The analysis of the effect of tax on profitability indices in listed companies of Tehran Stock Exchange

M. Rajab Beigi[1], B. Rafat[2], H. Mozafari Panah[3]

[1]Agricultural Jihad Higher Education Institute, Iran; [2]Department of Economy, Isfahan University, Iran; [3]Department of Management, Naragh Branch, Islamic Azad University, Naragh, Iran

Abstract

Profitability is considered as the most complicated feature for a company to be understood and evaluated. These ratios included in profitability are applied for evaluating business capabilities and making the wages in comparison with all cost during a specific period of time. In a more accurate way, the ratios indicate the profitability of a company, having calculated the total costs and tax on revenue, operational efficiency, company pricing policies, assets profitability and company's shareholders. The approach applied in this research is descriptive-analytic. Using the data of 28 companies listed in Tehran Stock Exchange from 2004 to 2010 and using panel data approach, the tax effects over the paid profitability indices were studied in this paper. The results achieved from all estimation cases point out a negative significant effects on various profitability indices. It should be mentioned that in order to relate the taxes to the profitability indices, the costs and the debts of a corporation can be referred. Results of the study indicated that the debts ratio to asset and the type of the industry showed a negative effect on profitability and capital ratio to asset and the size of the company indicated positive significant effects on profitability index.

Keywords: profitability indices, taxes, financial ratios, the companies listed in Tehran Stock Exchange, panel data.

Introduction

The accounting profit is the difference between revenue and various costs. Profitability is considered as the most complicated feature for a company to be understood and evaluated. These ratios are applied for evaluating business capabilities and making the wages in comparison with all cost during a specific period of time. In a more accurate way, the ratios indicate the profitability of a company, having calculated the total costs and income tax, operational efficiency, company pricing policies, assets profitability and company's shareholders. Generally speaking, profitability ratios are considered as the main financial ratio of a company so that can evaluate the desirable performance of a company in profitable situations. For the most sections, if a profitability ratio is relatively higher than the required ratio for other competitors, is indicated as the better performance of the company (Saghafi and Aghaei, 1994).

On the other hand, in order to relate the taxes to the profitability indices, the costs and the debts of a corporation can be referred. Debt is one of the three main components of accounting equation and the capital structure of the majority of the companies. Considering tax saving, logical use of debt is expected to be caused in profitability growth for a company. Furthermore, the financial manager should always be careful that the methods of financing are compatible with the type of company's investment. Likewise, he should make use of leverage in a way that the company's value is maximized and a great bankruptcy costs are not imposed to the company – the company bears a logical financial risk by using debt.

From another point of view, in case of determining a relationship between debts ratio to the assets and profits as well as asset return, a correct decision over granting various types of financial facilities to the studied companies can be made (Woo *et al.*, 2012).

Corresponding author: H. Mozafari Panah, Department of Management, Naragh Branch, Islamic Azad University, Naragh, Iran. E-mail: Hasan.mp1357@gmail.com

Ever-increasing development of economic activities and its complexity as well as numerous referring to shareholders' financial information have led to create a modern analytical and management practices in accounting. Financial statements are the means by which the managers can assess their control results on the available resources. A company's accounting records is not available for the shareholders and most of them rely on their own decisions over financial statements. Therefore, willing to provide desirable accounting data with respect to the financial statements and manipulating these statements might occur. Berena, Ronen and Saden (1976) have considered smooth flow of revenue as one of the prevalent accounting practices which are manipulated by purpose for some levels of revenue. Using special means, the managers show their own revenue smoothed. Gordon, Horiz and Mires (1996) studied the relationship between accounting approach of investment tax credits (smooth revenue tool) and equity returns. They concluded that there is a significant relationship between income smoothing methods. Besides, calculating return ratio after the tax, such as Return on Assets (ROA) and the Return on Equity (ROE) are widely used for assessing company's performance , namely in commercial banks. Bank regulators and analysts apply ROA and ROE for assessing industry performances and the process of market structure anticipation — as an input in the population models in order to predict the failure of banks and merger companies — and for varieties of other purposes of which measure the desirable profitability (Woo *et al.*, 2012).

What mechanism and how much of the tax would affect the profitability index are of the major purposes in this research.

Theoretical Principles and Research Background

Taxation and its Significance

In all nations, the governments are accountable towards the people to meet some of their needs and demands like jobs, internal and national security, price stability, economic, political and cultural stability, economic recovery, improving the balance of payments, etc. and they would require sufficient financial resources in order to achieve these important issues. Also, developing a government's obligations in the field of economic and social has been increased the government expenditures and financing such costs do need trustable and major resources.

Hence, historically, the formation of governmental societies was based on the tax, as discussed under the subject of sovereignty as well as taxations, and it was received under different forms and has been gradually formed as a scientific aspect (Eskandari *et al.*, 2010). Nowadays, tax revenues are of the most prominent revenue types in the budget of the majority of governments — particularly for developed countries — and it is discussed as an economic index in ranking countries. While in undeveloped countries, the government's reliance is on the revenues gained from selling natural and underground resources like crude oil, which is actually considered as selling the capital, have caused structural problems. Despite the fluctuations in the world prices of natural resources, budget of the country would be affected and reaching the objectives set out in the budget will be difficult. Whereas in Iran, public revenue of the country is mostly based on the oil, considering that this resource will be reduced sooner or later, inevitably the government has to look for alternative resources to cover the costs. Today, tax returns are the best and the most trustable methods to cover the government costs. The greater achievement to this revenue under a fair and efficient tax system is very important. Considering that the tax influences the economic life of the people and citizens of a country more tangibly comparing with other parameters, it is more considered by the people rather than any other economic policy.

