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STUDY OF FINANCIAL OPERATION IN PRIVATIZATION PROCESS IN LISTED COMPANIES IF TEHRAN BOURSE

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ABSTRACT

Privatization is a mean of improving the operation of economic activities via increasing the role of market force worldwide. In case at least 50 percent of their shares are transferred to private sector. This important economic field is apparently a process during which the duties and utilities of governmental sector are transferred to private sector in every level. But in real concept it is said to the cultural distribution in the society that the legislature, executive, judiciary and all sections of the country should believe that they should assign people's work to themselves. Central points like increasing the competition and improvement of performance in management and the operations of economic institutes, decreasing direct role of the government in economic activities, decreasing the governmental budget expenses due to paying the subside and capital costs of developing domestic capital markets and accessing the capital, technology and foreign financial resources are of the most important goals of privatization in various countries in the world. In this research the effects of government's privatization policy within the context of social economic development program and from financial viewpoint has been studied. The effective evaluation of this policy according to accounting texts and privatization was done by using three criteria of income of each share, the efficiency of properties and return on net worth. The results of this study shows that after privatization, financial operation of companies haven't had any significant change. Therefore, executing the privatization policy was unable to reach its goals namely improving the performance and the efficiency of companies. The main result of failure in privatization policies is unsuitable economic conditions of Iran and lack of proper ground to access the goals of this program.

Keywords: Privatization, Financial Operation, Listed Companies in Bourse and Stocks

INTRODUCTION

In general "privatization" means: to decrease the economic activities of government or limit the interference of government in financial affairs. In particular "privatization" means: to transfer the governmental sources to private sector 9 Motavasseli (1994). Various reasons and goals are defined for privatization that according to economic polices status of each country; these goals are a little different. But totally two main and immense reasons of privatization are as follow (Nasirzadeh 1990):

1- Decreasing the government responsibilities and bringing out the governmental sources from the governmental management scope in order to improve the performance and efficiency in using these sources.

2- Decreasing the financial burden of governmental national industries on state budget.

In most countries, especially under developing countries, there are governmental companies as government tools to access the optimal allocation of sources and gaining economic efficiency. But by passing the time and more complex conditions of economic environment and also occurring the major component of competition in commercial activities, caused the inappropriate operation of these companies including their economic efficiency became more obvious. The obvious aspect of this status was the disintegration of communistic economy in the early 1990s which was considered as the symbol of governmental economy. So transferring and allocation of governmental companies to non-governmental and private sectors was done. So that in 1980s and early years of 1990 the execution of privatization policy was chosen and implemented as one of the key policies for solving the economic problems in

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under developing countries. Countries like: Brazil, Chile, Mexico-Latin America, South Korea, Turkey, Pakistan, Srilanka, Thailand and Singapore-Asia, Tanzania, Egypt, Algeria, Ghana, Morocco-Africa and all countries in East Europe have been the pioneer countries in privatization (Mandala 1994). In Iran privatization policy and transferring the governmental companies was executed from 1991 based on contents of Note 32 of law by first state development plan from 1991. In the second and third economic development plan, the privatization process is considered as one of the government macroeconomic policies. The design and implementation of this policy is considered as an economic strategy and solution for resolving the available disorders in the country.

Statement of Problem

In the form of first state economic and social development plan, the privatization policy was on top of the government's plans from 1990. In the second and third development plans this process was of the basic plans of government and also has had broader dimensions. So the government has tried to spend its attention and competence for the execution of other social, cultural and economic duties and responsibilities by decreasing the financial burden of companies.

Meanwhile, it will improve the performance of these units and will increase the efficiency of financial and human sources. The subject of the research is the evaluation of this issue and answering the question that: Has the transferring of companies had positive effect on their financial operation? We will answer this question using the financial and accounting tools and criteria namely using the liquidity ratio (Quick ratio & Current ratio) and profitability of ratios (Return of capital ratio & Return on total assets ratio) and gearing ratio (Debt to total assets) and activity ratios (inventory circulation, total asset circulation, fixed assets circulation).

