

Investigating Effect of Privatization on the Structure of National Iranian Copper Industries Company (NICICO)

Bahman Nikkhah BOROUJENI¹
Mohsen ASGARI²

¹Qom College, University of Tehran, Iran, ¹E-mail: behnam_Nikkhahb@yahoo.com

²Department of Accounting, Islamic Azad University, Semnan, Iran

²E-mail: mohsen.asgari66@yahoo.com

Abstract *One of the major goals of governments for improving economic conditions is to transfer the ownership of companies to the private sector. Applying Robins questionnaire, this research aimed to investigate the structure of National Iranian Copper Industries Company (NICICO) before and after privatization. The statistical population included directors of National Iranian Copper Company. Components of the company's structure were organizational centralization, formality, and complexity. Also, paired t-test was applied to analyze the data during the pre- and post-privatization periods. The results showed the significant change in the structure of NICICO before and after privatization; these changes had an incremental trend in terms of complexity and centralization; however, formality index was reduced after privatization.*

Key words Privatization, structure, National Iranian Copper Industries Company (NICICO), Iran

DOI: 10.6007/IJARAFMS/v4-i4/1381

URL: <http://dx.doi.org/10.6007/IJARAFMS/v4-i4/1381>

1. Introduction

In the present growing economy, directors always seek to find appropriate investment options in order to both attain desirable profit and enhance their wealth in a long run. Financial markets are among the centers which could manifest investment motivation for investors. In financial markets, investors make their investment through buying and selling their financial assets (stocks and bonds). Stock exchange is currently responsible for this process; i.e. investors can invest in the stock of the companies listed in stock exchange (Sajjadi, 2009). In terms of privatization process in Iran and entry of governmental companies into the capital market, the following question has been raised: Does such a privatization process really lead companies to the growth path? Privatization, or transferring the ownership of economic activities of the public sector to the private one, refers to a set of measures through which ownership control or management is taken from the government and transferred to the private sector at different levels and fields (Mohammadzadeh Salteh, 2005). So, to determine the influence of privatization policy on the company structure, of formality, complexity, and centralization indices were investigated in National Iranian Copper Industries Company (NICICO) to assess the feedback of privatization in the studied company

2. Literature review

2.1. Definition of privatization

In a broader concept, privatization is defined as transfer of ownership and management of the governmental sector to the private sector, which includes managerial and leasing contracts.

In academic dictionaries, privatization refers to change of control or ownership from governmental to private systems. It is an important aspect of economic policies which is defined as the process of transferring the ownership of governmental enterprises to the private sector. Moreover, privatization is a tool for enhancing economic performances via increasing the role of market forces, provided that at least 50% of government shares are transferred to the private sector. In broader terms, privatization can be defined as transferring ownership or management of the government to private sector, which includes managerial and leasing contracts (Abolhassani, 2010).

Privatization refers to a set of policies adopted by governments to get rid of heavy and costly responsibility of governmental institutions and companies and transfer their ownership to the private sector. In symbolic terms, privatization indicates a new movement which is contrary to the direction of governmental growth. Studies have shown that more than 80 countries have been engaged in privatization efforts (Amini Mehr, 1993).

In Iran, according to General Accounting Act, a governmental company is a certain organizational unit which has been established as a company with the permission of law, is nationalized according to law or a competent court, and is approved as a governmental company (more than 50% of its shares belong to the government). The business entities formed by the investment of governmental companies are considered as governmental companies, provided that more than 50% of their shares belong to the government.

According to the above points and the provisions of the Third Economic, Social, and Cultural Development Plan of Islamic Republic of Iran, shares of transferable governmental companies and the companies with unnecessary activities in non-governmental sector would be sold to private and cooperative sectors in order to set appropriate solutions for accelerating and facilitating access to public partnership in terms of "realizing efficiency enhancement, increasing the productivity of workforce and physical resources, and expanding the capabilities of private and cooperative sectors". In summary, privatization in Iran refers to the transfer of governmental shares so that the government's share in these companies would reach 50% in maximum.

2.2. Goals of privatization

Privatization objectives vary considering the economic characteristics and position of each country. However, in all the countries engaged in privatization, the major goal is to improve economic conditions. Other goals can be also considered as follows: increasing national productivity and production, providing access of the government to financial resources of the private sector, encouraging competition, increasing national welfare, enhancing efficiency of economic activities, saving governmental expenses, making a boom in the capital market, expanding cooperation culture in the country, preventing evident and hidden monopolies, collecting liquidities, and forming a balanced system of income distribution among different classes of the society (Kianpour, 2009).