There are several definitions for the tax, which is actually regarded as a type of payment for the social life cost (Mohammad Khanli, 2010). The definition in the International Monetary Fund is "the tax is included of compulsory, irrevocable and non-compensated payments which are required by the government for public purposes." With respect to tax legislation and collection, the state is looking for equipping financial resources against governmental expenditures, stabilizing economic activities and social justice by adjusting income and wealth inequality. Accordingly, the tax is considered as one of the main subjects in macroeconomic and an efficient financial leverage for balancing the economy in countries. As economic experts and scholars emphasizing on applying economic policy, reducing the government dependence on oil revenues and referring to tax returns and increasing average rate of tax for speeding the process of economic development growth and social welfare, the need to boost, in another word rationalizing tax collection, considering the characteristics of each society, is one of the necessities. In line to achieve

these factors, identifying and spotting tax evasion and consequently preventing and reducing tax evasion are the methods to increase the tax returns. The undeniable phenomenon of tax evasion from the related tax payment by resorting to different methods has brought out serious troubles for every single society and the government, so that planning and providing some ways in order to decrease and prevent this phenomenon is one of the most important tax policies considered for every country. There are two general reasons for focusing on tax evasion (Nourani, 2009):

First, the phenomena directly lead to deficit. Second, studying tax evasion creates an opportunity for the process of decision-making related to unofficial entities. Generally, tax evasion causes the revenues − required by the government - not to cover the social costs. Therefore, social services that the government has to provide would not be adequately presented according to the needs.

Factors affecting profitability

The profit is considered as the important data for making economic decisions. The studies and the surveys have been done over the subject of profit are of the greatest research efforts during accounting history. The profit as the dividend payment guidelines, the means for management effectiveness assessment, and an instrument for evaluation and predicting the decision-making have been used by investors, managers and analysts (Saghafi and Aghaei, 1994). Consequently, many researchers tried to identify the factors that affect the profitability of companies. Parameters such as the type of the industry, size of the company, age, the capital ratio to assets, the debt ratio on assets, and the company advertising costs are known as the effective factors of profitability. Now, the researches over every single factor are briefly studied.

The type of the industry

From the studies, Akah and Chee (2007) has concluded that the type of the industry and the company internal factors like management abilities and human resources influence the company profitability, however, the internal factors have more influences.

Irexen and Nidson (2003) have studied the data of small, medium and big (categorization based on the number of the employees) Danish companies from 1994 to 1998. The results indicated that the influence of company resources is much more than the influence of the industry type; it has no effects on profitability.

Calughirou *et al.* (2004), have studied small, medium and big (categorization based on the number of the employees) Greek companies for 3 financial periods during 1994-1996. The result of their research indicated that both industry type and the company's internal resources influence the profitability. However, the influence of the company's resources is greater. Furthermore, the influence of the industry type for small and medium companies has been less than the influence on the big ones.

The size of the company

Kinka *et al.* (2005) indicated that there is a positive significant relation between the size of the European companies and profitability ratios.

Larnis *et al.* (2006) believe that the size of the Australian companies and the index of the general level of the prices affect the profitability of the companies. Bokhari *et al.* (2005) have pointed out in the research that, in the UK, the big companies are much stable in profitability comparing to smaller companies, while the profitability of the smaller companies are subject to circumstances and the market fluctuations.

Age of the company

The older the company is, the greater the experience of the human resources in the company ccomes. The process of production is less time-consuming in a limited time. This issues leads into high efficiency and more profitability (bagotty 1993 and Bousalengam 1993).

Another study showed had opposite resutls. Majomdar (1997) studied the influence of the age of the company on Indian companies' profitability during 1988-1994. His findings indicated that the fresh companies are more profitable than the older ones. Raytold and Shipher (1995), concluded that there is no relation between the company's age and profitability.

Capital ratio to assets

Vee Fiew *et al.* (2000) elicit that using capital in financial structure of the company, reduces risk of bankruptcy considerably. Declining the risk of bankruptcy is advantageous for the companies in different aspects. Customers, raw material suppliers, credit providers and the shareholders pay special attention to the risk of bankruptcy.

Vee Fiew *et al.* (2000) studied the relation between the capital, debt and profitability of small and big Thai companies. The results were similar for

both small and big companies, although the relation between capital and profitability in big companies were more than smaller ones. Moreover, by comparing the capital structure of the companies, it was determined that large companies have lower capital ratio rather than small companies and debt ratio of the large companies are more than smaller companies.

The results of the other researches, also, show a positive relation between profitability and the capital. Growsky *et al.* (1997), studied the growth ratio of the companies for the current period, considering long term profitability. The result of their study indicated that there is a positive relation between capital growth and profitability.

Debt ratio to asset

Because of financing through the debt, managers of the companies would like to fullfill the financial needs of the company in this way. However, financing through the debt would result in benefit cost which causes the companies spend a part of their revenues for financing costs in the future years. Therefore, their future profitability will be declined (Seyednezhad and Aghaei, 2002).

Advertising costs

The purpose of advertising is to introduce the products to the customers and through the advertisements they will be informed of the quality, price and the services of the companies. It will help the customers to choose a product based on the information they have received. Thus, advertising has a direct influence on sale and accordingly increase in sales influences result in the company benefit (Robinson 1996).

