

## **The Relationship between Number of Shareholders and Financial Changes in Firms Listed in Tehran Stock Exchange**

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### **Abstract**

Capital market as one of the pillars of the financial market can play a significant role in mobilizing capital and financial resources for the efficient allocation of resources to growth and economic development of countries. The role and importance of the financial system in the process of growth and economic development is so considerable that that the difference between developed and underdeveloped economies can be attributed to the degree of effectiveness and efficiency of their financial system. Among many factors that affect production and investment, the existing rules and regulations have a significant impact on the amount of investment. Besides, of rules and regulation affecting production, tax laws play an important role in the process of production and investment and their recessions or booms. As such, the main aim of the present study was to investigate the relationship between changes to Article 105 of Direct Taxes Act on the number of shareholders in firms listed in the Tehran Stock Exchange over 1996-2011. Using an event study, changes in the number of shareholders were in the years before and after this change were assessed. To this end, changes to Article 105 of Direct Taxes Act were used as a dummy variable. That is, the value of this variable was set zero for years before 20 March 2002 and 1 for years after to the same date. Given the type of the data collected and the available methods of data analysis, mixed data were used to estimate model parameters and test research hypotheses. The results showed that there is a negative relationship between changes to Article 105 of Direct Taxes Act and the number of shareholders.

**Keywords:** changes to Article 105 of Direct Taxes Act, number of shareholders

### **Introduction**

Barriers to market development, lack of advanced and innovative technologies to improve the efficiency and quality of production, barriers of attracting domestic and foreign markets, and the existence of cumbersome rules in producing and selling products or finding new markets are among main challenges faced by production and investment sectors in Iran. Among the many obstacles to production and investment, an obstacle whose elimination is more important and at the same time more practical is changing and reforming existing laws and regulations. In fact, the existence of cumbersome and inefficient laws and regulations can hamper production and induce investors to withdraw from the production activities and move towards brokerage or short-term activities. Among laws effective on production, tax laws play an important role in the process of production and investment and their prosperity or decline. On the other hand, tax is regarded as one of the most important issues in any society. Tax laws are considered mother economic laws and may be considered to be an important part of the government's economic policies. Tax laws not only guarantee tax revenue for the state, but also are considered as an important tool of fiscal policy to achieve economic and social goals. For example, tax leverage is employed as a factor in the adjustment of income, wealth, the achievement of social justice and the desired economic growth and development in any society. Therefore, an investigation of tax laws is of utmost importance. In order to provide the contexts and incentives for investment and employment, efficient governments dynamically modify and amend their rules and regulations. On of such reform the reform of Direct Taxes Act in 2001 in Iran. Accordingly, active and successful companies implement appropriate changes in their policies and strategies in order to take advantage of the opportunity. The outcomes of changes in policies and strategies can be evaluated after several years through the analysis of historical data.

### Significance of the study

Company managers choose their capital structure in a way that it increase the value of the company. Nevertheless, companies choose different levels of financial leverage to achieve an optimal capital structure. There are a number of financial theories that may somehow contribute to understanding how to choose a combination of financings affecting corporate value (Eriotise, 2007). According to leverage theory, as a result of information asymmetry between the parties with confidential information (within the organization and outside the organization) companies prefer to invest first through domestic sources, then by debt, and finally by common stocks. One of the issues faced by companies listed in the stock exchange is capital structure. The question that what volume of capital structure and what amount of equities must be selected finally as the optimal capital structure, thereby minimizing the cost of financing or the cost of capital and thus increasing the market value of the firm stocks has been for long a major concern for firms.

Adjustments to the capital structure can be used to reduce taxes on investment. Tax on investment income and debts in different countries is different. At the corporate level, interest payments reduce taxable profit and at the shareholder level, the effective tax rate on dividends and interest income are different. Therefore, tax benefits from various financing sources affect financing decisions. Theories suggest that both corporate income tax and personal taxes should be analyzed in terms of the impact of taxes on selecting capital structure. However, it should be considered that in a market that is a very competitive and companies should behave so as to maximize profits, the effective tax rate provides important information in the decision to invest or not (Chen, 2000). In 2001, in Iran some provisions of the Direct Taxes Act including the corporate income tax rate were changed and reformed. According to the 1987 Act, corporate tax rate was 10%. When companies such as exchange companies were attempting to identify profits and pay the related tax, they calculated dividends after tax for each individual shareholder. Then, they based on shareholding rate (number of shares), the shareholder's annual income was calculated and hos tax was deduced in a stepwise manner in accordance with the former Article 131, so that the higher the individual income (dividends accrued), the higher his marginal tax rate. This makes people to find legal ways of tax evasion when purchasing shares in the name of numerous relatives and acquaintances so that they benefit from more tax breaks with low tax rates when receiving dividends. After the reforms made in Article 105 of Direct Taxes Act<sup>1</sup>, the corporate tax rates including those of operating in the stock exchange increased from 10% to 25% and dividends to shareholders (whether natural or legal) became tax-free dividends (Clause 4 of Article 105; Direct Taxes Act). Accordingly, the research hypothesis is formulated as follows:

**Hypothesis:** There is a significant relationship between changes in tax rates and the number of shareholders in stock companies.

### Theoretical Framework

#### 1. Definition of types of taxes

Tax is an amount of money or property paid by the citizens of a country to the government according to the law and is used by the government to supply required public goods and services, ensure public safety and defense, and construction and development of the country.

In terms of their assignment to taxable goods, taxes are divided into two categories: direct and indirect taxes.

**Direct tax:** It is levied without any mediator on individuals, organizations and financial institutions and is collected directly by government officials.

**Indirect tax:** It is collected through a mediator or indirectly from citizens' main source of income. The tax payer can transfer it to other individuals and act as means of tax payment.

3.1.1 Indirect tax: The comprehensive tax law was adopted in 1966 but it went under revisions in 1987 and 1992 due to several problems. However, despite the improvements made, the law could not reduce deficiencies in the tax system. Therefore, the new Direct Taxes Act amendment was approved by the members of the Iranian Parliament upon the calling on behalf of the Parliament and based on the consensus of the Parliament Economic Commission, experts from the Parliament Research Center, independent experts, representatives of the private sector, and the Iranian tax authorities.

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<sup>1</sup> Article 105 stipulates "The sum of corporate income and income acquired from profit activities performed by other legal persons in Iran and abroad after the deduction of losses from non-exempt sources and deduction of exemptions except for cases that have a separate rate in accordance with the provisions of this law, will be taxable at a rate of 25%."

The act was amended last on 16 February 2011 and contains five sections, twenty-seven chapters, and 273 articles dealing with issues such as inheritance tax, stamp duty, property tax, income tax, business income tax, tax on income of legal entities, acceptable cost, tax evidence and factors, general rules, duties of the taxpayers, obligations of third parties, incentives and tax offenses, delivery, collecting taxes, tax detection authorities and their duties and powers, and order of investigation. This amendment was passed to address the deficiencies of the tax system through profound reforms of the 1987 Direct Taxes Act. The new act was decided to come into force in the early 2003. According to Article 1 of Direct Taxes Act, any natural and legal Iranian citizen is taxable to all incomes he/she acquires in Iran or abroad. In the new amendment, the average rate of tax has reduced from 54% to 35%. In the direct tax reform bill, the tax rates for economic activities have reduced. In addition, the previous steps fixed rates have changed into a 25% fixed rate with a decrease in the tax burden of economic entities the received taxes from their earnings. In addition, according to the new bill, some tax cuts that already exist for government corporations and entities are applied equally for all investors and economic activists, both public and private to eliminate discriminatory conditions between public and private institutions. As according to the new amendment which states that the corporate income should not be taxed twice, a single fixed rate of tax is preferred for companies. Consequently, earnings of all private, public, for-profit and non-profit, foreign, or domestic firms will be covered by a 25% tax rate and shareholders and company owners do not have to pay any tax for their received income. As a result, since the profit in investment companies is the same as the profit after tax (net profit) of investee companies they will not be levied with any other taxes. Tax breaks are performed in a purposeful way. As such, all parties such as non-governmental and charity entities are exempted and their subsidiaries and their profit activities will be taxed. In addition, industrial and mining activities in disadvantaged areas will be exempted for 100% of their income within a period of 10 years and 80% of their income from other activities will be subject to the exemption for 4 years. However, the reserves from development and completion plans will not be subject to exemption. In contrast, the companies with capital expenditure for the development, completion, and restructuring can deduce all their capital expenditure for that year from their taxable income. In the case of professional and religious institutions, only their for-profit income they will be taxed. The new amendment has specified the tax assessor organization and its components and tasks in the law. Therefore, the design and implementation of the components and functions of the tax assessor organization have been delegated to the Ministry of Economic Affairs and Finance. The reasons include increased motivation, easy and quick collection of taxes, and communication with people.