Moreover, considering Nellis' (1992) statements on the goals of privatization, it can have different objectives depending on the characteristics of each country; i.e. for each country, it can be implemented to realize one of the goals of that country. But, generally speaking, the following economic goals can be mentioned: preventing the application of production facilities in the governmental sectors in order to increase efficiency or production, reinforce the capital market within the free market system, and increase foreign exchange, democratizing industrial ownership, preventing capital centralization in one pole, and providing the ground for realizing free or liberal economy (Nellis 1992).

Privatization objectives can be generally categorized into three groups:

- Economic objectives;
- Financial objectives;
- Social objectives.

3. Research background

Hung and Wang (2010) investigated changes in financial and operating performance of 127 sample companies from among Chinese privatized companies, the control of which was transferred from the governmental sector to private sector. He aimed to expand the current literature in three aspects: expanding privatization literature, stating different effects of ownership on privatization, and showing the necessity of

further modification in the Chinese government. Thus, he compared performance changes of the mentioned companies during the period of three years before and after privatization. To determine the significance of the difference between the mean of dependent variables in the period of three years before and after privatization, Wilcoxon test was applied. The main hypothesis was based on the point that total and finalized privatization is effective for the enhancement of financial and operating performance of companies. In this work, companies' productivity, profitability, financial leverage, savings in production cost, and employment were considered. The results showed increased productivity and profitability and decreased number of human forces. Also, effect of transferring the management of companies to internal (former) and external (new) directors was investigated, which indicated that, despite the tendency of internal directors to improving company performance, there was not sufficient motivation for structural renovation. Moreover, the mentioned studies demonstrated that complete transfer of control from the government to private sector in the transferred companies was an influential factor for the performance improvement of those companies (Haug and Wang, 2010).

In a research entitled "Effect of privatization on efficiency", Cagla and K. Peren (2006) investigated the effect of privatization on the efficiency of companies privatized in Turkey. They found two dimensions of such effects: First, privatization could cause changes in the goals of companies (ownership effect) and, second, privatization could change structure of the market (environmental effect). They concluded that ownership effect suffices for improving the efficiency of privatized companies (Cagla and Peren, 2006).

Naji Zavareh (2011) studied the influence of privatization on the development of stock market in Tehran Stock Exchange. The results of his hypotheses demonstrated that privatization had no effect on the development of stock market, the reason of which can be found in the incorrect policies adopted by Iranian privatization program (Naji Zavareh, 2011).

Moshiri (2010) investigated the effect of privatization and economic growth. They used endogenous growth model on the data of 117 developing countries for the period of 1998 to 2003 in three states of short-, medium-, and long-terms. Results showed that privatization had a neutral effect on economic growth. Also, compatibility and implementation continuity of privatization policy, existence of competitive environment, and transparency of policy-making had a more important effect on economic growth than privatization (Moshiri, 2010).

4. Explaining the model and research variables

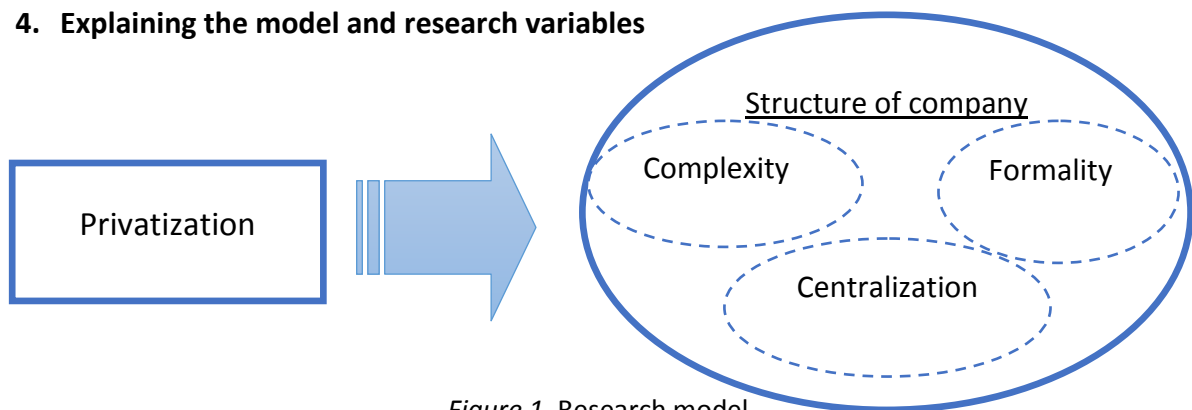


Figure 1. Research model

As shown in Figure 1, the dependent variables were formality, complexity, and centralization indices, which are the criteria for the structure of companies. Privatization was the independent variable.