The Importance and Necessity of Research

This issue is so important that the Islamic Consultative Assembly for the acknowledgment of MPs of the operation of privatization policy on July 1997 has asked the research center of Islamic Consultative Assembly make a comprehensive review about the effects and execution of privatization.

The second and third parts of cultural, social and economic development of Islamic Republic of Iran is one of the main and important state plans which represents the government goals and plans during 2000-2004. By the organizing of governmental companies and transferring the shares and management of government companies and the establishing of private organization for the first time in country in 2000 all sows the importance of privatization in Iran. So as one of the reasons of this research it can be referred to the scientific review the process of privatization to gain the necessary evidences in order to evaluate the privatization operation in country. This way the effective and efficient plans can be useful in privatization activities.

Research Aim

The present experimental research is based on the financial statement information of companies transferred to the private sector via privatization organization of Islamic Republic of Iran and transferring the shares of these companies to Tehran Bourse with emphasis on the evaluating the operation of these companies before and after privatization.

Since one of the important goals of the third cultural, social and economic developmental plan of Islamic Republic of Iran is the review and amending the structure of governmental companies, providing the results of privatization based on previous operation and studying the reasons of success and failure of privatization in Iran and the experiences of other countries about transferring the companies to private sectors, this research can be useful for improving the transferring process and success in privatization plan of government. On the other hand another important aim of this research is showing the amount of positive and negative changes in the structure of company's capital before and after the privatization. The best way to research is viewing the financial ratios of companies that contains liquidity ratios (Quick ratio & Current ratio) and profitability of ratios (Return of capital ratio & Return on total assets ratio) and gearing ratio (Debt to total assets) and activity ratios (inventory circulation, total asset circulation, fixed assets circulation).

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Research Hypotheses

Main Hypotheses (1): There is a relation between privatization and liquidity ratios (Quick ratio & Current ratio).

Secondary Hypotheses: There is a difference between the averages of company's current ratio before and after privatization.

Main Hypotheses (2): There is a relation between privatization and profitability ratios.

Secondary Hypotheses: There is a difference between the average of benefit ratio to the company's sale before and after privatization.

There is a difference between the averages of efficiency ratio of total assets in companies before and after privatization.

Main Hypotheses (3): There is a relation between the privatization process and gearing ratio (Debt to total assets).

Main Hypotheses (4): There is a relation between privatization and activity ratios.

Secondary Hypotheses: There is a difference between the average of inventory circulation of companies before and after privatization.

There is a difference between the averages of company's total asset circulation before and after privatization.

Secondary Hypotheses: There is a difference between the averages of company's fixed assets circulation before and after privatization.

Research Local Scope

Since the documenting of information is necessary, gathering the information is done solely via state privatization organization and Tehran Bourse. So all the companies which were transferred by privatization organization in 2004 and their shares were transferred and transacted in Tehran Bourse. And will form the research population.

Research Time Scope

The mentioned research was done during 2001 till March 19th 2006. So studying the financial statements of previous three years and the three years after privatization of companies in 2004 were transferred by privatization organization.

Research Subject Scope

The mentioned research is studying the company's financial operation in privatization process in listed companies in Tehran Bourse.

Studying Variables

Used variables in this research are shown schematically:

Research Variables

Item	Title	Variable
1	Liquidity ratios	Quick ratio & Current ratio
2	Profitability ratios	Return of capital percentage and return on total assets ratio
3	Gearing ratio	Debt to total assets
4	Activity ratio	inventory circulation, total asset circulation, fixed assets circulation ratio

Research Population

For test, the research hypotheses of all listed companies in Tehran Bourse which were included in privatization in 2004 based on general computations of commercial law, 50% of their shares was transferred to private sector.

They contain 157 companies among which 86 companies since their specialized main company is a privatization organization itself were chosen and form our population and among these 86 companies, 25 companies were sold via auction and the sign √ represents these companies and does not contain in this research. Because the research topic are companies which have been privatized via selling their shares in Tehran Bourse, not via auction.

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Sample
Because of limitation, the sample is as equal as population. It includes 61 companies that their names has been given in details.