## 2. Literature Review

Given the importance of the capital market and the tax rate on investment activities, numerous studies have conducted in Iran and abroad in this regard, some of which are reviewed in this section. Rezapour (2002) conducted a study entitled "The new tax law encourages direct investments and production". The study stated that that income redistribution and the establishment and maintenance of social justice are among the major economic goals pursued by most governments. Tax is a tool that can be used to make redistribution of wealth in the society more equitable and prevent the expanding gap between different income deciles. The most important source of government revenue to finance current expenditures is tax. The higher the share of taxes in financing current expenditures, the government budget will be more stable with less need for borrowing or the sale of national assets. Further, the government will be encouraged to reduce its dominance on the economic affairs and will strengthen its sovereignty. In the meantime, the tax system is of high importance and can meet the needs of sustainable economic development, playing the government key role in the governance, reducing the government' dominance, and the development of economic activities in non-governmental sectors. Besides, the existence of wrong and unsound tax-related rules and regulations can bring about negative socioeconomic consequences. Jahangard(2009) conducted a study entitled "Formulation of Direct Taxes Act in line with the strategy of sustainable development". Building upon the strategy of sustainable development and the global economic conditions, the study analyzed the Direct Taxes Act in Iran. The theory of sustainable developments was analyzed based on growing developments in the economies of the world. Hence, along with changes in the world economic structure, the Iranian economy should be led to the adoption of this strategy in accordance with powerful economic and technical frameworks. In the meantime, one of the tools for implementing the strategy of

sustainable development is the continuous adjustment and reformation of the Direct Taxes Act. Therefore, the present study is going to analyze prerequisites for the adjustment of Direct Taxes Act in line with the strategy of sustainable development. IzadiNia and Rasaeian (2009) conducted a study on capital structure and income tax in a sample of 48 Iranian firms in the Tehran Stock Exchange whose data were available for a 13-year period (1995-2007). To test the research hypotheses, cross-sectional and mixed regression test was used. Besides, autoregressive distributed lag (ARDL) model was employed to test research hypotheses for the entire period under study. Finally, F and t tests were used to determine if the models under study are significant or not. The results of the study concerning cross-sectional and mixed analyses indicated that there was no significant relationship between capital structure and corporate tax in firms listed in the Tehran Stock Exchange. Besides, the results from testing the hypotheses using ARDL and mixed regression showed an insignificant relationship between capital structure and corporate tax. However, this finding is contrary to the results found by Di Angelo and Mazolise (1980), Plesco (1994), Xie (1996), Grap (1997), Gordon and Lee (2001), and Wu and Yue (2007). This shows that contrary to the existing theories, tax changes in the firms in the Tehran Stock Exchange have no effect on corporate capital structure. Schoen (2001) stated that the capital structure of stock companies in the U.S provides little support for theory of sustainable balance theory. Besides, it is assumed that taxes do not play a significant role in determining corporate capital structure. Assuming the nonexistence of income tax, the value of a firm with debt will be the same with that of a firm without debt (a non-leveraged firm). Modigliani and Miller (1963) revised their first theory by including corporate income tax. According to this theory, since borrowing creates a tax shield, firms should be expected to prefer borrowing when selecting among various sources of financing because the increased use of borrowing would increase the corporate value. In other words, the firm will be a function of the value of the firm's debt or financial leverage (Modigliani & Miller, 1963). Concerning the impact of tax on capital structure, Di Angelo and Mazolise (1980) stated that, depending on the balance between tax benefits resulting from the creation of debt and the related financial risks, it is possible to determine the optimal capital structure. Firms, whose tax benefits from creating debt are less than its dangers, are less willing to do debt financing. Plesco (1994) studied tax savings resulting from increased leverage and impact of changes in tax rates on the capital structure of US companies. The reform of the tax structure in the U.S in 1986 provided practical conditions to test the effects of tax on corporate leverage decisions. The main part of tax structure reform was to reduce the highest tax rate from 46% to 34% along with major changes in the corporate tax base. The results of the study showed that the tax structure reform in 1986 resulted in an average decrease of 5% tax rate and reduced tax distribution between different industries. It also affected corporate financing decisions. Besides, evidence suggested a positive relationship between tax rates and leverage. This implies that tax structure reform has resulted in reduced leverage rate in the U.S companies. Xie (1996) showed that tax liabilities affect the corporate capital structure. He also examined the effect of tax liabilities on corporate financial leverage and found that corporate tax liabilities are negatively correlated with corporate financial leverage. Using mixed data, Grap (1997) examined the effect of the expected effective tax rate on financing of US companies. The research sample included 1300 firms in New York Stock Exchange over 1979 to 1991 amounting to 16930 year-firms. The results indicated that the effective tax rate has a positive significant relationship with debt financing. Wu and Yue (2007) investigated how Chinese companies listed on the Stock Exchange reform their capital structure in response to an increase in the tax rate. The results from this study show that these companies increase its financial leverage by increasing tax rates. Orsechand Wheeler (Direct Taxes Act) examined changes in debt tax and equities on tax structure and concluded that tax benefits of liabilities have a positive significant impact on corporate financial leverage. In addition, the capital structure of small firms was found to show more reactions to changes of debt benefits. Hasan and Butt (2009) showed that despite the impact of corporate size and return on assets on capital structure (ratio of debt to equity), independence of Board of Directors and the number of non-executive board members have no effect on corporate financing decisions. Furthermore, it was found that the relationship between capital structure and profitability in various industries depends on the definition of profitability. Aggarwalet al. (2010) conducted a study entitled "Capital structure and dividend policies in multinational companies. The results revealed that due to external risks companies can be expected to have reduced debt capacity. It was also noted that there is a relationship between debt ratio and dividends. Besides, compared with domestic companies; multinational companies have significantly lower liabilities and that debt ratio would decrease by increasing the number

