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Investigating the Effect of Privatization on Earnings Quality of Privatized IPO Entities in Iran

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ABSTRACT

Privatization in Iran is one of the most recent policies that Iran's economy has less experience about this, so companies that will to enter to the space would be affected in several ways. In this study, the effect of privatization on financial and operational performance of privatized public companies in the period between the years 2003 and 2009 have been investigated. Limit time period selection is caused to newly privatization process in Iran. The main objective of this study is investigating success of the privatization program in achieving improvements in performance of privatized companies. In this study, performance of the companies which privatized through offering shares to public on stock market is investigated using criteria such as quality of earnings, profitability, liquidity, operational efficiency, investment in capital assets, and employment. For the first time in Iran, the quality of accounting profit was used to study the effect of privatization on financial performance of companies. After testing naturalness of the data, the comparison of parametric and non-parametric pairs means was uses to test the hypotheses. Earnings quality index along with one of the operational efficiency indices, sales on manpower ratio, showed a significant decrease in financial and operational performance. However, other operating performance index, net income on manpower, offered significant increase in operational performance. Other indicators did not show significant differences. The overall results of this study indicate that privatization of public companies in Iran undermined their financial and operational performance. These results are trying to warn the managers and authorities of privatization program that, privatization of public companies through IPO, may not have required performance and it seems necessary to fundamentally revise privatization methods.

KEYWORDS: privatization, financial and operational performance, earnings quality, operating efficiency, profitability management

1. INTRODUCTION

Government as an institution that is responsible in society, takeover economic affairs to compensate its social costs. How much government should do this, is a matter of discussion in many scientific circles. Some scholars believe that, since government have functions such as protecting the community against violence, aggression, and establishing justice, welfare, and employment, they must have full dominance on economy in order to fulfill their duties. Some other scholars do not believe on government's takeover on economy and state that governments are inefficient to control the economy. In contrast, some scholars consider that above mentioned ideas are extremes and governments with their tools can play regulatory role and. Given the positive and effective economic activities of government in decades 1950 and 1960, gradually expanding the scope due to severe problems such as bureaucracy, poor management systems, lack of proper assessment and accountability systems, lack of motivation to work, multiplicity in goals, misuse of monopolies, inefficient supports, etc. during 70s and 80s, government's economic activities became inefficient and unsuccessful. This problems caused most governments during the past two decades make efforts to increase efficiency of governmental firms first through reforms such as removal of companies' support from domestic and foreign competition, eliminating the possibility of acquiring cheap credit facilities and creating strict budget obstacles for companies, eliminating non-commercial purposes of companies, establishment of autonomy in their management, reduction of trade and customs tariffs, using performance evaluation mechanisms to account managers, etc. without any transfer of ownership and management. The results of above mentioned reforms in the vast majority of countries was not satisfactory, because in governments' bureaucracy it is difficult to increase efficiency, ensure the independence of management, and using financial discipline of market. Consequently, the trend toward market autonomy mechanisms and liberalization policies, deregulation and privatization along with the transfer of ownership and management as rational strategies to deal with economic problems and increase the efficiency widely supported by governments. In Iran, in the first program of economic, social and cultural development, devolving governments economic activities to private sector in the form of privatization and its

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executive prerequisite were legislated. Since then, the success of privatization policy and its execution became one of the most complex economic concerns of managers and executives and brought lots of discussions.

Privatization has been one of the most important tools to fulfill economic and social programs. This policy not only has been used widely in developing countries but also in developed countries. However, proponents of such programs believe that, the main cause of countries failure in privatization is lack of proper understanding and comprehensive vision to this program from administrators and executives in this group of countries (Pakdaman, 2009).

Applied researches in privatization are able to help executives of privatization program to identify strengths and weaknesses of this important program and correctly succeed in it. Considering this issue, this study, benefiting fairly extensive review of modern and traditional financial and operational indicators and statistical techniques and analyses, tries to evaluate the success or failure of one of the privatization methods, public offering of shares.

The main objective of this study is to examine the impact of privatization on financial and operational performance of firms. In order to examine this objective following hypotheses were presented.

1. There is difference between quality of earnings before and after privatization.
2. There is difference between the profitability of firms before and after privatization.
3. There is difference between the liquidity of companies before and after privatization.
4. There is difference between operational performance of companies before and after privatization.
5. There is difference between investment in capital assets of companies before and after privatization.
6. There is difference between number of employees before and after privatization.

