

# **An Evaluation of the Privatization Program in Egypt: Sectoral Analysis**

**Mohamed Bahaa El Din Mohamed M. M. Bekheit \***

**Asser Hassan Youssef \*\***

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**\*Mohamed Bahaa El Din Mohamed M. M. Bekheit** PhD in Accounting and Finance, Plymouth University, UK. Associate professor of Accounting and Finance. College of Management and Technology. Arab Academy for Science, Technology and Maritime Transport.  
Mbahaeldin@yahoo.com

**\*\*Asser Hassan Youssef** PhD in information systems, the University of the West of England (UWE), UK. Assistant Professor of Information Science. College of Management and Technology. Arab Academy for Science, Technology and Maritime Transport.  
asser.ezzeldin@aast.edu

## **ABSTRACT**

Privatization has been a major political and economic phenomenon over the past few decades, and researchers continue to target it for both theoretical and empirical work.

This study will assess the results of the Egyptian privatization program after two decades, through evaluating the financial performance of the Holding Company for Maritime and Land Transportation (HMLT) before and after privatization. Which have been privatized according to Law no 203 of 1991, by evaluating the financial performance of the firm three years pre- and post- privatization (till the end year 2017).

To test the study predictions, the study followed the techniques of Megginson et al. (1994) in order to determine post privatization performance changes. For this issue, several statistical techniques, where used such as parametric t-test, the non-parametric Wilcoxon signed-rank test, and Mann-Whitney test are performed. Results obtained from this study were mixed. Whereas some indicators showed improvements, other have shown decline after privatization. Where ROE, ROA, ROS, EBIT and C.R increased; TDTE and TDTA decreased after privatization. However, in spite the mixed results, the overall picture showed improvement in performance for the Privatized firms.

The study recommended that, the financial performance indicators, i.e. profitability, leverage, and liquidity ratios are not enough to measure the performance of HMLT. Thus, alternative financial measures such as Data Envelopment Analysis shall be considered by further researchers.

A caveat to the finding of this paper is that the privatized firms might need a longer period to reflect more fully the impact of the privatization program on some of their performance measures.

## 1- Introduction

Since the early 1980s there has been a spread of privatization waves and appreciation of the benefits of the private sector. More than eighty countries have undertaken privatization initiatives and more than 6800 State-Owned Enterprises (SOEs) have been offered for divestiture since 1980 (Hinnawi and Ahmed, 1995).

The definition of privatization varies from one author to another. Letwin (1988) defined the privatization as the transfer of SOEs to the private sector; Plane (1997), and Michael (1996) explain that privatization means, in general, the process of transferring the SOEs to the private sectors through the sale of all or some of the government assets to the private sectors; Beesley and Littlechild (1989) define privatization as the sale of at least 50% of the shares to private shareholders; Lutfi (2006) defines privatization as a tool to broaden the base of ownership of public enterprise sector firms and private sector. Farinós and Jose (2007) concluded that privatization means not only the transfer of SOE's equity or assets to private sectors, but also the change in the style of management from a socialist style to capitalist style or to open market style. Ntiri, (2011) see that, the privatization means transfer of government owned shareholding in public enterprises to private shareholders and it is one of the revolutionary innovations in economic policies of both developed and developing countries.

Privatization programs became a central part of the economic and political reforms in Central and Eastern European Countries initiated in the late eighties. Boutchkova and Megginson (2000) demonstrate that privatization is associated with an increase in sales, income and productivity of the firm and at the same time reducing the size of the employment as a result of privatization

The concept of privatization as projected in this article is defined as the expansion of the ownership base by (1) reducing local government activities by involving the participation of the private sectors; (2) reducing local government ownership, when SOEs are divested to unregulated private sectors; and (3) reducing local government ownership

There are six methods of Privatization which are: mass privatization, direct sale to the private sector through public subscription, sale to a principal investor; public offer of shares, tender, small-scale privatization by auction, and offering the enterprise for sale to its employees (Bekheit, 2008)

The main objectives of privatization are: to reduce the state's budget deficit; to make the economy more competitive; to improve the public sector's

financial health; to bring workers into share ownership; to contribute to the development of the capital market; to reduce the burdens to the exchequer; and to rebalance the power between the public sector and private sector. It can be considered as an integral part of the move from a centrally planned system to a market based one in economic transition.

According to above, privatization is an umbrella term, it has been a part of economic life for a quarter-century now, and seems likely to remain firmly entrenched in the public policy debate for the foreseeable future.

## **2- An Overview of Privatization in Egypt**

In 1991, the Egyptian government embarked upon a comprehensive economic reform and structural adjustment program, the core of which was liberalization and privatization of Egypt's economy. Egypt launched a privatization program in 1991 as a part of its economic reform program. The first step in Egypt's privatization program was to cut off subsidies to SOEs.

The Egyptian privatization program aims to reduce the size of the public sector; widening the ownership base, ending controls over investment and eliminating most tariffs on imports; reducing consumer subsidies and targeting them towards the poorest activities; encouraging private activities in all sectors and selling all manufactured goods at market prices.

Egypt offered 314 SOEs to be privatized in 1991. There are three approaches, which the government used to the divestment of SOEs. The first was to sell shares through the domestic stock market. The second was to sell strategic stakes of shares to anchor investors through public auction, and the third was to sell firms to employee shareholder associations. Additional to these approaches, some firms were liquidated because they were deemed economically viable. Egypt concentrated on Initial public offerings method (IPOs) to privatise its SOEs more than others methods to give a boost to its privatization program and to increase the activities on the stock market; in addition, to make privatization more acceptable to public, and to enhance the image of privatization in the eyes of the public. Only 226 were privatized by the end of 2007; where the privatization program was suspended from 2007 till 2018. In the meantime, the Egyptian government is restarting the privatization programs through five SOEs will launch IPO.

Table 1, shows that Egypt's privatization program has actually started in 1994, then slowed down. However, in 1996, a new cabinet was appointed and the privatization program was accelerated. When the new cabinet began to publicise its programme to privatise Egypt's SOEs, the programme attracted international interest.