Tax

The companies' experience on an efficient taxation system have indicated that high tax resources ratio to non-tax resources significantly prevents some undesirable economic influences. In another word, an efficient tax system insures the economic system against the risks. Furthermore, taxation is the most important means of the state's financial policy of which accelerate the process of economic growth. Likewise, it is one of the most stable and general resources of revenue in a government. The government revenue includes tax revenues, revenues gained from selling the oil, gas and other revenues. For many years, after oil revenues, taxes are considered as the main resource of revenues can be used as a part of the financial return for applying macroeconomic investment (Baghaei *et al.*, 2003, p. 173).

Stability and continuity in tax collection would cause the stability in government planning. The change in the government economics — and consequently, the change in the method of the production and distribution of the revenue and the wealth — requires reviewing and revising types of the taxes and the collection methods. Today, almost 90 to 95 percent of the general government costs are covered through taxation, in developed countries (Ahmadi, 2006). On the other hand, considering the studies over Iran's potential tax capabilities, it has been determined that there is a considerable gap between potential tax capabilities and actual tax collections. Therefore, considering the said importance, the budget should be more dependent upon tax returns in order to have a safe economy. Apart from the main role of taxes; supplying financial resources, taxes are an effective tool for increasing the government investment. Taxes are caused different revenues which are dependent upon the tax base (source). Considering that the tax changes the production incentives, savings and consumption, according to an economic basis, the people adjust their behaviors, consequently. Hence, the tax-based economic is not impartial and it influences the private economic decisions. The economic basis for the use of resources would be impartial, since one can replace other activities for the taxable activities (Poormoghim, 2006). So, in order to adjust the tax rate in every unit, the government has to carefully take actions to motivate the production units to produce. Assuming any goal, making the change in revenues and costs related to tax systems, the government has practiced a financial policy. The financial policy has been applied through tax system means, followed by revenues and stability effects at the macroeconomic level. Also, in micro level, it influences on the matter of resource allocation and product (revenue) distribution.

Any type of tax policy be chosen by the government, would have various economic consequences. Theoretically, because the output of an economic system derives from thousands of decisions have been made by the people and the government for different cases. The overall outcome of these decisions indicate dynamicity and performance of an economic system; the government decisions over financial and monetary policies, construction costs, current costs as well as households' decisions for consumption basket, the labor's decision to work or rest, investing decision to choose the investment

projects depend on the tax rate in every unit. Consequently, noticing this variable and by encouraging the investors to the matter of production, the government can provide a background for increasing the companies' profitability.

Considering that the rate of the tax return can influence on the economic and financial indices of the companies, eventually added value rate of the company, and ultimately, profitability indices. Here, the Laufer's theory, which discusses about the relation between tax percentage and economic growth index (in both macro and micro level of the firm), is studied.

Review of Literature

In an article subjected studying the relationship between the profit and profitability management of the companies listed in Tehran Stock Exchange, Vali Khodadadi, Reza Janjani (2011) have stated that the paper provides evidences about the existence of the smoothing phenomenon and profit management in Tehran Stock Exchange (TSE). In this research the companies have been categorized into two profit smoothing group and non-smoothing group, in order to determine the profit management. Moreover, for assessing research hypothesis, single variable and logistic regression models are applied. The results gained from the estimation of single variable models shows that the companies of which practiced profit management rather than those of which have not practiced profit management, have had weaker performance at the operational net profit level, higher growth in profit level before taxation and net profit, greater in net profit level and finally higher profit level in every share dividend rate. Likewise, the results achieved from the logistic model show that the companies have practiced profit management, have had higher growth and lower efficiency.

Graham (2013) studied "Does the taxation have any impact on the company's decision making? Critics and Analysis". He concluded that company's taxation and personal taxes affect the capital structure of the internal multinational, debt maturity, refund policy, compensation policies, profit management, rent, wage, retirement, participation in research and development, tax firms, pricing, organizational forms and taking the exterior profits back. A hypothesis for every single subject, including how tax can have any influence on company's decision making and the company's value, has been studied. The purpose is studying experimental evidences related to the subject which is not solved yet. Generally, the researches

over the subject of tax support the hypothesis; high tax rates are policies are taken against tax incentives. Yet, there are many problems which are not solved, for example, are the tax charges considered of importance primarily? Why the companies do not seriously follow the tax advantages and privileges? And, how the tax affects investment level influence on big companies' actions? These are the most important unanswered questions.

Woo *et al.* (2012), in a research entitled "political relations, tax advantages and companies' performances: examples from China" studied the effects of various political relations on the company performance, including stated-own enterprises (SOEs) and companies in private sector in this country. By using data related to Chinese companies during 1997 to 2007, it is interpreted that private enterprises with political leaders have better performance than the enterprises without such leaders, while, local SOEs with political leaders do not have the same performance; opposite result. It is said that private enterprises with political leaders are benefitted from tax advantages, while, local SOEs are at risk for excessive investment. The results of this study are compatible with the findings of the previous studies with respect to the effects of political connections on the company performance.

Armstrong *et al.* (2012), in a research titled "Incentives of Executing Tax Programs" studied the relationship between tax management incentives with accounting standards, the effective rate of tax on cash, difference between book and taxable profit, and tax rate by using specific information related to managers' reward. Evidences from this study suggest that the incentive reward for financial managers has a strong negative relation with financial effective rate — however, there is a weak positive relation with other variables. It is interpreted that for declining the level of tax costs reported in financial statements, the financial managers have a strong incentive.

In another study done by Gotti and Mastrolli (2012), the qualitative effects of reporting tax exemption for foreign private publishers was taken into account. The differences in financial reporting between the companies periodically required to complete the financial reports and the companies being exempted from providing financial reports were evaluated. To do this, three different methods of quality assessment were studied: conservatism, abnormal accruals, revenue forecast. The results indicate that for all three methods, there are different

qualities of financial reporting for both enterprises required to complete the tax reports and the enterprises exempted from this. Also, some empirical evidences of the relationship between completing financial reports and qualitative reporting for foreign enterprises have been indicated in this research.