5. Research hypotheses

Main hypothesis: Structure of National Iranian Copper Industries Company (NICICO) has a significant change before and after privatization.

First sub-hypothesis: Formality rate of National Iranian Copper Industries Company (NICICO) has a significant change before and after privatization.

Second sub-hypothesis: Complexity rate of National Iranian Copper Industries Company (NICICO) has a significant change before and after privatization.

Third sub-hypothesis: Centralization rate of National Iranian Copper Industries Company (NICICO) has a significant change before and after privatization.

6. Research method and statistical population and sample

Since the present research was conducted in NICICO, the statistical population for analyzing the company's structure included senior and middle directors who were working in the company during the two periods of before and after privatization (the number of these directors was 42). Also, sampling was done by judgmental method. The following table shows the questionnaire with three parts of centralization, formality, and complexity:

Questions:

Complexity	
	How many different job titles exist in your organization?
	What is the ratio of the staff holding high educational levels or those with many years of specialized education?
	How many number of vertical levels separate senior executive management from the staff in the deepest part of the organization?
	What is the average number of organizational levels as a multi-level whole?
	What is the ratio of the number of separated geographical locations from the main center of the organization to the number of staff?
	What is the average distance of units from the main center of the organization?
	What is the ratio of workforce establishment in units to total workforce of the organization?
Formality	
	Which jobs have occupational description?
	In the jobs with occupational description, to what extent is the staff controlled to ensure the correspondence of performance with occupational standards?
	To what extent is the staff permitted to deviate from the standards?
	What percentage of the management staff has access to written instructions or procedures for the related occupations?
	To what extent do the non-management staffs with written instructions or procedures follow the mentioned criteria and guidelines?
	To what extent can middle supervisors and directors deviate from written regulations, procedures, or policies while making decisions?
	What percentage of all the regulations and procedures of the organization is in the written form?
Centralization	
	While gathering information for decision-making, to what extent is the senior management directly involved?
	How much the senior management is involved in data interpretation?
	To what extent do the senior directors directly control the implementation of decisions?
	To what extent can operation supervisors use their personal ideas in the following cases: <ul style="list-style-type: none"> - Budgeting their own units - Determining performance of their units while being evaluated - Hiring and firing their staff - Giving bonus to the staff (salary increase, promotion, etc.) - Buying the equipment and required resources - Developing a new project or plan - Determining the solution of exceptional working problems

7. Data analysis

7.1. Descriptive statistics

The respondents were holding PhD, Master's, Bachelor's, or Associate's degrees. Table 1 shows the distribution of the respondents in these groups:

Table 1. Status of respondents in terms of degree

	Percent	Frequency
Associate's	8	0.19
Bachelor's	14	0.33
Master's	19	0.44
PhD	2	0.04

As shown in Table 1, 44, 33, and 4% of the respondents were holding Master's, Bachelor's, and PhD degrees, respectively.

7.2. Testing normality of data (Kolmogorov–Smirnov test)

Summary of the normality test is given in Table 2:

Table 2. Testing normality of data

Variables	Description	Before privatization	After privatization
Formality	Result of K-S test	0.935	0.930
	Significance level	0.346	0.352
Complexity	Result of K-S test	0.701	0.671
	Significance level	0.709	0.758
Centralization	Result of K-S test	3.294	3.312
	Significance level	0.421	0.468

As shown in Table 2, significance level of the variables was more than 0.05. Considering the following assumptions, H₀ was accepted and the data were normal.

- H₀: Data are normal (Data are derived from normal population).
- H₁: Data are not normal (Data are not obtained from normal population).

7.3. Inferential statistics

7.3.1. Testing the first hypothesis

Paired t-test was applied for the analysis of the samples observed in two different states (before and after privatization) and the result of effects caused by the independent variable on the dependent one was evaluated. To run this test, first, mean each question was calculated before and after privatization. Then, the hypotheses were evaluated.