**Table 1: The number of the Egyptian privatized firms**

Year	Fully Privatization				Partially Privatization			Yearly Total
	Anchor Investor	IPO	ESA	Liquidation	IPO	Asset Sales	Leases	
1990	–	–	–	1	–	–	–	1
1991	–	–	–	3	–	–	–	3
1992	–	–	–	1	–	–	–	1
1993	–	–	–	6	–	–	–	6
1994	3	–	7	2	1	–	–	13
1995	0	1	3	2	6	–	–	12
1996	3	14	–	1	6	1	–	25
1997	3	14	3	3	2	1	1	27
1998	2	8	12	6	1	3	–	32
1999	9	–	5	7	–	4	6	31
2000	5	1	–	3	–	6	10	25
2001	4	–	1	2	–	3	1	11
2002	–	–	2	1	–	–	–	6
2003	–	–	–	–	–	6	3	9
2004	3	–	–	11	–	–	–	14
2005	2	–	–	5	1	–	–	8
2006	3	–	–	4	–	–	–	7
Total	37	38	33	53	17	27	21	226
(%)	16.3%	16.8%	14.6%	23.5%	7.5%	12%	9.3%	100%

Source: Egyptian Ministry of Public Enterprise Sector (2007), Bekheit (2008)

So, the Egyptian government earmarked 314 SOEs as potential candidates for privatization, offering attractive investment and profit opportunities. In 1991 Egypt’s 314 SOEs were grouped under 27 holding companies (reduced to 14 by 2001) responsible for all the affiliates in various sectors. Egypt focused on a gradual approach in the privatization of SOEs. A total of 161 companies were fully privatized by 2007, and another 65 were partially privatized.

### 3- Research Problem and Question

Empirically, many previous studies have examined the performance of privatized firms after privatization or compared pre- and post-privatization financial and operating performance of former SOEs (Megginson et. Al., 2017; Haq, 2017; Hannah and Samuel, 2016; Mansoor, 2016; Justus Komu Mwangi, 2014; Pamela, 2013; Otieno, 2012; Megginson et al., 1994;

Dewenter and Malatesta, 2001; Vining, 2003). They confirmed that privatization in general leads to a significant increase in profitability, efficiency, and output, and dividend payout. In addition, a significant decrease in leverage is documented, though there is no consensus as to the impact of privatization on the level of employment.

The research problem is that studies in the Literature did not examine the impact of privatization in a specific sector. The sectorial analysis is much more informative due to the homogeneity of firms, thus the homogeneity of financial policies. Therefore, this study examines the impact of privatization preserves can the Egyptian Maritime and land Transportation through IPOs that cover the period 1994-2017.

The main question in this study is: **Does privatization of Maritime transport sector affect positively financial performance?**

#### **4- Importance of the Study**

This study focuses on Egyptian Maritime and land transportation privatized firms, which has been neglected in the literature, and is different in both environment and time period. Thus, this study represents the first study in Egypt to examine the impact of privatization in a specific sector, which Egyptian Maritime and land transportation sector.

The findings of this study will be of benefit in three ways. **First**, Financial managers and directors of SOEs who will be able to have a wide point of view of advantage and disadvantage of converting the state owned enterprises into private ownership companies; **Second**, Individual investors and investment firms who will be able to have the decision of investing and computing profitable returns on their investments; and **Third**, Academicians who will be able to gain more knowledge on the success factors of privatization of SOEs. This will enable them to enhance their literature on the financial benefits of privatization state owned enterprises.

#### **5- Objective of the Study**

The objective of this research is to assess the impact of the Egyptian privatization program on the profitability, liquidity and leverage of the Egyptian Maritime and land transportation privatized firms. This study compares pre- and post-privatization. This explanatory study examines whether privatization has had an effect on profitability, Liquidity and financial leverage. This study covers the period from 1994-2017, which represents nearly two decades of the Egyptian privatization efforts.

## 6- Literature Review

A comprehensive academic work has been undertaken to evaluate the performance of the privatized SOEs and the different implications of the privatization process. Numerous academic papers deal with performance indicators at many levels: a firm level, a single country level, and international level, in developing and developed countries. Recent studies are concerned with evaluating the impact of a privatization program on firms' performance. **Meggison, et. al (2017)** obtained IPO and associated pre- and post-listing financial data from the China Stock Market and Accounting Research database. They Collected the financial data for non-listed companies from the National Bureau of Statistics (NBS hereafter) database. They found strong evidence that privatization, per se, does improve firm profitability and that the profitability improvement is positively related to the degree of partial privatization. The higher the degree of privatization, the larger is the profitability improvement for PSOEs. Variables used (ROA, CAPEXP, ROE, ROS, EBIT/Sales, Leverage, Turnover).

**Haq (2017)** conducted on data of 4-10 years just before privatization and 10-12 years just after privatization of only two banks, with the data considered up to 2014. Analysis has been done using two methods; one is manual analysis (i.e. ratio analysis), and other is paired sample t-tests using software SPSS. On an overall basis, it can be concluded that there is a better effect on the profitability (ROE, and ROA) of the considered banks after their privatization. These study results show that there is a significant difference in profitability between before privatization and post-privatization.

**The study of Hannah and Samuel (2016) investigated** the potential impact of privatization on the financial performance of Cocoa Processing Company Limited (CPC) in Ghana as an attempt to contribute to the debate on how the privatization of public enterprises may affect the financial performance of these enterprises. This study has revealed that there was a significant increase in the liquidity, leverage, return on assets, and return on equity of CPC after the privatization programme. The results from the calculated ratios have indicated that the main measure of profitability (Return on Sales) was significantly lower since the average after privatization. The study concluded that privatization process in CPC, perhaps most privatized firms in Ghana has resulted in no significant

changes in financial performance in achieving the objectives of privatization.

**Mansoor (2016)** investigated the impact of the privatization transaction on the overall performance of the companies. This study covered the privatization program implemented in Egypt for a period over 17 years. The assessment was done on the privatized companies themselves to assess the impact of the privatization transaction, the overall change in performance over a period of 6 years, 3 years pre and 3 years post privatization. The results showed that the privatized companies examined a significant positive change in profitability, and operating efficiency. On the other hand, the leverage and employment level were negatively impacted with no effect on the output of the privatized companies.

**The study of Justus (2014)** tested the effect of privatization on the financial performance of privatized firms in Kenya; By All the firms privatized in the last 10 year (6 firms). Overall results provide evidence that privatization has caused an improvement by all indicators in the listed firms however this is not the case with non-listed firms which continue to perform poorly after privatization. This shows privatization has had significant positive impact on the performance of listed firms whilst for the non-listed firms it no effect on their performance.