In an article entitled "Information and Communication Technology and Profitability in Nigerian Banks", Oghbeladeh (2011) stated that the role of the information for reaching organizational different goals cannot be considered too unimportant. Contemporary business environment is very dynamic along with experiences achievements; influenced from rapid changes considering creativity, innovation, technology changes and understanding increase. Business organizations, particularly the banks, are in a competitive battle where the conditions are always in change so that with respect to the economics, it is so unpredictable and by developing Information and Communication Technology (ICT) it is always changing. Using the information achieved from questionnaire in selected banks in south Nigeria and by applying economic assessment methods, the author of this article has tried to study the nature of the relationship between bank profitability and ICT. Analyzing the results shows that there is a positive solidarity between ICT and banks profitability in Nigeria. It means that a little changing in the level of investment and approving ICT in banking industry will result in proportional increase in the level of profitability.

In an article under the title of "the connection between revenue smoothing, tax on revenue and profitability ratios In Karachi Exchange Market", Lucaman (2012) has studied the connections between revenue smoothing and the tax ratio on revenue and profitability — it means Return on Assets (ROA) and Return on Equity ROE. For the first time in this study, by using the financial information of the listed companies in Karachi Stock Exchange, it is tried to differentiate between enterprises with smooth revenue and the enterprises with fluctuant uneven revenues using Eckle index. Having applied needed changes, statistical population consisting of 168 enterprises listed in Karachi Exchange during 2001-2007 have been analyzed. Independent variables include tax on revenue and profitability ratio of ROA and ROE, and dependent variables include smooth variable of revenues. The main findings of this study show that there are significant relationship among smooth revenue, tax on revenue and the profitability ratio of the enterprise.

In May 1997, when The White House and the US congress agreed to decrease the tax rate on the profit, the stock price and stock efficiency moved oppositely. Long, Douglas and Shackelford (2000), empirically studied this matter in an article subjected "the capital exempted from tax on profit: an evidence of stock price reaction to the rate decrease in 1997", the research findings are consistent with expected rate for tax on stock profit. In order to justify the matter, there are two scenarios:

First, because it is expected from rate of return to be taxable, a decrease in taxable capital profit would result in increase in the market value. Second, due to long-time holding a share by the individuals, the reduction in tax rate on capital profit would result in increase in value of stock market.

Research models

Due to the subject of the article, the applied model in this research is as follow:

$$\text{ROAi} = \beta_0 + \beta1\ \text{Indi} + \beta2\ \text{Sizei} + \beta3\ \text{Ageli} + \beta4\text{DAi} + \beta5\text{CA} + \beta6\ \text{Mi} + \text{Uj1} \tag{1}$$
$$\text{ROATi} = \beta_0 + \beta1\ \text{Indi} + \beta2\ \text{Sizei} + \beta3\ \text{Ageli} + \beta4\text{DAi} + \beta5\text{CA} + \beta6\ \text{Mi} + \text{Uj2} \tag{2}$$
$$\text{ROEi} = \beta_0 + \beta1\ \text{Indi} + \beta2\ \text{Sizei} + \beta3\ \text{Ageli} + \beta4\text{DAi} + \beta5\text{CA} + \beta6\ \text{Mi} + \text{Uj3} \tag{3}$$

where the variables of the above models are:

RAOi is the profitability based on the return on assets, *ROATi* is the profitability based on the return on assets by adjusting the financing costs, *ROEi* is the profitability based on the return on capital, *Sizei* is the size of the company, *Agei* is the age of the company, *Dai* is the ratio of capital to asset, *CAi* ratio of debt to asset, and *Mi* is the tax.

By these models, the significance of the coefficients of each variable has been evaluated. In case every β coefficient becomes significant, considering the related test, it is interpreted that the variable is effective on the profitability.

Research population

For generalizing the sample size, attending to population regulations are not just enough. But, some factors such as costs, facilities and the time influence on determining the sample size should also be considered. In applied researches, the closer the sample size to the total number of inclusive members, the more reliable the results of the study.

The population study of the present study has been selected among the listed companies listed in TSE from 2004 to 2010, with the following conditions: The company is of Investment Company. In

financial year of 2004 to 2010, the company has an ongoing presence in exchange. The end of their financial year is every year March 20th and during the mentioned period no change should be applied in the financial year. In all examined years, the required information and data of the company are available at the end of each financial year. Based on the studies, 89 companies among the companies listed in TSE, were included in the study. Considering the limitations in population sample, it has to be mentioned that some industries don't have a representative.

Model Estimation

Data Multicollinearity Test

This test is performed to evaluate multicollinearity between independent variables considering the following study hypotheses:

H_0: Independent variables are multicollinear.
H_1: Independent variables are not multicollinear.

Based on results of the table 1, all independent variables, except capital ratio to asset and debt ratio to asset, do not have multicollinearity. Because, considering statistics value (sig) and comparison with the critical value at the error level %5, it is seen that the test statistics has been located in the rejection area of H_0. However, for both variables of ratios of capital to asset and debt to asset, considering the test statistics value (sig) and comparison with the critical value at error level %5, the said statistics have been located at the acceptance area of H_0. As the result, both variables have multicollinearity (-1). Accordingly, both variables cannot be entered in the model even in a simultaneous multivariable regression. Therefore, the regression has been done in 2 steps. Because of multicollinearity between two variables of ratios of capital to asset and debt to asset, one of them is put aside and the test was done. Then, at the first regression of the variable of debt ratio to asset is involved with the model and the variable of capital ratio to asset is excluded from the model.