2. LITERATURE REVIEW

Huang & Wang, (2011) investigated the effect of privatization with total transfer of ownership to private sector on the performance of 127 Chinese companies and showed that, the transfer of companies control leads to improvements in profitability and performance of these companies. A case study in Ghana titled “performance after privatization and organizational changes on two companies from five aspects of financial, customer, internal processes, learning and development, and relationship” was conducted by Tsamenyi et al, (2010). The Data of this research collected through interviews with managers and employees and analyzing internal and external documents of company and showed improvement in the companies’ performance. Also, Cull & P. Spreng (2010) in a research, studied banks privatizations in Tanzania and stated that despite slower credit growth, there was improvements in productivity. Sylvester et al, (2010) investigated privatization in power plant of Brazil and used financial indices as alternatives to company's capacity for creating value for shareholders and used technical indices to measure quality of services provided to consumers. Financial Indices showed some improvements and company’s shares value were increased to but, evidences showed no improvement in service quality for consumers. Tatahi and Heshmati, (2009) investigated changes in financial and operational performance of the companies assigned to the private sector in Sweden between 1989 and 2007. In their study, accounting data of two years before and after privatization were examined using indices such as profitability, operational efficiency, investment in capital assets, capital structure, employment, and liquidity and the results showed no significant difference in performance of the companies. Meanwhile, using another method, the financial performance of these companies was examined based on uncommon returns of companies’ shares that enabled them to compare companies’ performance with IPO companies at the same period and the results showed a significant difference between returns of two groups. Their overall results indicated that, compared to other countries, the privatization of Swedish public companies has not been successful as expected.

In a research titled “corporate governance and companies’ performance after privatization” by Mohhamad Omran in Egypt, corporate governance of 52 privatized public companies between 1995 and 2005 were analyzed. They evaluated companies' ownership structure and their evolution, the factors determining the intensity of private ownership, the effect of private ownership, and the homogeneity and composition of board of directors on performance. Results showed that, despite the transfer of control to private sector, government still controls an average 35 percent of them. Also, over the time, the interests of foreign investors were revealed. Moreover, it is revealed that, company size, sales growth, industry affiliation, timing, and privatization method have key role in determining the intensity of private ownership. In addition, It is proved that, ownership intensity and homogeneity, especially in foreign investors have a positive effect on performance while have a negative effect on employees’ ownership. Various studies have addressed this criterion but, results of the research of Tatahy and Heshmati, (2009) titled “financial and operational performance of privatized companies in Sweden”, are different with the results obtained in this study. Our results indicate that, there are not significant changes on operational efficiency. However, the results of another study on 116 privatized companies in electricity distribution industry in Latin America by

Anders et al. (2006) indicate the significant changes in the performance. Moreover, in a research conducted in 23 developed countries by D'Souza et al. titled "the effect of institutional and special characteristics on performance after privatization", there was significant change in performance.

3. METHODOLOGY AND DATA

Using SPSS software, multiple regression equation for earnings quality variable which is a financial variable, was calculated via Dechow & Dichev, (2002) model as follows.

3.1. Quality of earnings index

$TCA_{j,t} = b_0 + b_1CFO_{j,t-1} + b_2CFO_{j,t} + b_3CFO_{j,t+1} + v_{j,t}$ [1]

$TCA_{j,t} = (\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t})$ [2]

$CFO_{j,t} = NIBE_{j,t} - TA_{j,t}$ [3]

$TA_{j,t} = (\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t} - DEPN_{j,t})$ [4]

$EQ = | v_{j,t} |$ [5]

In above formulas:

$TCA_{j,t}$: firm j's total current accruals in year t.

b_0, b_1, b_2, b_3: values and coefficients obtained from regression.

$CFO_{j,t}$: firm j's cash flow from operations in year t.

$v_{j,t}$: regression model's estimated error, used to measure earnings quality .

$\Delta CA_{j,t}$: firm j's change in current assets between year t-1 and year t (a fiscal year).

$\Delta CL_{j,t}$: firm j's change in current accruals between year t-1 and year t (a fiscal year).

$\Delta Cash_{j,t}$: firm j's change in cash flow between year t-1 and year t (a fiscal year).

$\Delta STDEBT_{j,t}$: firm j's change in debt in current liabilities between year t-1 and year t (a fiscal year).

$NIBE_{j,t}$: firm j's net income before extraordinary items in year t(a fiscal year).

$TA_{j,t}$: firm j's total accruals in year t(a fiscal year).

$DEPN_{j,t}$: firm j's depreciation and amortization expense in year t(a fiscal year).

EQ: firm j's earnings quality between year t-1 and year t (a fiscal year).

$|\mathbf{v_{j,t}}|$ = larger values for the absolute error of regression model reflects poor earnings quality and smaller values reflects high earnings quality.

