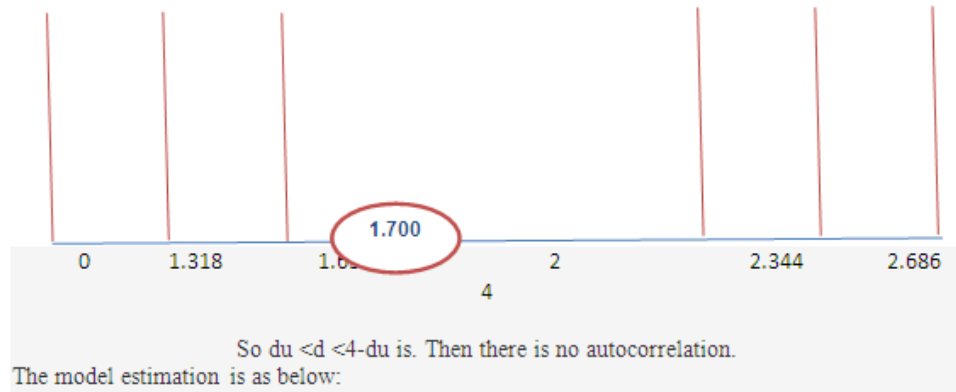
First, we calculate k by in formula then through the Durbin–Watson statistic table we obtain the amount of du, dl. And according to following classified we judge about the existence of autocorrelation in model.

$N=38$

$K=4 \Rightarrow K'=k-1 =3$

$du=1.656 \Rightarrow d_u = 2.344$

$dl=1.318 \Rightarrow dl = 2.682$



$Y = -1.128 + 0.014X_1 + 0.517X_2 + 0.782X_3 - 0.194D$
T: (-3.663) (0.228) (7.698) (7.861) (-1.982)
$R^2 = 0.858$ $DW = 1.700$ $F = 49.865$

**The Interpretation Of Coefficients:**

Interpretation of coefficient of variable  $x_1$  (decreasing the cost): it means that if ( $x_1$ ) increases about 100 units, then Y will increase about one unit.

Interpretation of coefficient of variable  $x_2$  (labor productivity): It means that if  $x_2$  increases about 100 units, then Y will increase about 51 units.

Interpretation of coefficient of variable  $x_3$  (capital): It means that, if x increases about 100 units, then Y will increase about 78 units.

Interpretation of dummy variable (D): the t – statistics of the D indicates that the efficiency of educational units is affected after privatization. And because the coefficient D is negative, the effect of privatization on the efficiency of educational units is negative.

Interpretation of t statistic: the t value of independent variables, except to reduce costs, show that they are significant. Thus because of changes in capital and labor productivity, cause a significant change in the Y variable.

Interpretation of  $R^2$  (coefficient of determination): the coefficient of determination  $R^2$  with the value of 0/858 indicated that 85/8 percent of changes of efficiency of educational units is explained by reducing costs, increasing labor productivity, and dummy variable.

Interpretation of F: This is the statistic for the hypothesis test with null hypothesis;  $H_0$ : At least one of the non-constant coefficients in the regression equation is non-zero and alternate hypothesis;  $H_a$ : All non-constant coefficients in the regression equation are zero.

Since, the probability of F is less than 5 percent, therefore the estimated regression model is valid.

**Discussion and Result:**

The amount of analysis of variance with significant level more than %95 indicates that the regression model has been successfully to explain changes in dependent variable and the amount of coefficient of determination

$R^2$  about 0/858 indicates that 85/8 percent of changes in efficiency of educational is explained by labor productivity, privatization and capital increase.

Meanwhile, according regression model, it can be said that the variables of increasing capital, labor productivity and privatization are effective. Because of the significant level of t values of labor productivity, privatization and increasing capital are more than 95%. Thus in the level of 5%, it can be said that labor productivity, privatization and capital variables have a significant effect on the efficiency of educational units, but the significant level of cost reduction is more than %5 and it's t – statistic is equal to %228 and therefore in the level of %5, it acknowledged that cost reduction had not a significant effect on the efficiency of education units. With regard to Durbin-Watson statistic value which is about 1/700, indicate that  $du < d < 4-du$  and therefore the regression model is not autocorrelated.

In addition the amount of t-static of D is -1/982 and means the efficiency of educational units is affected after privatization and since the coefficient of D is negative, the impact of privatization on the efficiency of educational units is negative.

## REFERENCES

- Aziz-Zadeh, H. and S. Borzouei, 2007. "Evaluation of the efficiency of in the education system", Education Inc.
- Rezaeian, A., 1997. "Principles of Management, SamtInc, Tehran. ☒
- Zanzabvr and Katayama, 1976. "cost reduction", translated by Mohammad Salimi, Tehran.
- Khaki, G., 2000. "Research Methods in Management", Center for Academic Publications University, Tehran.
- Taheri, Shahnam, 1999. "Productivity and it's Analysis in Organizations (Global Efficiency Management)", Tehran.
- CaglaOctan and PerenArin, 2006. "The Effects of Privatization on Efficiency: How Does Privatization Work?", *World Development*, 34(9): 1537-1556.
- Salawu, R.O. and O.O. Akinlo, 2005. Privatization and Efficiency: Evaluation of Corporate Financial Performance, Ile-Ife, Osun State, Nigeria J. Soc. Sci., 10(3): 171-180.
- Beesley, M. and S. Littlechild, 1983. "Privatization: principles, problems and priorities." *Lloyds Bank Review*, London.
- Sarboland, 2012. Effects of Privatization on Performance: A Case of Telecom Corporation, Ardabil, Iran, Journal of Basic and Applied Scientific Research.