Table 1. Information about the multicollinearity of independent variables

		da	Ca	ag2	Ind	Size	Tax
da	Pearson Correlation	1	-1.000**	.021	-.084*	-.023	-.073
	Sig. (2-tailed)		.000	.604	.036	.568	.070
	N	623	623	622	623	623	623
ca	Pearson Correlation	-1.000**	1	-.021	.084*	.023	.073
	Sig. (2-tailed)	.000		.604	.036	.568	.070
	N	623	623	622	623	623	623
ag2	Pearson Correlation	.021	-.021	1	.013	.136**	.005
	Sig. (2-tailed)	.604	.604		.744	.001	.910
	N	622	622	622	622	622	622
ind	Pearson Correlation	-.084*	.084*	.013	1	.075	.228**
	Sig. (2-tailed)	.036	.036	.744		.063	.000
	N	623	623	622	623	623	623
size	Pearson Correlation	-.023	.023	.136**	.075	1	-.223**
	Sig. (2-tailed)	.568	.568	.001	.063		.000
	N	623	623	622	623	623	623
tax	Pearson Correlation	-.073	.073	.005	.228**	-.223**	1
	Sig. (2-tailed)	.070	.070	.910	.000	.000	
	N	623	623	622	623	623	623

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Model Estimation using pooled data

First, by Lymer F-Test the research is evaluated in terms of panel data that all models the panel data are verified by using the method of fixed effects. Then the model estimation was reviewed based on these results.

The first model estimation

The summary of the results of regression estimation is provided in the Table 2. The coefficient of determination shows the explanatory power of the model as %87, and Durbin Watson statistics indicated non autocorrelation.

Table 2. Results of regression estimation combined for 2004 to 2010

Significant coefficient	T-statistics	Standard deviation	Coefficient	Variables
$ROAi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4DA\ i + \beta5\ M\ i + Uj1$				
0.0000	14.70807	0.061265	0.901095	C
0.0000	-14.29946	0.018330	-0.262113	DA
0.6561	0.445500	0.001277	0.000569	AG1
0.0253	-2.242534	3.78E-07	-8.48E-07	IND
0.0000	13.91383	0.004620	0.064275	SIZE
0.0443	-2.462073	1.42E-08	-3.50E-08	TAX
$R^2 = 0/87$ Adjusted $R^2 = 0/85$		D.W = 1/89 F = 39/42 Probe F = 0/00		

Source: Research findings

The results of the model estimation are as follow:

Debt ratio to asset had negatively significant effect on the profitability index of ROA.

The age of the company had positive and insignificant effect on the profitability index of ROA.

The industry type had a negatively significant effect on the profitability index of ROA.

The size of the company had a positively significant effect on the profitability index of ROA.

The tax had a negatively significant effect on the profitability index of ROA.

The second model estimation

The second model estimation can be found in Table 3. The coefficient of determination shows the explanatory power of the model as %87, and Durbin Watson statistics indicates non autocorrelation. The results of

Table 3. Results of regression estimation combined for 2004 to 2010

Significant coefficient	T-statistics	Standard deviation	Coefficient	Variables
$ROAi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4CA + \beta5\ M\ i + Uj1$				
0.0000	19.15235	0.060734	1.163208	C
0.0000	14.29946	0.018330	0.262113	CA
0.6561	0.445499	0.001277	0.000569	AG1
0.0253	-2.242532	3.78E-07	-8.48E-07	IND
0.0000	13.91383	0.004620	0.064275	SIZE
0.0443	-2.462073	1.42E-08	-3.50E-08	TAX
$(R^2) = 0/87$ Adjusted $R^2 = 0/85$		D.W= 1/89 F = 39/42 Probe F = 0/00		

Source: Research findings

The model estimations are as follow:

Debt ratio to asset had a positively significant effect on the profitability index of ROA.

The age of the company had positive and insignificant effect on the profitability index of ROA.

The industry type had a negatively significant effect on the profitability index of ROA.

The size of the company had a positively significant effect on the profitability index of ROA.

The tax had a negatively significant effect on the profitability index of ROA.

The third model estimation

The results of the second model estimation can be found in Table 4.

Table 4. Results of regression estimation combined for 2004 to 2010.

Significant coefficient	T-statistics	Standard deviation	Coefficient	Variables
span				
0.0000	12.15188	0.075799	0.921096	C
0.0000	-12.38479	0.020658	-0.255850	DA
0.0967	1.773730	0.001489	0.002641	AG1
0.0000	-16.10776	4.97E-07	-8.00E-06	IND
0.0000	10.29608	0.005727	0.058967	SIZE
0.0014	-3.214068	1.32E-08	-4.26E-08	TAX

$ROATi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4DA\ i + \beta5\ M\ i + Uj1$

$(R^2) = 0/86$
Adjusted $R^2 = 0/83$

D.W= 1/89
F = 35/71
Probe F = 0/00

Source: Research findings

The coefficient of determination shows the explanatory power of the model as %86, and Durbin-Watson statistics indicated non autocorrelation. The results of the model estimation are as follow:

Debt ratio to asset had a negatively significant effect on the profitability index of ROAT.

The age of the company had positive and insignificant effect on the profitability index of ROAT.

The industry type had a negatively significant effect on the profitability index of ROAT.

The size of the company had a positively signifi-

cant effect on the profitability index of ROAT.

The tax had a negatively significant effect on the profitability index of ROAT.

The forth model estimation

The results of the second model estimation can be found in Table 5.