3.2. Profitability index

Profitability which is a financial variable shows the organization's ability to create profit using the organization's resources and capital (Faraji, 2008). For profitability variable, the averages of return on asset (ROA), return on equity (ROE), and return on sales (ROS) were calculated for two years before and after.

ROA: net profit on total assets.

ROE: net profit on total equity.

ROS: net profit on sales.

3.3. Liquidity index

Since instantaneous ratio which is a financial variable, is more accurate criterion for measuring the company's liquidity, compared to current ratio, it was used to calculate liquidity index. Instantaneous ratio is instantaneous assets divided by current debts. The much bigger is this ratio, the less problems company encountered in paying current debts. Instantaneous assets are those assets that have high degree of liquidity (Harati, 2006).

3.4. Operational performance index

This index is an operational variable. The word performance, means that the person or organization or a machine, work well without spending a lot of resources. In other words, the more the output to input is, the more operation efficiency is. According to the definition, since performance could have many indicators, in this research, we define operational performance as how much efficiency is achieved per single manpower. In a study by Manoma and Tanko, (2008) titled "performance improvement factors for privatized companies in Nigeria", operational efficiency calculated using two ratios of profit before tax on employed capital and profit before tax on inventory turnover. To evaluate performance of companies after privatization two below ratios were used:

Sales on manpower ratio: the amount of sales (money units) per single manpower.

Net profit on manpower: the amount of net profit (money units) per single manpower (Tatahi and Heshmati, 2009).

3.5. Employment index

Employment index is an operational variable and the required data for this indicator, the number of employed manpower (whether temporary or permanent) during the fiscal year, were extracted from financial statements and board of directors' reports and the average number for each company were calculated before and after the privatization (Bryan, 1979).

3.6. Statistical method

The statistical population of this study was privatized companies that are accepted in Tehran Stock Exchange (TSE) stated by TSE in years 2008 and 2009. The number of samples determined using sampling of available information which was 21. One of the companies was excluded from samples, due to stopping its activity and incomplete financial statements.

Collecting required data is one of the fundamental steps of any research and without required accuracy in validity of collected information; the validity of results will be questioned. In the present study, the library method was used to gather information, so that, needed information for research literature and theoretical collected through books, magazines and papers, and theses, and information and statistical data needed to test hypothesis has been gathered from TSE sources. This information extracted from the audited financial statement of companies.

To investigate and analysis the changes in financial and operational performance of companies before and after privatization process, paired tests were used, so that first, the naturalness of the data is tested and if the data will be natural, the t-test will be used for paired samples and if the data do not follow natural distribution, the Wilcoxon nonparametric statistical technique will be used for paired comparisons. The financial and operational performances of companies were compared with each other two years before and after privatization. All statistical procedures and hypotheses tests for the entire population analyzed with SPSS and EXCEL software.

4. RESULTS

Testing first hypothesis: There is difference between quality of earnings before and after privatization.

$H_0: \mu_d = 0$

$H_1: \mu_d \neq 0$

In the above statistical hypotheses, (μ_1 - μ_2) μ_d represents the average of earnings quality's paired data. As it can be seen in table 1, the test result for this index indicates that the test is significant. Therefore, H_0 hypothesis is rejected and H_1 hypothesis is accepted. In other words, the first hypothesis of this research cannot be rejected at 0.05 of error level and there is difference in earnings quality before and after privatization.

Testing second hypothesis: There is difference between the profitability of firms before and after privatization.

In this research, as described before, profitability indicator was examined by three other ratios. Therefore, in this study, three separate statistical hypotheses were developed for ROA, ROE, and ROS indicators and each examined separately. None of performed test for these indicators was significant, as can be seen in tables 1 and 2, so H_0 hypothesis cannot be rejected. In other words, there is no significant difference in profitability before and after privatization.

Testing third hypothesis: There is difference between the liquidity of companies before and after privatization

Instantaneous ratio is defined as an index for company's liquidity. Table 1 exhibits t-test results of paired samples for instantaneous ratio of independent t-test results of paired samples. The results of this test indicate that this test is not significant. In other words, in 0.05 of significance level, H_0 hypothesis cannot be rejected. Therefore, there is no difference in liquidity indicator as well as profitability indicator.

Testing fourth hypothesis: There is difference between operational performance of companies before and after privatization.

In this study, operational efficiency is examined by two sales on manpower and net income on manpower criteria. The results are shown in tables 1 and 2. It can be seen that, the test is significant for both criteria. Therefore, H_0 hypothesis is rejected and H_1 hypothesis is accepted. In other words, by comparing operational performance for public companies before and after privatization it can be said that, this index is significantly different.