**Pamela (2013)** used financial data derived from financial statements of the six companies studied gotten form the Nairobi securities exchange journals which proved. An analysis of the financial performance ratios indicates that profitability ratio did not immediately increase in post privatization era, meaning that privatization should be viewed as a long term strategy. A decline in overall financial performance is possible even when the company is improving its ability to meet, utilize its assets to generate sales. Managers of privatized companies should therefore not be judged only by looking at overall financial performance but also at other indicators of performance.

**Otieno (2012)** tested the effect of privatization on financial performance of parastatals in Kenya (thirty firms listed on NSE using a four year data of share prices from 1st Jan, 2009 to 31st Dec, 2012). The study was conducted by using a qualitative research method. The results were based on questionnaires administered to senior managers of privatized parastatals in Kenya. The findings of this research showed a positive impact of privatization over firms' performance.

**Rakesh (2011)**, investigated the impact privatization has on four big Indian privatized companies pre and post privatization. The study covered a period of ten years. The researcher tested the impact of privatization on profitability, liquidity, sales efficiency and solvency position of the selected companies. This analysis was done using the ratio analysis, mean, standard deviation, coefficient of variation and paired t-test. The results of the study showed that the sales efficiency, liquidity ratio has increased while the debt to asset ratio has decreased. The overall impact on the privatized companies post privatization is positive.

**Otchere (2005)** tested the impact of privatization on the stock prices of competitive firms. He examined the stock price reaction of 314 industry counterparts to the privatization announcement versus 121 firms to be privatized via IPOs. He used a data set of 29 developed and developing countries and 28 industries. He found that 1- competitors reacted negatively to privatization announcements, losing 1.72% of their value over the third day and 1.64% in the fifth day after the announcement; 2- the reaction of competitor firms in developing countries were stronger than in developed countries; and 3- the reaction of rivals to a full privatization announcement was larger than that of a partial privatization announcement.

**Gupta (2004)** examined firm performance on partial privatization in India. He uses data from Indian state owned enterprises (31 privatized firms) and found that, partial privatization has a negative impact on profitability, labour productivity and investment spending. On the other hand, he found no evidence that firms are chosen for privatization because of unusually bad performance in the previous year. His analysis confirms the argument that the most profitable enterprises are usually the first to be privatized as with the case in Indian oil and gas companies. He also documents that privatization and competition are not substitutes in their impacts on firm performance. His results supports the hypothesis that partial privatization address managerial rather than the political view of inefficiency in state-owned enterprises.

**Boubakri and Cosset (2003)** investigated the performance change pre-privatization versus post-privatization performance of sixteen African firms privatized through public share offering during the period 1989-96. BC used the same methodology of Megginson et al 1994. They documented a significant increase in capital investment spending by privatized firms, but they found only insignificant changes in profitability, efficiency, output, and leverage.

**Boardman, et. al (2003)** examined the performance change for nine Canadian firms privatized during 1988-1995. They compared 3-year average post-privatization financial and operating performance ratios with the 5-year pre-privatization values, and computed long-run (up to 5 years) stock returns for privatized firms. They employed the MNR methodology to estimate the magnitude of privatization related performance. They documented that profitability increases more than double after privatization, while the efficiency and sales also increase significantly. Leverage and employment declined significantly, while the capital spending increases significantly. Privatized firms also significantly outperformed the Canadian stock market over all long-term holding periods.

**Omran (2001)** tested 69 Egyptian firms, reported a positive relationship between ownership structure of companies and their efficiency. He used ten performance measurement which are: Earnings before interest and tax, return on sales, return on assets, return on equity, Sales efficiency, Income efficiency "before interest and tax", Assets turnover, Real capital expenditures, Capital expenditures to sales, ,and Capital expenditures to total assets. He found that, there is insignificant change in output. With regard to the level of employment, a highly significant decrease is documented following privatization. He further reported that privatized firms performed better than they had before privatization. Omran further concluded that general liberalization was more important than privatization.

**Meggison, Nash, and Van Randenborgh (MNR,1994)** investigated the performance change of 61 firms from 18 countries and 32 different industries that privatized during 1961-89. MNR compared 3-year average post-privatization financial and operating performance ratios to the 3-year pre-privatization ratios. They tested the significance of median changes in post-versus pre-privatization data. Also, MNR employed binomial tests for the percentage of firms changing as predicted. MNR documented economically and statistically significant post-privatization increases in real sales, operating efficiency, profitability, capital investment spending, and dividend payments, as well as significant decreases in leverage. In addition to the above, they found that there is no evidence of employment reduction after privatization, the median level of employment actually increases (at 10% level), but there are significant changes in firm managers. The MNR study stressed that the privatization process improves firm performance.

Most empirical studies that compare pre- and post-privatization performance indicate consistent findings regarding the impact of privatization on firm

profitability, output, efficiency, leverage, and dividend payments. They show highly significant performance improvements according to both the Wilcoxon (median) and binomial (proportion) statistical tests. Table 2 shows the summaries' results of these studies. It is clear from Table 2 that the majority of studies have used an MNR methodology, Based on Table (2) variables were selected which are profitability by using Earnings before interest and tax, Return on Assets, Return on Equity and Return on Sales, Also Leverage by using Total Debt to Total Assets, and Total Debt to Total Equity, finally Liquidity by using Current Ratio.

## **7- Research hypotheses**

### **H1: Privatization improves Profitability of privatized Holding Company for HMLT**

To test for this hypothesis, four sub-hypotheses are to be examined as follows:

H1-1 There is a significant increase in real earnings before interest and tax following privatization.

H1-2 There is a significant increase in the return on sales following privatization.

H1-3 There is a significant increase in the return on assets following privatization.

H1-4 There is a significant increase in the return on equity following privatization.

### **H2: Privatization leads to a decrease in Leverage of privatized Holding Company for HMLT.**

To test for this hypothesis, two sub-hypotheses are to be examined as follows:

H2-1 There is a significant decrease in the ratio of total debt to total assets following the privatization.

H2-2 There is a significant decrease in the ratio of total debt to total equity following the privatization.