The coefficient of determination shows the explanatory power of the model as %86, and Durbin-Watson statistics

Table 5. Results of regression estimation combined for 2004 to 2010

Significant coefficient	T-statistics	Standard deviation	Coefficient	Variables
0.0000	15.80849	0.074450	1.176947	C
0.0000	12.38479	0.020658	0.255850	CA
0.0967	1.773731	0.001489	0.002641	AG1
0.0000	-16.10776	4.97E-07	-8.00E-06	IND
0.0000	10.29608	0.005727	0.058967	SIZE
0.0014	-3.214068	1.32E-08	-4.26E-08	TAX

$ROATi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4CA + \beta5\ M\ i + Uj1$

$(R^2) = 0/86$
Adjusted $R^2 = 0/83$

D.W = 1/89
F = 35/71
Probe F = 0/00

Source: Research findings

The results of the model estimation are as follow:
Debt ratio to asset had a positively significant effect on the profitability index of ROAT.

The age of the company has a positive non-significance with the rate of %95 on the profitability index of ROAT.

The industry type had a negatively significant effect on the profitability index of ROAT.

The size of the company had a positively significant effect on the profitability index of ROAT.

The tax had a negatively significant effect on the profitability index of ROAT.

The fifth model estimation

The results of the second model estimation can be found in Table 6. The coefficient of determination shows the explanatory power of the model with the rate of %35, and Watson Tele statistics indicates non autocorrelation.

Table 6. Results of regression estimation combined for 2004 to 2010

$ROEi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4DA\ i + \beta5\ M\ i + Uj1$				
Significant coefficient	**T-statistics**	**Standard deviation**	**Coefficient**	**Variables**
0.0110	2.551525	0.639391	1.631422	C
0.6994	-0.386308	0.215172	-0.083122	DA
0.8405	0.201406	0.006872	0.001384	AG1
0.0039	-2.901928	2.98E-06	-8.66E-06	IND
0.0085	2.642872	0.045383	0.119941	SIZE
0.0129	-2.368217	1.61E-08	-3.79E-08	TAX
$(R^2) = 0/35$ Adjusted $R^2 = 0/23$			D.W= 1/73 F = 3/06 Probe F = 0/00	

Source: Research findings

The results of the model estimation are as follow:

Debt ratio to asset has a negative non-significant effect on the profitability index of ROE.

The age of the company has a positive non- significant on the profitability index of ROE.

The industry type had a negatively significant effect on the profitability index of ROE.

The size of the company had a positively significant effect on the profitability index of ROE.

The tax had a negatively significant effect on the profitability index of ROE.

The sixth model estimation

The results of the second model estimation can be found in Table 7. The coefficient of determination shows the explanatory power of the model with the rate of %35, and Durbin-Watson indicates non autocorrelation.

Table 7. Results of regression estimation combined for 2004 to 2010

$ROEi = \beta_0 + \beta1\ Indi + \beta2\ Size\ i + \beta3\ Agel\ i + \beta4CA + \beta5\ M\ i + Uj1$				
Significant coefficient	**T-statistics**	**Standard deviation**	**Coefficient**	**Variables**
0.0051	2.811435	0.550714	1.548298	C
0.6994	0.386309	0.215172	0.083123	CA
0.8405	0.201406	0.006872	0.001384	AG1
0.0039	-2.901931	2.98E-06	-8.66E-06	IND
0.0085	2.642869	0.045383	0.119941	SIZE
0.0129	-2.368217	1.61E-08	-3.79E-08	TAX
$(R^2) = 0/35$ Adjusted $R^2 = 0/23$			D.W= 1//73 F = 3/06 Probe F= 0/00	

Source: Research findings

The results of the model estimation are as follow:

Debt ratio to asset has a positive non-significant effect on the profitability index of ROE.

The age of the company has a positive non- significant on the profitability index of ROE.

The industry type had a negatively significant effect on the profitability index of ROE.

The size of the company had a positively significant effect on the profitability index of ROE.

The tax had a negatively significant effect on the profitability index of ROE.

According to Kit's word (1994), tax on enterprises performance in Stock Exchange is practiced in two methods: first, to the total supply of the main factors of the production with decrease in net return (after tax reduction) or the profit and in the second step on the efficient use of tax system resources on revenue. Tax system introduces a single way that provides unequal and incomplete conditions on tax fairness for different companies. In order to encourage the listed companies in Stock Exchange for production, different rates of tax could plan to increase the production and their profitability, and generally, increasing the rate of company's revenue, tax returns would increase in long term. Accordingly, creating different rates, planning and practicing accurate tax policies, the government could set the circumstances for increasing the production in the country and could cause to increase the rate of tax collections. As it was mentioned in chapter 2, it was expected that the connections among the effective rate of the tax of enterprises — listed in Stock Exchange — in growth and profitability were effective; as they were so (Raymond and Jacob, 2002). Dalton (1991) pointed out that the tax would cause to reduce the efficiency and accordingly, influence on their qualifications to do the job. Ultimately, it can be effective on the matter of production as well as growth and profitability of the companies' investment. The companies with higher growth rather than companies with lower and smaller growth are less probable to find problems with respect to the status of the tax on the revenue — this conclusion is consistent with Hanford *et al.* (2003) findings. Hendi (2003) believes that financial policies can be led to facilitate the business for small enterprises, through developing efficiency. He argues that the weak tax regulations operates as an obstacle on the way of this matter and prevents to achieve the goal. Tax on business, the adaption cost for the government regulations, and the most important issues in investment and the performance is investment in small companies. The simpler tax systems are known as an essential term, by businessmen, for supporting investment activities in connection with smaller com-

panies. Being at the initial levels of development and investment, the companies are very limited with regards to job creation and entrepreneurship. Therefore, the tax system should consider the conditions of these companies, because any unplanned tax status could result in negative issues on the companies' production (Prinisnov, 1996). Renika and Sonson Sun (1998) have compared the rate of profitability and investment among African companies. They have observed that the investment rate in Uganda is similar to the other African countries. However, the rate of profitability is %56 lower than other countries. They have argued that beside other limitations, heavy taxes increase this difference too much, while, Sona (2002) presents a different idea from others'. She expresses that tax on the probable revenue is not always effective; because, the developing countries lack enough resources for analyzing the profitability of different activities that ultimately, would not be effective on the business of small companies.