Testing fifth hypothesis: There is difference between investment in capital assets of companies before and after privatization.

To determine the amount of investment in capital assets, two capital costs on sales and capital costs on total assets criteria was used. Results presented in table 1 indicate that these tests are not significant. Therefore, at 0.05 of error level, the H_0 hypothesis cannot be rejected. This means that, there is no significant difference in the amount of investment in capital assets before and after privatization.

Testing sixth hypothesis: There is difference between number of employees before and after privatization.

As can be seen in table 1, this test at 0.05 of error level is not significant. Therefore, H_0 hypothesis cannot be rejected. In other words, by comparing the number of employees- employment- in the companies before and after privatization it can be seen that, there is no significant different between them.

Table.1: t-test results

Variables	Average of d	Standard deviation of d	t	Freedom degree	Significance level
t-test for earnings quality index	-1.20301E6	2.26308E6	-2.377	19	0.028
t-test for return on assets index	-0.01777	0.18578	-0.428	19	0.674
t-test for return on sales index	-0.08301	0.23850	-1.556	19	0.136
t-test for instantaneous ratio	0.11763	0.42387	1.241	19	0.230
t-test for sales on manpower ratio	-7.44836E8	8.92008E8	-3.734	19	0.001
t-test for capital costs on sales index	-0.003	0.15333	-0.092	19	0.928
t-test for capital costs on assets index	0.00901	0.09739	0.414	19	0.684
t-test for manpower number	64.40000	181.67102	1.585	19	0.129

Table.2: Wilcoxon test results

Variables	Significance level
Wilcoxon test for return on equity index	0.296
Wilcoxon test for net profit on manpower ratio	0.001

5. Conclusion

The aim of present study is to investigating the effect of privatization on financial and operational performance of privatized public companies in the period between the years 2003 and 2009 have been investigated. The main objective of this study is investigating success of the privatization program in achieving improvements in performance of privatized companies. In this study, performance of the companies which privatized through offering shares to public on stock market is investigated using criteria such as quality of earnings, profitability, liquidity, operational efficiency, investment in capital assets, and employment.

The first hypothesis of this research was about the effect of privatization on earnings quality of companies. In this study, the absolute value of distance between current accruals and company's operational cash flow considered as a criterion for earnings quality. The results of hypothesis test showed a significant difference in earnings quality as presented in section 4. Since average of earnings quality after privatization is less than before privatization, one can say that, privatization of company public in Iran reduced earnings quality. This result is in agreement with results of Jiuqin and Fengting (2009) that concluded in China. Using this criterion to evaluate performance of privatized companies in this study has been performed for the first time in Iran and it seems to be rare in foreign countries, too. Given that the majority of studies in the field of privatization of public companies had used indices such as profitability, liquidity, employment, etc. using such index that a have a different approach to this issue can be important for researchers. Moreover, other indices have been used for better comparison.

The fourth hypothesis of this research is about the effect of privatization on company's operational performance in privatized companies. This index is also has relatively high application in the field of privatization researches. The results of hypothesis test indicate that this test is significant. In other words, operational efficiency of companies is different after and before privatization. With a closer look at the obtained averages for two periods before and after privatization, we realized that the sales on manpower ratio is reduced after privatization but, net profit on manpower ratio is improved. To explain this, concerning the results of first hypothesis we can say that, since net profit used for calculation was subject to much management than sales amount, was not able to exactly evaluate sales on manpower ratio and since the result of first hypothesis test indicate lower earnings quality, it implies that generally in Iran, the performance of companies were weakened after privatization.

According to the analysis of research's hypotheses tests results, in general one can say that, privatization of public companies in Iran has been weakened their performance. Several factors could be involved in this, but according to survey results and the as it discussed in the analysis of first and fourth hypotheses test results, it seems that, companies assigned to the private sector, are managing the profit far more than the past. Although, this conclusion is not statistically significant regarding to other performance variables in this study, such as profitability, liquidity, and etc. but is visible. This means that, in general, the average of these indices is reduced after privatization.

As it is mentioned, most studies since early implementation of privatization in our country, and also the findings of this study, indicate same results about the lack of improvement in companies' performance. These results are trying to warn the managers and authorities of privatization program that, privatization of public companies through IPO, may not have required performance and it seems necessary to fundamentally revise privatization methods. Further using of methods like assignment of management, leasing public assets, participation, foreign investment and the negotiation might be useful.

Lack of easy access to data and non-participation by some privatized companies and also being new topic of privatization in Iran were the limitations of research. Furthermore, we recommend to the interests of privatization studies, they could abstain useful information about these companies from Data set software which is available in stock exchange.

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