Statistical Methods for Testing Hypotheses
In this research, we have done the two illative and descriptive for data analysis. In descriptive level, by using the statistical characteristics like average, mean, standard deviation, minimum and maximum has described the sample general characteristics and in illative level to answer the research hypotheses the following tests were used.

T test- Paired
In this research by using test the paired samples were used for analysis. Generally when we start pairing the observations:

1- The observations of two samples won't be separate and have a relation with each other.

2- Beside main factor of test, an external factor interrupt our work and effects on observations. This way by pairing the observations we will eliminate the effect of this external factor.

In this research since the reviewed companies after privatization are those were viewed before privatization, as per clause one we have tried tom pair he observations.

Suppose the observations are paired in form of (X_1, Y_1) For the sample test

$$\begin{cases} H_0 : \mu_2 - \mu_1 = \mu_0 \\ H_0 : \mu_2 - \mu_1 \neq \mu_0 \end{cases}$$

Test parameter is:

$$t = \frac{\bar{D} - \mu_0}{S_{\bar{D}}}$$

In which

$$\bar{D} = \frac{\sum D_i}{n}$$

$$S_D^2 = \frac{\sum (D_i - \bar{D})}{n-1}$$

$$S_{\bar{D}} = \frac{S_D}{\sqrt{n}}$$

If the relation $|t| \geq t_{\alpha/2, n-1}$ exist, we certainly reject the $\% 1 - \alpha$

Test or Wilcoxon Rank Sign

Pair (X_i, Y_i) that in which X & Y have respectively the distribution $F(x)$ و $G(y) = F(y-c)$. $Y-X$ و $Y \overset{d}{=} X+c$ have symmetric distribution to c. X is the controlled random variable and Y is the treated random variable. We are going to study the treatment effect. We have done the following test:

$$\begin{cases} H_0 : c = 0 \\ H_1 : c \neq 0 \end{cases}$$

Test Parameter is as follow:
$$(X_1, Y_1), (X_2, Y_2), \ldots, (X_n, Y_n)$$

We calculate the $Z_i = Y_i - X_i$ quantities, we assume zero equal the symmetry of difference z_1 to zero. In test or Wilcoxon rank sign, not only the z_1 sign but also the rank of their absolute value is used. The ranks $|Z_1|, |Z_2|, \cdots, |Z_n|$ are shown $R_1, R_2, \cdots, R_n$. Now the function shows

$$U_i = I(Z_i) = \begin{cases} -1 & , Z_i \leq 0 \\ 1 & , Z_i > 0 \end{cases}$$

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Test Parameter is as follow:

$$W = \sum U_i R_i$$

Which is famous as: Test or Wilcoxon Rank Sign**.** If W is so high, it will be clear that lots of findings of $z_1, z_2, \cdots, z_n$ on the right are zero and are so far from zero. So z_1 can not be symmetric. And the zero assumption should be rejected. So, the zero rejection area is $W \geq K$ and the value of K is related to α error.

This non-parameter test is for studying on the value of a special distribution for a series of obtained data from a variable. In this test we consider that the data is separate and has a common distribution:

$$x_1, \ldots, x_n \sim F_x(x)$$

Zero assumption of test presents the X variable from distribution of F. (normal)

$$\begin{cases} H_0 : F_x(x) = F_0(x) & \forall x \\ H_1 : F_x(x) \neq F_0(x) & \exists x \end{cases}$$

Test Statistic is as follow:

$$D_n^+\big|_{H_0} = SUP\big[S_n(X) - F_0(X)\big]$$

$$x \, \varepsilon \, R$$

Which is known as K-S and the rejection is as follow:

$$R = \left\{ D_n^+ \big| D_n^+ > D_{n.\alpha}^+ \right\}$$

If data does not follow the normal distribution instead of classic test-paired test, we will use the non-parameter test wilcoxon rank sign.

P-Value

In recent years the quantitative statistical tests as P-value has become current, that all statistical software can compute it. P-value equals the least value of α that the test statistic may reject the zero assumption.