### **H3: Privatization improves Liquidity of Privatized Holding Company for HMLT**

H3-1 There is a significant increase in the Current Ratio following privatization.

Table (2) Summary of the literature review results

Study	Country	Operating efficiency	Leverage	Profitability	Liquidity	Activity	Labor
William L. Megginson, Zhe Shen, Qian Sun (2017)	CHINA stock market	Decreased	Decreased	Increased	N/E	-	-
Haq (2017)	Pakistan	-	-	Increased	-	-	-
Hannah, Samuel (2016)	Ghana	-	Increased	Increased	Increased	-	-
Mansoor T. Hinai (2016)	Egypt	Increased	Decreased	Increased	-	-	Decreased
Justus (2014)	Kenya	-	Decreased	Increased	-	-	-
Khalaf Toami (2013)	Jordan	Decreased	Increased	Decreased	-	-	Increased
Pomela (2013)	Nairobi	Decreased	-	Decreased	-	Increased	-
Otieno (2012)	Kenya	Increased	-	Increased	-	Increased	-
Garg (2011)	four big Indian companies	-	Decreased	Increased	Increased	-	Increased
Mulaken/Alemu Haile (2010)	Ethiopia	Increased	Decreased	Decreased	Decreased	-	Increased
Otchere (2009)	Canda& developed countries	-	-	Increased	-	Increased	Decreased
Gupta (2004)	India	-	Decreased	Decreased	-	-	Decreased
Omran (2001)	Egypt	Increased	Decreased	Increased	Increased	-	Decreased
Megginson, Nash, and van Randenborgh (1994)	18 developing countries	Increased	Decreased	Increased	Increased	Increased	Increased

## 8- Research Methodology

The purpose of this study is to evaluate the impact of privatization on the financial performance of HMLT. The study is based on comparing different financial and operating performance criteria and ratios of the 16 companies followed the Holding company in the pre- privatization and Post-privatization eras using financial performance indicator to test the main hypotheses.

As seen from literature review, the study concluded that most empirical studies, related to the evaluation of the performance of privatized firms, have used Megginson, Nash, and van Randenborgh<sup>1</sup> (MNR, 1994), the study examines the same variables used in MNR, 1994. Table (3) presents definitions and expected changes of the performance measures investigated in this paper. Given a general improvement in performance as a result of privatization, the literature documents that differences would arise due to differences in size, sector, ownership structure, corporate governance and capital market discipline (Comstock *et al*, 2003; D’Souza *et al.*, 2001; Harper, 2002; Pistor and Turkewitz, 1996).

**Table (3)**

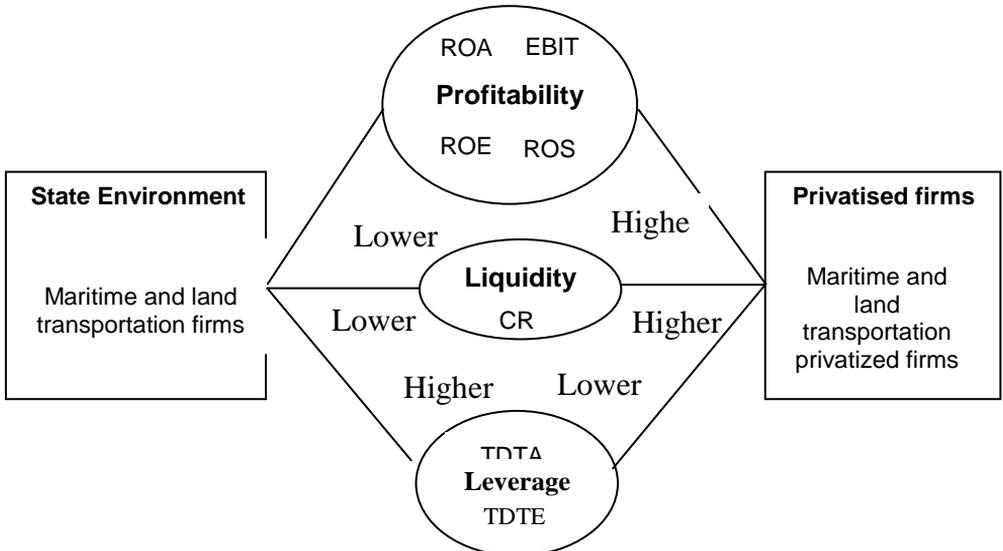
**Performance Measures: Definitions and Expected Changes**

<b>Performance measures change</b>	<b>Description</b>	<b>Expected</b>
<b>1. Profitability</b>		
Earnings before Interest and tax	EBIT	Increase
Return on sales(ROS)	Net profit/Sales	Increase
Return on Assets(ROA)	Net profit /total Assets	Increase
Return on Equity(ROE)	Net profit /total Equity	Increase
<b>2. Leverage</b>		
Long term debt to Assets(TDTA)	long term debt/total Assets	Decrease
Long term debt to equity(TDTE)	long term debt/total Equity	Decrease
<b>3. Liquidity</b>		
Current Ratio (C.R)	Current Assets/Current Liability	Increase

<sup>1</sup> Studies employing the Megginson et, al. methodology have two key advantages. First, they are the only studies that can examine and directly compare large samples of economically significant firms, from different industries, privatized in different countries, over different time periods Second, while focusing on SIPs yields a selection bias, it also yields samples that encompass the largest and most politically influential privatizations. (Megginson, Nash, Netter and Schwartz (2000)).

To test predictions listed in Table (3), the study followed the techniques of Megginson, Nash and Van Randenborgh (1994). In order to determine post-privatization performance changes, the study utilized a matched pair methodology (i.e. compare pre – and post – privatization results). The study began by calculating performance measurement proxies for every firm for the six-year period, with three years before and three years after privatization. Figure (1) provides a description of the study framework. Then the study developed financial results from the last Three years of public ownership through the first year as a privatization entry. The study next calculated the mean value of each variable for each firm, over the pre – and post – privatization periods (pre – privatization years –3 to – 1 and post privatization years +1 to +3) we therefore excluded year O (zero) from our mean calculations. Quantitative data were described using mean, median, and standard deviation. Then applying standardized Skewness and the standardized Shapiro–Wilk and Kolmogorov-Sn mirnov to determine whether the financial performance of privatized firms can be adequately modelled by a normal distribution. The normal variable will be subject to T-test for significant change, for the non-normal variables will be tested by Mann Whitney test.