Summary of the hypothesis testing is given in the following table:

Table 3. Summary of paired t-test for formality rate of the company

Formality Variable	t	df	Sig. (2-tailed)
Mean before – mean after	13.529	41	0.000

As can be observed, since the p-value was smaller than significance level (0.05), H₀ was rejected and H₁ was confirmed. Thus, formality rate of NICICO had a significant change before and after entering the capital market.

Also, the following table of mean values demonstrated the comparison of formality rate of NICICO before and after privatization periods:

Table 4. Mean of formality rate before and after privatization

Situation of companies	Mean values before privatization	Mean values after privatization
Formality of NICICO	2.73	2.22

As can be observed, according to the experts, formality rate of NICICO was reduced after privatization.

7.3.2. Testing the second hypothesis

Summary of the hypothesis testing is given in Table 5:

Table 5. Paired t-test for the complexity rate of the company

Complexity Variable	t	df	Sig. (2-tailed)
Mean before – mean after	-10.156	41	0.000

As can be observed, since the p-value was smaller than significance level (0.05), H_0 was rejected and H_1 was confirmed. So, complexity rate of NICICO had a significant change before and after entering the capital market.

Table 6 shows the mean values relating to complexity rate of NICICO in two periods of before and after privatization:

Table 6. Mean values of complexity rate before and after privatization

Situation of companies	Mean values before privatization	Mean values after privatization
Complexity of NICICO	18.19	20.42

As can be observed, according to the experts, complexity of NICICO was increased after privatization.

7.3.3. Testing the third hypothesis

Summary of the hypothesis testing is given in the following table:

Table 7. Paired t-test for centralization rate of the company

Complexity Variable	t	df	Sig. (2-tailed)
Mean before – mean after	-2.021	41	0.031

As can be observed, since the p-value was smaller than significance level (0.05), H_0 was rejected and H_1 was confirmed. So, centralization rate of NICICO had a significant change before and after entering the capital market. The following table shows the mean values relating to centralization of NICICO in two periods of before and after privatization:

Table 8. Mean values of centralization before and after privatization

Situation of companies	Mean values before privatization	Mean values after privatization
Centralization of NICICO	19.78	20.28

As can be observed, according to the experts, centralization of NICICO was increased after privatization

8. Results and conclusions

Considering the company's formality rate investigated by paired t-test, the results showed that formality, complexity, and centralization of NICICO had a significant change before and after privatization. Moreover, its formality was decreased after privatization; but, mean values of complexity and centralization were increased. So, the ascending trend of complexity and centralization after privatization can be noted.

According to the research results, in order to reduce complexity in the number of job titles, it is recommended to limit administrative hierarchy, reduce the distance between the units of the company, and increase the application of information systems for communication between directors and the staff. The results demonstrated that, with increasing privatization trend, centralization would also increase, which is inappropriate; thus, to reduce concentration, it is suggested to select operating supervisors with more knowledge and skill in operating columns in order to increase the reliability of senior directors on them.

References

1. Abolhassani, A. (2010). The effect of privatization of public companies on their economic value added. Master thesis. Islamic Azad University of Arak.
2. Amini Mehr, A. (1993). Comparison of methods of privatization and economic reviews of the process of privatization of State-run companies through the TSE. Master thesis. Tarbiat Modares University.
3. John R. Nellis, Mary M. Shirley. (1992). Privatization: the lessons of experience. Washington, DC: The World Bank.
4. Kianpour, S. (2009). An overview of the selected country in the privatization of a few pointed out the general policies on article 44. *Journal of Business Reviews*.38, pp. 2-20.
5. Mohammadzadeh Salteh, H. (2005). The effect of privatization on public stock companies them. *Journal of financial research*. 19, pp. 97-115.
6. Moshiri, S. (2010). Privatization and economic growth a study between a countries *Journal of economic research*, 90, pp. 141-158
7. Naji Zavareh, H. (2011). The analysis of the impact of privatization on the stock market's development. Master thesis. Islamic Azad University of Esfahan.
8. Okten Cagla and Peren K. Arian (2006), "The Effects of Privatization on Efficiency: How Does Privatization Work?". *Journal of World Development*, vol.34, No.9, pp. 1537-1556.
9. Sajjadi, M. (2009). Comparative analysis between conditional asset pricing model capital asset pricing model and provided a capital reduction in the rate of real output stock. Master thesis. Islamic Azad University of Arak.
10. Zhangkai Huang, Kun Wang (2010), "Ultimate privatization and change in firm performance: Evidence from china " *China Economic Review*, ARTICLE IN PRESS, pp. 1-31.