How to Calculate P-value

Suppose that U is test statistic and u is its finding. Usually three tests are used

A-Test of one right range is as:

$$\begin{cases} H_0 : \theta \leq \theta_0 \\ H_0 : \theta > \theta_0 \end{cases}$$

In this test we have:

$$P - value = P_{\theta_0}(U \geq u)$$

B-Test of one left range is as follow:

$$\begin{cases} H_0 : \theta \geq \theta_0 \\ H_0 : \theta < \theta_0 \end{cases}$$

In this test we have:

C-Test of two ranges is as:

$$\begin{cases} H_0 : \theta = \theta_0 \\ H_0 : \theta \neq \theta_0 \end{cases}$$

In this test we have: $P - value = 2 \min \{ P_{\theta_0}(U \leq u), P_{\theta_0}(U \geq u) \}$

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Decision for rejecting the zero assumption is possible by using the P-value via its comparing with the α value. If p-value is less than α, certainly %1-α the zero assumption is rejected. On SPSS software, the sign "sig" is used to show p-value.

Data Gathering Tools (Information)

Typically, there are four main tools for data gathering. Each of these tools, have various types which will have special applications for special researches. These tools are:

1-Study the documents

2-Observation Method

3-Interview Method

Because the used data in this study are secondary data that are obtained from other sources in various forms, according to the mentioned definitions are a part of documentation methods. Therefore this tool is used for data gathering.

Data Gathering Method

In order to do the studies in present research, the required data and information have been gathered as following ways:

Library Method: This method has been used for data gathering about literature. So by studying books, papers and studies of other researchers and searching on the internet the required data has been gathered.

Demographic Characteristics

In this part, we introduce the characteristics of research's variations for sample companies. So, summary statistics related to mean of liquidity ratio (quick & current ratio), mean of profitability ratios (percentage on return of capital ratio and return on total assets ration), mean of gearing ratio on (debt to total assets) and activity ratio mean (inventory circulation ratio, total assets circulation, fixed assets circulation) related to 61 listed companies in Tehran Bourse that were included in privatization. These statics related to under review indexes in period before and after privatization, were calculated by computer and are inserted in tables 1 to 4. Brief information is as follow:

Liquidity Ratios

The mean of current ratio related to 61 listed companies before and after privatization respectively are: 1.2051 and 1.2057 with standard deviation 0.51504 and 0.7838. Minimum and maximum amount before privatization respectively are: 0.34 and 3.23 and after privatization are: 0.31 and 5.84.

Related quick ratio for 61 listed companies before and after privatization respectively are: 0.7394 and 0.7615 with standard deviation 0.4851 and 0.7483. Minimum and maximum amount before privatization are: 0.16 and 3.23 and after privatization are: 0.08 and 5.84.

Profitability Ratios

Mean of capital return percentage related to 61 listed companies before and after privatization respectively are: 95.9291 & 67.0011 with standard deviation 119.03582 & 111.0471. Minimum and maximum amount before privatization respectively are: -65 & 552.25 and after privatization are: -198.40 & 530.85.

Mean of circulation ratio of total assets related to 61 listed companies before and after privatization respectively are: 13.6841 & 10.3159 with standard deviation 12.86803 & 12.60253. Minimum and maximum amount before privatization are: -7.86 & 51.01 and after privatization respectively are: -19.93 & 46.89.

Gearing Ratio

Debt mean to total assets related to 61 listed companies before and after privatization respectively are: 69.8751 and 79.0179 with standard deviation 23.60281 & 52.80893. Minimum and maximum amount before privatization are: 0.59 & 149.93 and after privatization respectively are: 9.65 & 396.

Activity Ratios

Mean of inventory circulation ratio related to 61 listed companies before and after privatization respectively are: 3.1077 & 3.9277 with standard deviation 2.31851 & 6.67074. Minimum and maximum amount before privatization are: 0 & 11.77 and after privatization respectively are: 0 & 53. Total assets circulation related to 61 listed companies before and after privatization respectively are 0.8652 & 0.7680

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with standard deviation 0.4051 & 0.3373. Minimum and maximum amount before privatization are: 0.06 & 2.37 and after privatization respectively are: 0.07 & 1.69.