**Figure (1)**  
**The Framework of the study**



## 9- Sample of study

Data sample for the study was obtained from the privatized company in Egypt according to Law number 203 of 1991. The law established 27 holding companies to own 314 public sector companies, which were to be sold through IPOs, sales to anchor investors, employee stock ownership programs or lease-management contracts. Others were dissolved or merged with other state industries. The holding companies, which ultimately number 16, were under the umbrella of the Ministry of Investment. They were to ensure that the sale of public enterprises in their portfolios eliminated monopolies and promoted diversity of ownership within sectors. The Holding company for Land and Maritime transportation is followed by 16 companies as shown in Table (4) which contains ownership percentage of the Holding company for Land and Maritime transportation also Number of shares owned by the company.

**Table (4) Companies in which the holding company contributes**  
(Subject to the subordination of the Public Business Sector Law and its  
Companies No. 203 of 1991)

N	Company name	% of holding owns	No. of shareholder (000)
1	Port Said Company for container and cargo handling	41	5000
2	Egyptian General Warehouses Company	100	183409
3	Al Kanah Shipping Agencies Co	92	102314
4	United Arab Shipping & Discharge Company	51	82487
5	Alexandria Container and Cargo Handling Company	56	14650
6	Engineering company for auto industry	100	8274
7	Eastern Delta Transport & Tourism Company	100	6856
8	Upper Egypt Transport & Tourism Company	100	10437
9	Western and Middle Delta Transport and Tourism	100	2000
10	Nile Company for the manufacture and repair of cars	100	3500
11	Wood Trading Company	100	8000
12	Misr Co. For Import & Export	100	20400
13	Misr Automotive Trading Co	100	850
14	El Nasr Co. For Export & Import	100	5000
15	Egypt Foreign Trade Company	100	8418
16	Damietta Container and Cargo Handling Company	42.091	5000

Source: Holding Company for Land and Maritime transportation (2017)

The data set for this study was determined by analyzing Egyptian firms that following the Holding Company for Maritime and Land Transport that had been privatized till now and had at least 3 years of both pre- and post-privatization data, so that it can give us realistic results that can be count on it. The sample size thus contains all companies (16 Egyptian firms have been privatized between 1994 till 2005) that follow the Holding Company for Maritime and Land Transport representing which are listed in Table 4. This research focuses on the Egyptian Maritime transport firms that were privatized through IPOs. There are three reasons to choose the Maritime transport firms that were privatized through IPOs, which are:(i) these firms are registered on the Stock Exchange, thus it is easy to collect financial statement data for at least 5 years); (ii) these firms are independent and continue to generate comparable financial and accounting reports; (iii) to avoid delisting bias in generating a sample, the analysis was limited to those firms that were sold via IPOs.

## **10- Data Analysis and Findings**

Descriptive statistics are used to describe the basic features of the data in the study without any effort to test a particular hypothesis. It aims to give us a clear view of raw data. The mean and median and standard deviation are the most common measurements of central tendency, and variability, respectively.

In the following sections the study presents the descriptive statistics for the pre and post privatization performance of HMLT by calculating the median, the mean, the standard deviation for each of the performance indicators.

Table 5 summarises the descriptive statistics for the accounting performance indicators for the pre and post privatization performance of HMLT. Furthermore, the table presents the results of three measures, which are used to determine whether the performance could be adequately modelled by a normal distribution, which are: standardised Skewness; Shapiro Wilk and Kolmogorov Smirnov. The following sections are going to illustrate the descriptive statistics for all performance indicators that mentioned before

As shown in second row in Table 5, the values of the mean and median of EBIT for privatized firms increased after privatization. The standard deviation shows a large dispersion in values of EBIT after privatization, which means that the values of EBIT are more spread around its average. Row three in Table number 5 illustrates that the mean and median values for the ROS variable has increased after privatization. Meanwhile, the minimum value of the ROS is -6.5%; but the maximum value of ROS changed to 1.16%. This means that the ROS increased; these changes do not

indicate positive or negative effect on firm performance, but means only that there are changes in the ROS variable.

The value of the mean and the median for the ROA variable had decreased for the whole sample of privatized firms, As shown in row three. The minimum value of the ROA is -44%; but the maximum value of ROA changed to 59%, this means that most privatized firms have negative ROA. The standard deviation for the ROA variable following privatization is higher than its value before privatization, which means that the value of ROA becomes more spread around its average.

The last ratio used to measure the profitability of the privatized firm is ROE ratio, which is described in row four. The mean value of the ROE had decreased from 143% to 13%; the median values of ROE change from 13% to 16% following privatization. The standard deviation of the ROE variable increased after privatization which means that the values of ROE are more spread around its average.

Leverage means the amount of debt used to finance a firm's assets. A firm with significantly more debt than equity is considered to be highly leveraged. The first ratio used to measure the leverage is total debt to total assets, which is described in Table 5 row seven. The mean value of TDTA decreased after privatization. The median of TDTA decreased. Row eight shows that the mean (median) for the second ratio used to measure the leverage, which is total debt to total equity, had decreased for the whole sample of privatized firms. The same observation can be observed for the values of minimum and maximum. The value of the mean and the median for the current ratio had increased for, As shown in row ten. The minimum value of the CR is 166%; but the maximum value of ROA changed to 140%, this means that most privatized firms have negative CR. The standard deviation for CR following privatization is higher than its value before privatization, which means that the value of CR becomes more spread around its average. These changes do not indicate positive or negative effect on firm performance, but means only that there are changes in the CR variable.

### **Normality Tests**

The first test had made as shown in Table (5) was Skewness normality test (measures the mean) where showed that only one ratio is normal where it falls under 3 and the remaining ratios are not normal. The second way of normality the Kolmogorov-Smirnov test (K-S) and Shapiro-Wilk (S-W) test are designed to test normality by comparing data to a normal distribution with the same mean and standard deviation of the sample. Shapiro–Wilk and Kolmogorov-Smirnov also indicated that only one ratio is normal

as its Probabilities > 0.05 mean the data are normal, the rest of ratios Probabilities < 0.05 mean the data are not normal.