Conclusions and recommendations

The results of the research are as follow: The test results indicate that the type of the company influences the profitability. This result is not consistent with the results of the research made by Hansen and Wernerfelt (1989), Rumlet (1991) and Akah and Chee (2007). However, it conforms to research results of Shmalinsy (1985), Mc Gahan and Porter (1997), Wernerfelt and Montomiri (1988), Cubien and Grosky (1987), Chong and Sing (2000), Clave *et al.* (2002), Orlorita and Friddan (2007).

The test results showed that there is a positive relation between the size of the company and its profitability. The results of this test are inconsistent with research results of Majomdar (1997), Comonen (2000), Kinka *et al.* (2007), and Laurane *et al.* (2006). But they are consistent with research results of Raytold and Shipher (1995), and Finni (2000).

The test results indicated that there is no relationship between the age of the company and the profitability. The said results conform to Raytold and Shipher's (1995) findings. However, they are inconsistent with research result of Majomdar (1997).

The test results showed that there is a positive relationship between capital ratio to asset and profitability. The mentioned results are consistent with research results of Davidson and Davita (1991), Balentine *et al.* (1993), Grosky *et al.* (1997), Ichivaria (1997), Hogez (1997), and Vee Fiew *et al.* (2000).

The test results presented that there is a negative relationship between debt ratio to asset and profit-

ability. The above said results are consistent with research results of Davidson and Davita (1991), Balentine *et al.* (1993), Holmz *et al.* (1947), Chehab (1957), Hogez (1997), and Vee Fiew *et al.* (2000) Leen and Rovey (2005), Chen and Strong (2005), Airots (2007). However, they do not conform to the research results made by Rajan and Zingales (1995).

The test results indicated that tax on profitability has a negative significant effect. The results conform to research results of Gordon, Horiz and Mirez (1961), Graham (2013), Woo *et al.* (2012), and Liocman (2010).

Therefore, the following recommendations are presented according the results achieved from this article:

The research results indicated that debt ratio to asset has a negative effect on profitability. When designing capital structure of the company and the way of financing required resources, the managers are recommended to pay a serious attention to this matter. They should try to consider the cost benefit analysis while using bank loans. Additionally, while buying or selling the shares, investors and shareholders should consider the debt ratio on asset as a critical parameter. They should adjust their own investment decisions according to the said ratio.

The research results showed that tax on return has a negative significant effect. Accordingly, it is recommended to directors and those who program the country to draw up rate of the tax on production units more carefully. Also, to increase the capabilities and encourage the investors, the statesmen should consider necessary tax exemption to develop the productivity and profitability in the country.

The research results presented that in Iran, unlike the other countries, the effect of the age of the company is negative. It is critical for the directors to consider the human resources seriously and enrich their employees' experience by planning and training while working.

In this research, variables of size (sales rate) and capital ratio on asset with the profitability of the company have positive effects. The investors are recommended to notice these two parameters, when buying and selling the shares, and adjust their decision due to these issues.

References

Acquaah, M & Chi, T. (2007). A Longitudinal analysis of the impact of firm resources and industry characteristics on firm -specific profitability. *Journal Management Governance*, *11,* 179- 213.

Agbolade, O. K. (2011). Information and communication technology and banks profitability in Nigeria, *Australian Journal of Business and Management Research*, *1(4),* 102-107.

Bagheri, Hassan (2001). Effective Factors Analysis on Banks' Commercial Profitability, *Publication: Economics of Financial Research*, *21.*

Bokhari, J., C., Hudson, R., & Keasey, K. (2005). The Predictive ability and Profitability of technical trading rules: Does company size matter? *Economics Letters*, *86,* 21-27.

Caloghirou, Y., Protogerou, A., & Spanos, Y. (2004). Industry-Versus Firm specific Effects on Performance: Contrasting SMEs Large-sized Firms, *European Management Journal, 22(2),* 231–243.

Chen, J., & Strange, R. (2005). Determinants of Capital Structure: Evidence from Chinese Listed Companies. *Economic Change and Restructuring, 38,* 11-35 .

Cinca, C., Molinero, C., & Larraz, G. (2005). Country and size effects in financial ratios: AEuropean Perspective. *Global Finance Journal, 16,* 26-47.

Claver, E., Molina, J., & Tari, J. (2002). Firm and Industry Effects on Firm Profitability: A Spanish Empirical Analysis, *European Management Journal*, *20 (3),* 321–328.

Davani, Gh. (2002). Collection of Direct Tax Law 2002, Tehran: Kiomars Publication.

Donghua Chen, Yongjian Shen, Fu Xin, & Tianqin Zhang (2012). Overemployment, executive pay-for-performance sensitivity and economic consequences: Evidence from China. *China Journal of Accounting Research*, *5(1),* 1-26.

Dursun Delen, Cemil Kuzey, & Ali Uyar (2013). Measuring firm performance using financial ratios: A decision tree approach , *Expert Systems with Applications*, *40(10),* 3970-3983.