Fixed assets circulation related to 61 listed companies before and after privatization respectively are 6.8233 & 5.5908 with standard deviation 5.552 & 5.407. Minimum and maximum amount before privatization are: 0.88 & 28.84 and after privatization respectively are: 0 & 28.02.

Table 1: Summary statistics related to quick and current ratio.

	Nesbat Jari Ghabl	Nesbat Jari Baad	Nesbat Ani Ghabl	Nesbat Ani Baad
N	61	61	61	61
Mean	1.2051	1.2157	.7394	.7615
Median	1.0700	1.0500	.6600	.6400
Minimum	.34	.31	.16	.08
Maximum	3.23	5.84	3.23	5.84
Std. Deviation	.51504	.78380	.48515	.74832

Table 2: Summary statistics related to capital output percentage and total assets output ratio.

	Bazdeh Majmu Darayi Ghabl	Bazdeh Majmu Darayi Baad	Bazdeh Sarmaye Ghabl	Bazdeh Sarmaye Baad
N	61	61	61	61
Mean	13.6841	10.3159	95.9221	67.0011
Median	11.8500	8.6900	67.1400	53.7800
Minimum	-7.86	-19.93	-65.00	-198.40
Maximum	51.01	46.89	552.25	530.85
Std. Deviation	12.86803	12.60253	119.03582	111.04710

Table 3: Summary statistics related to debt to total assets and inventory circulation ratio.

	Bedehi/JAM Darayiha Ghabl	Bedehi/JAM Darayiha Baad	Mojudi Mavad&Kala Ghabl	Mojudi Mavad&Kala Baad
N	61	61	61	61
Mean	69.8751	79.0179	3.1077	3.9277
Median	69.0800	68.9000	2.6600	3.1100
Minimum	.59	9.65	.00	.00
Maximum	149.93	396.00	11.77	53.00
Std. Deviation	23.60281	52.80893	2.31859	6.67074

Table 4: Summary statistics related to total assets circulation and fixed assets circulation

	Darayi Sabet Ghabl	Darayi Sabet Baad	Majmu Darayi Ghabl	Majmu Darayi Baad
N	61	61	61	61
Mean	6.8233	5.5908	.8652	.7680
Median	5.4700	3.9800	.8100	.7800
Minimum	.88	.00	.06	.07
Maximum	28.84	28.02	2.37	1.69
Std. Deviation	5.55214	5.40710	.40510	.33731

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RESULTS AND DISCUSSION
Results
In this study the list of privatized companies in 2004 were obtained from state privatization organization and financial statements of mentioned companies were taken from Tehran Bourse and from the mentioned financial statements the financial ratios were prepared and their comparison were done before privatization process in (2001-2004) and after the privatization process in (2004-2006) that the following results were obtained.

1- In this study at first the normality of dependent variable assumption by using Kolmogrov-Smirnov test was studied and at last the results suggest the normality of total assets circulation ratio and total assets output ratio that in two mentioned variables can use the paired-t test. But about other variables (liquidity and gear ratios and inventory circulation) since the p value is less than 0.5, so the data normality assumption is rejected and for studying the related hypotheses we use the Wilcoxon signed-rank test.

2- After using the paired t-test, we compare the total assets circulation ratio of fixed assets and total assets output ratio before and after privatization. The paired-t test is used for comparing the related means of a group during different times. Since p is the value of test related to total assets circulation and total assets output ratio respectively are: 0.29 & 0.004 and in confidence level of %95 it can be concluded that there is a significant difference between the mean of total assets and the mean of total assets output ratio before and after privatization.

3- By using Wilcoxon signed-rank test we compare the amount of quick and current ratio, capital output percentage, debt to total assets, inventory circulation ratio and fixed assets circulation before and after privatization. In abnormal distributions middle is preferred to mean as the central index. Since p is the value of test related to debt to total assets and inventory circulation ratio respectively are: 0.17 & 0.763. In confidence level of %95 it can be concluded that there is not a significant statistical difference between the middles of quick & current ratios, debt to total assets and inventory circulation ration before and after privatization. And since p is the value of test related to fixed assets circulation and the capital output percentage is %18, so in confidence level it can be concluded that there is a significant difference between the means of fixed assets circulation and the capital output percentage.

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