**Table 5 Descriptive Statistics for the performance measures of privatized firms pre- and post-privatization**  
 Profitability measuring by Earnings before interest and taxes (EBIT), Earnings before interest and taxes to sales (ROS), Earnings before interest and taxes to assets (ROA), and Earnings before interest and taxes to equity (ROE); Leverage measuring by Total debt to total assets (TDTA), and Total debt to total equity (TDTE); liquidity measuring by Current Ratio (CR).

Performance indicators	Descriptive Statistics										Normality Test						
	Means		Median		Standard Deviation		Minimum		Maximum		Shapiro Wilk		Kolmogorov Smirnov <sup>(a)</sup>		Standard Skewness		
	Pre	Post	Lower Bound	Upper Bound	Pre	Post	Lower Bound	Upper Bound	Lower Bound	Upper Bound	statistic	sig	statistic	sig	Upper Bound	Lower Bound	
<b>1</b> Profitability																	
2 EBIT	38660	46282	42471	1936	7100	30277	116390	179104	153503	7.4008	0.320	0.00	0.447	0.00	4.021		
3 ROS	-0.18	-0.3	-0.102	0.15	0.04	0.0799	1.76	0.89	1.375	1.16	0.529	0.00	0.358	0.00	-3.85		
4 ROA	0.07	0.04	0.568	0.04	0.03	0.338	0.18	0.20	0.1865	0.59	0.937	0.061*	0.133	0.157*	0.476*		
5 ROE	1.43	0.13	0.777	0.13	0.16	0.149	6.21	0.69	4.399	21.85	0.568	0.00	0.310	0.00	3.65		
<b>6</b> Leverage																	
7 TDTA	0.19	0.12	0.1535	0.16	0.03	0.0776	0.19	0.17	0.1776	0.66	0.835	0.00	0.194	0.004	1.263*		
8 TDTE	16.42	-0.17	8.127	6.11	0.00	0.00	26.6	0.80	20.346	101.06	0.494	0.00	0.337	0.00	3.531		
<b>9</b> liquidity																	
10 CR	1.53	1.80	99	1.17	1.40	0.11	1.11	1.64	9.67	1.40	0.742	0.00	0.16	0.00	2.895*		

Skewness normality < 3.00

\*. This is a lower bound of the true significance.

(a). Lilliefors Significance Correction

According to the values of standardized skewness, as seen in rows 2-5, all profitability ratios expected ROA are out of the range of  $\pm 3$ ; thus, these ratios, either before or after privatization, do not tend to be normally distributed.

Also, the Skewness test as seen in Table (5) showed that, the total debt to total asset ratio follow a normal distribution, but the other do not; Finally; According to Shapiro–Wilk and Kolmogorov-Smirnov tests, current ratio not- normal but according to the Skewness, follow a normal distribution of test of normality. Thus, the study will use the parametric T-test for a normal distribution and the Mann Whitney test, for a non-normal distribution, to examine whether the change in these variables have a significant or non-significant impact on the performance of the privatized firm.

## **11-Comparative analysis of pre- and post-privatization performance**

In this section, the study attempts to meet the objectives of this article, by investigating the research hypotheses that is Privatization improves Profitability; Liquidity and decrease in Leverage of privatized Holding Company for Maritime and Land Transportation. In this section, the study presents the results of the comparison between the pre- and post-privatization performance of privatized firms through IPOs. The parametric t-test and the non-parametric Wilcoxon signed-rank test are used in this matter. The study employed a method, similar to the matched-pairs methodology used in MNR (1994), for comparing the pre- and post-privatization performance for HMLT.

To test the performance of privatized firms, the study calculated the mean (median) of each performance indicators (profitability, Liquidity, and leverage) at least for three years (years -3 to -1) pre- privatization and for three years (years +1 to +3) following privatization (from the year of privatization till end 2017); then calculated the changes between pre- and post-privatization for each indicator. The study tests the null hypothesis that "the mean (median) performance change from pre- to post-privatization is equal to zero" by using a parametric t-test for the significant changes in mean. Also, the non-parametric Wilcoxon signed-rank test is applied to potentially significant changes in performance, based on median values. The study reports the results from these tests in Table 6

**Table (6) Comparison of Pre- and Post-Privatization Performance for the holding company for maritime and land transportation.**  
 The study employs two techniques to test for significant in performance of privatized firms. This table presents summary results of the parametric t-test and the non-parametric Wilcoxon signed-rank test for the significant changes in the mean and median values of the selected performance measures for HMLT. The study provides the mean (median) change for each variable after versus before privatization with their significant level.

Performance indicators	Pre-privatization		Post-privatization		Change in		t-Statistic for difference in Mean		Wilcoxon statistic for difference in Medians	
	Means	Median	Means	Median	Means	median	t-test	P-value	M w-test	P-value
<b>1</b> Profitability										
2 EBIT	38660	1936	46282	7100	7620	5164	0.138	0.891	0.940	.0349**
3 ROS	-0.18	0.15	-0.3	0.04	-0.12	-0.11	0.302	0.765	110	0.498
4 ROA	0.07	0.04	0.04	0.03	-0.03	-0.01	0.497	0.623	116	0.651
5 ROE	1.43	0.13	0.13	0.16	-1.3	0.03	0.830	0.419	127	0.970
<b>6</b> Leverage										
7 TDTA	0.19	0.16	0.12	0.03	-0.07	-0.13	1.118	0.273	93.0	0.187
8 TDTE	16.42	6.11	-0.17	0.00	-16.60	-6.11	2.493*	0.025**	49.0*	0.002***
<b>9</b> Liquidity										
10 CR	1.53	1.17	1.80	1.40	0.27	0.23	0.940	0.349	1063	0.583

\*\*\* Significant at 1%

\*\* Significant at 5%

## Change in Profitability

As seen from Table (6), the mean (median) of EBIT for HMLT, increased from 38660 (1936) pre- to 46282 (7100) post-privatization. As a result of the p-value for a proportion statistical test being 5%, the study rejects the hypothesis at the 95% confidence level. but, the p-value for the Wilcoxon signed-rank test is .034 So, there are significant improvements of EBIT after privatization for HMLT, at the 95% confidence level, but these improvements are slight.