Eskandari, M. (2010). Expected Effects of Tax Reintroduction on Total Revenue in Iran Economics, *Seasonal Research Journal of Tax*, *14 (62).*

Eriksen, B., & Knudsen, T. (2003). Industry and firm level interaction Implications for profitability. *Journal of Business Research, 56,* 191– 199.

Eriotis, N. (2007). How firm characteristics affect Capital structure: an empirical study. *Managerial Finance. 33(5),* 321- 331.

Esther, G., 2006. Targeted advertising strategies on television. *Management Science, 52,* 713-725.

Giorgio Gotti, & Stacy Mastrolia (2012). The Effect on Financial Reporting Quality of an Exemption from the SEC Reporting Requirements for Foreign Private Issuers , *The International Journal of Accounting*, *47(1),* 44-71.

Gojraty D. (2008). Principles of Econometrics (H.Abrishami, Trans.), 2nd Volume, Tehran University, Publications and Printing Institute of Tehran University, Tehran.

Han, B. H., & Mannry, D. (2004). The value relevance of R&D and advertising expenditures: Evidence from Korea. *The International Journal of Accounting*, *39*, 155-173.

John R. Graham (2013). Do Taxes Affect Corporate Decisions? A Review, *Handbook of the Economics of Finance*, *2(A),* 123-21

Khaki, Gh. (2008). *Research Approach with Regards to Thesis Composing,* Baztan Publications, eighth edition.

Khanli, Sh. (2010). Studying effective factors on Tax Evasion, Selective Examining in East Azerbaijan Province, *Seasonal Research Journal of Tax*, *36.*

Khodadadi, V., & Janjani, R. (2011). Studying the relationship between the profit and profitability management of the companies listed in Tehran Stock Exchange, *Financial Accounting Studies Magazine*, *1(7),* 77-96.

Khorshidi, A., & Ghoreishi S.H. (2002). Guidelines for Writing paper and Educational Thesis (Hypothesis to Execution).

Lawrence, D., Diewert, W & Fox, K. (2006). The contributions of Productivity, *Denis. Journal Prod Anal*, 26, 1-13.

Lee, C. (2002). Advertising, its determinants, determinants, and market structure. *Review of Industrial Organization*, 21, 89- 101.

Mark H. Lang, Douglas A. & Shackelford , 2000. Capitalization of capital gains taxes: evidence from stock price reactions to the 1997 rate reduction, *Journal of Public Economics*, 76(1):69-85.

Mojtahed Ahmadian, A. (2007). Effect of Government Tax Returns on Iran's Social welfare, *Tax special edition (1),* 45-71.

Mohammadi, M. (2012). Effect of Working Capital Management on Companies Profitability at the Society of Companies listed in Tehran Stock Exchange, Accounting and Specialized Articles.

Mashayekhi B., Mehran Sasan, K., & Karami Gh. (2005). Optional Accrual Function in Profit Management of the Companies Listed in Tehran Stock Exchange, *Accounting and Auditing Studies Seasonal Publication, Modiriat University, Tehran University, 12(42).*

Navidi, H., Tayebnia, A., & Eskandari, Z. (2010). Vertex Detection System in an Ideal Tax System, *Seasonal Tax Research Journal*, *43,* 9.

Namazi, M. (2004). Examining the Relationship between Financial Ratios and Stock Return Rate of the Companies Listed in Tehran Stock Exchange, *Accounting and Auditing Studies Magazine, 44,* 105-127.

Organization of Tax Affairs (1997). *Studying Tax Capability of the Country, administrative variables related to tax structures*, Publication 224.

Parsaeian, A., & Jahankhani, A. (1997). *Investment Management and Securities Assessment (first edition),* Management Faculty Publications of Tehran University.

Porgholami Danchahi, Gh. (2009). Examining the Effective Factors on System of Financial Resources Attraction in Bank Sepah and Providing Suitable Solutions for Optimising it, MS Thesis, Islamic Azad University, Hamadan Unit.

Pajooyan J. (2009). Public Sector Economics, Taxes. Public Sector Economics (Taxes), eighth edition, 424.

Rana A. L., & Fakhar Sh. (2012). An Association between Income Smoothing, Income Tax And Profitability Ratios in Karachi Stock Exchange (An Empirical Investigation), *Interdisciplinary Journal Of Contemporary Research In Business*, *3,* 9.

Saghafi, A., & Aghaei, M.A. (1994). Behavior of Accounting Profit, *Studying Accounting and Auditing, 9*, 5-21.

Sarmad, Z. (2006). Research Approaches in Behavioral Sciences, Agah Publications.

Sajadi, S.H., Dastgir, M., Farazmand, H., & Mahmoudi, V. (2007). Effective Factors on Profitability of the Companies Listed in Tehran Stock Exchange, *Seasonal Journal, 80,* 250.

Seyes Nourani, S.M., Amiri H., & Mohammadian A. (2012). Casuality Relationship between Bank and Profitability, emphasizing on Supervising Aspect of the Capital Structure, *Researches over Economic Growth and Development*, *2(6),* 11-44.

Seyed Nezhad Fahim, R., & Aghaei, M. (2002). The Role of Borrowing in Companies' Profitability, M.S. Thesis, Tarbiat Wenfeng Wu, Chongfeng Wu, Chunyang Zhou, Jun Wu, (2012), Political connections, tax benefits and firm performance: Evidence from China, *Journal of Accounting and Public Policy, 31(3),* 277-300

Yazdani Dehnavi, M. (2005). Effective Characteristics on Banks and Financial Institutes Success for Equipping Monetary Resources, *Manager Maker Magazine*, *17,* 65 -78.