In addition, the mean (median) of ROS increased from -18 % (15 %) pre- to -3% (4%) post-privatization. This means that privatization led to improving the ROS by around 15% from -18 to -3%. Since the p-value for the non-parametric Wilcoxon signed-rank test and T- tests are more than 5%, the study rejected the hypothesis at the 95% confidence level. It means that there are not significant changes in the median for ROS after privatization for HMLT. The result is moving directly to the expectation of the government and privatization objective because government expects significant increment in ROS following privatization. The increase in ROS is logic as the movement from public enterprises to private enterprises leads to new plan to generate revenues as the primary goal for private enterprises is achieve gains and of course new plans for marketing that is lacked in PE, which leads to the increase of firms sales.

The same observation can be observed for both ROE and ROA, the means and median was decreased after privatization; the p-value for the non-parametric Wilcoxon signed-rank test and t-tests are more than 5%, the study rejected the hypothesis at the 95% confidence level. It means that there are not significant changes in the means and median for ROA and ROE after privatization for HMLT. The decline in ROE may be caused as a result for dividing the owner equities after it was in the hand of only one owner (Government) became divided on different owners (shareholders). When a company issues new stock or buys back existing stock, ROE is affected. Issuing new stock raises the shareholders' equity. Without any correlating impact on revenue, ROE declines with higher equity value. This decrease in ROE differs with the opinion of former researchers (Megginson et al.,1994, Hannah and Samuel Gyamerah 2016, Omaran,2001). but also some other studies found recognized a decrease in the ROE after privatization such as Muluken Alemu Haile, 2010, Mansoor, 2016 also found a decline in ROE and defined that the negligible improvement in the ROE post privatization for partially privatized companies can be interpreted

by the fact that the government owns governing share in those companies and still influence the decisions to serve social goals.

ROA indicator slightly reduced in the average following privatization. And the decline here is not statistically significant; this decline isn't necessarily bad, however. If a company purchased an Asset, its assets would go up but its net income for the period would remain steady, or increase with a lower percent, thus lowering the ROA. So, the study concludes that privatization doesn't bring any significant change on profitability of the company. These results totally against the one observed for developing countries by Meggings et al. (1994), Haq (2017), Hannah and Samuel, (2016), and Justus (2014), But it tends to be consistent with the literature, as documented by Khalaf Toami (2013), Pomela (2013), Otchere (2009), Gupta, (2004).

### **Change in Leverage:**

Tables 6, row seven provide the all the statistical tests of the TDTA ratio for 16 privatized firms; The mean (median) of TDTA decreased after privatization from 19% (16%) to 12 % (3 %). the p-value for all statistical tests of TDTA is more than 10%, the study does not accept the hypothesis. Thus, the results of parametric, Wilcoxon, and t-statistic tests show an insignificant decrease in both mean and median at any given level. In contrast, the mean (median) of TDTE for HMLT decreased after privatization from 16.42% (6.11%) to -17% (00%), as shown in row eight in Table 6. Since the p-value for all statistical tests is less than 5%, the study accepts the hypothesis at the 95% confidence level. Hence, there are statistically significant impacts on the change of mean and median for TDTE.

There are several reasons why leverage should decline after privatization, for one thing, public firms traditionally have extremely high debt levels at least partly because they cannot sell equity to private investors, and thus the only equity available to the firms are capital injections and retained earnings (Megginson et al 1994). Although, the study has found mixed statistically significant relationship between Leverage and firm performance, the study recommends that managers should improve their plan in using debt as a source of finance since a positive relationship exist between the capital structure and performance variables used in this work. These results tend to be consistent with the literature, as documented by Mansoor, (2016), Haq (2017), and Megginson, et al (2017), but contradicts most previous studies that notice there is a significant increase in leverage following privatization (see, for example, Hannah and Samuel, (2016), Khalaf Toami (2013).

### **Change in Liquidity**

The cash flows of firms when it privatized saw better improvement than under the government leading to improvement in liquidity. They continued that after the firm was privatized many holes in cash outflows were filled since the firms were conscious about cutting down cost. According to Table (6), The mean (median) of current ratio for HMLT increased after privatization from 1.53%(1.17%) to 1.80% (1.40%), as shown in row ten. It means there is a positive relation between solvencies of firms after privatization but the p-value for Wilcoxon test is more than 10%, there is an insignificant effect for the change in median for current ratio. Thus, the increase in current ratio is statistically insignificant at 5% significant level. This increase in Liquidity goes with expectation also with the previous researchers Hannah and Samuel (2016), Omran (2001) and Megginson, Nash, and van Randenborgh (1994).

According to the mixed results on the performance of HMLT, the study recommended that, a less interfere of the government that can help the privatized companies for better performance. About the decrease in the ROA, the managers should search for the reason and re organize Assets management. Also, the manager should increase the ROE through use more of financial leverage, Increase profit margin, Distribute Idle cash. Also we recommend that the background and announcements of the companies have to be published in order to have a better understanding of what they are doing and what effect this may have, if any, on the return on equity. Finally, the financial performance indicators, i.e. profitability, leverage, and liquidity ratios are not enough to measure the performance of HMLT. Thus, alternative financial measures such as Data Envelopment Analysis (DEA) shall be considered in further studies.

### **References**

- Awati, Yuli Rindy (2013) "Partial Privatization and its Effect on Structure, Conduct, Performance in the Indonesian Commercial Banking Market", University of Canberra.
- Beesley and Littlechild (1989) "Privatization and Economic Performance in Britian a Comment" Carnegie-Rochester Conference Series on Public Policy 31,345-352 North-Holand.
- Bekheit, M. and Ayman T., (2009),"The Impact of the Egyptian Privatization program on the Employment Level of Newly

- Privatized Firms-Empirical Study" Faculty of Commerce Magazine, Cairo University.
- Bekheit, M., (2008)" THE PERFORMANCE OF PRIVATISED AND PRIVATE FIRMS: EMPIRICAL EVIDENCE FROM EGYPT, Unpublished PhD, University of Plymouth Business School- UK.
- Bekheit, M., Ayman R. and Sameh S., (2008), "The Impact of the Egyptian Privatization program on the Performance of the Privatized Firms", Faculty of Commerce Magazine, Cairo University.
- Boardman and Davil Saal, eds., International Handbook on privatization. Cheltenham, UK: Edward Elgar, pp. 129-160., A. E., Claude L., and Aidan R. (2003), "Privatization in North America", In David Parker
- Boubakri, N. and Jean C. (2003), "Does privatization Meet the Expectations? Evidence from African Countries", Journal of African Economics, pp. 111-145.
- Comstock A., R.J. Kish, and G.M. Vasconcellos (2003). "The Post-Privatization Financial Performance of Former State-Owned Enterprises", Journal of International Financial Markets, Institutions and money, Vol.13:19-37.
- D'Souza, J., W.L. Megginson, and R. Nash, (2001), "Determinants of Performance Improvement in Privatized Firms: The Role of Restructuring and Corporate Governance" Paper Presented at the Annual Meeting of the American Finance Association, New Orleans LA.
- Egyptian Ministry of Public Enterprise Sector, (2007), "The Number and Value of the Egyptian Privatized Firms" Unpublished Report, Cairo.
- Farinós J. E., C. José G., Ana M. (2007), "Operating and Stock Market Performance of State-Owned Enterprise Privatizations: The Spanish Experience", International Review of Financial Analysis, Vol. 16, pp. 367–389. Available from: [www.sciencedirect.com](http://www.sciencedirect.com). [Accessed 6 April 2018].
- Fiorentino, A. De Vincenzo, F. Heid, A. Karmann and M. Koetter (2009) "The effects of privatization and consolidation on bank productivity: comparative evidence from Italy and Germany" Discussion Paper Series 2: Banking and Financial Studies No 03/2009.

- George R. G. Clarke, Robert Cull (2001) "Bank Privatization in Argentina"  
The World Bank Development Research Group Regulation and  
Competition Policy and Finance.
- Garg, Rakesh (2011) "Impact of Disinvestment on Corporate Performance".  
Advances in Management, Vol. 4 pp 62-65.
- Gupta V., (1999), SPSS for Windows, first edition, Thomson South-  
Western.
- Hancick, B. (1998), "An Introduction to Qualitative Research", Trent Focus  
Group. Available from: <http://www.trentrdsu.org.uk>. [Accessed 8  
April 2018].
- Hannah Amo, Fosuaa, and Samuel Gyamerah, (2016) "The Pre and Post  
Financial Performance of Privatized State-Owned Enterprises in  
Ghana" Research Journal of Finance and Accounting, Ghana Vol.7,  
No.19.
- Harper, J. (2002), "The Performance of Privatized Firms in the Czech  
Republic", Journal of Banking & Finance Vol. 26, No. 4, pp. 621-  
649.
- Hinnawi, M. and Ahmed M. (1995) Privatization Between Theory and  
Application of Egypt, Eldar university for printing and publishing  
and distribution. Alexandria. (In Arabic).
- Haq, Ayazul (2017), "Impact of Privatization of Banks on Profitability"  
scientific journal of Management and Social sciences volume I,  
Issue I: 24-35
- Holding Company for Land and Maritime transportation (2017)
- Khalaf Al-Taani (2013) "The relationship between capital structure and  
firm performance: evidence from Jordan" Journal of Finance and  
Accounting; 1(3): 41-45.
- Komu Justus Mwangi (2014) "The Effect OF Privatization on Financial  
Performance of Firms in Kenya" University of Nairobi.
- Letwin, O., (1988), Privatising the World, Cassek Education Ltd. UK.
- Lutfi, A. (2006), "Privatization in 15 years ... Positives and Negatives",  
Business Magazine, Vol. 1, No. 2, pp. 8.19. Egypt. (In Arabic).

- Mansoor , Al Hinai, Talib (2016) “ Impact of privatization on Company performance, the Case of Egypt” University of Birmingham.
- Mclindon, M. P., (1996), Privatization and Capital Market Development: Strategies to Promote Economic Growth, Greenwood Publishing Group, Inc., Westport.
- Megginson William L., Zhe Shen, Qian Sun (2017) “Why Don’t Share Issue Privatizations Improve Profitability in China?”.
- Megginson, R. Nash, Juliet D’Souza (2004)” Effect of Institutional and Firm-Specific Characteristics on Post-Privatization Performance: Evidence from Developed Countries”.
- Megginson, W., R. Nash, (1998) “the financial and operating performance of newly privatized firms: an international empirical Analysis” Estudios de Administratio, Vol.5,N1.
- Megginson, W., R. Nash, M. Van Randenborgh, (1994), The financial and operating performance of newly privatized firms: An international empirical analysis, Journal of Finance 49, 403-452.
- Megginson, William L. (2005). The Financial Economics of Privatization (First edition, New York: Oxford University Press).
- Megginson, William L. and Jeffry M. Netter. (2001). “From State to Market: A Survey of Empirical Studies on Privatization.” Journal of Economic Literature 39: 321-389.
- Megginson. W. and Boutchkova M. (2000), “The Impact of Privatization on Capital Market Development and Individual Share Ownership”. Available from:<http://www.feem.it/NR/rdonlyre>. [Accessed 20 May2018].
- Michael Ian Cragg, I.J. Alexander Dyck(1999)“Management control and privatization in the United Kingdom” RAND Journal of Economics Vol. 30, No. 3, pp. 475–497.
- Muluken Haile Alemue, (2010) “Impact of privatization on Financial and Operating Performance of Privatized Firms” Mekelle University, Ethiopia.
- Omran, Mohammed (2001) “Performance Consequences of Privatizing Egyptian State-Owned Enterprises: The Effect of Post-Privatization Ownership Structure on Firm Performance”. Arab Academy for

Science & Technology, College of Management & Technology, Alexandria.

- Otchere, Isaac (2009) "Competitive and value effects of bank privatization in developed countries" *Journal of Banking and Finance*.
- Otieno, A. A. (2012) "The Effects of Privatization on Financial Performance of Parastatals in Kenya." Unpublished MBA project, University of Nairobi
- Pamela R.A (2013) "The Effect OF Privatization on Financial Performance of Firm Listed at The Nairobi Securities Exchange". University of Nairobi.
- Plane, P., (1997), "Privatization and Economic Growth: An Empirical Investigation from a Sample of Developing Market Economies, *Applied Economics*, Vol. 29, No. 2, pp. 161-178.
- The Egyptian Ministry of Public Enterprise Sector, (2007), Privatization program performance from the start to 31-12-2006, Cairo.