of multinational companies. The present study is going to examine changes in tax laws and their impact on dividends and the number of shareholders. Besides, the relationship between tax laws and capital structure will be explored.

### Research methodology

Concerning its objectives, the present study is considered as an applied research. Applied research aims at the development of practical knowledge in a particular field. In other words, applied research is directed at practical application of knowledge. Although Direct Taxes Act was amended in 2001, its implementation date was in the early 2002. This means that firms whose financial year ended in 20 March 2002 had not been subject to this change but their income in 2002 has been subject to the new law. To test the research hypotheses, an event study was used. Therefore, it was possible to examine the average number of shareholders before and after this date. Besides, given the type of the data collected and the available methods of data analysis; mixed methods were used to estimate model parameters and test research hypotheses. The reason is that the quantitative values of independent and dependent variables were related to different industries and companies and on an extensive period from 1996 to 2011. In such a case, mixed methods are used to obtain reliable results. Since the relationship between research variables was of correlational (ex post facto) type, multiple regression analysis was used to determine the impact of the independent variable on the dependent variable. The spatial scope of the study included all firms listed in the Tehran Stock Exchange. The temporal scope of the study covered the time period from 1996 to 2011.

The research population included all firms listed in the Tehran Stock Exchange. The number of firms based on RahavardNovin was 523. The sample sized was determined using elimination (screening) method using the following requirements:

- In order to ensure the sample homogeneity, firms must have been listed in Tehran Stock Exchange prior to 1996.
- In order to ensure the sample comparability, the firm's fiscal year must end in March and without changing their fiscal year over the period under study.
- Data contained in firm audited financial statements must be available for the whole period under study.
- The firms should not be one of financial industry and investment firms or banks.
- The firms should have no accumulated losses.
- The number of selected firms in each industry should not be less than 5.

The final sample after screening and eliminating outlier observations included 69 firms.

### Data collection and analysis

#### 1. Research variables and their operational definitions

As mentioned above, this study aims to investigate the impact of tax law changes on the number of shareholders in firms listed in the Tehran Stock Exchange. To this end, independent, dependent, and control variables used in the study are described as follows:

#### Dependent variables

**Number of shareholders (SHARE-HOLDER):** It is calculated as the number of shareholders in the firms in balance sheet data (20 March) divided by the corporate capital.

#### Independent variable

#### Changes to Article 105 of Direct Taxes Act (TAX)

Since the date of the enforcement of Article 105 of the Tax Reform Act was the early 2002, i.e. the firms whose financial year ended 20 March 2002, changes to Article 105 of the Direct Taxes Act was used as a dummy variable, that is, the value of this variable was set zero for years before 20 March 2002 and 1 for years after to the same date.

#### Control variables

**Retained capital to the total capital:** This is a logical representative for the firm life cycle as it can measure the reliable values of internal or external financing and is calculated as follows:

$$ret = \frac{RE}{TE}$$

In the above equation, RE shows total accumulated profit or reserves and TE indicates total equities.

The ownership conflict between major shareholders and the orientations of the board of directors about dividend policies affects the managers' access to cheap liquidity and encourages them to use other sources of financing such as receiving loans. The agency conflict is calculated as follows:

$$OWN = \frac{\text{Total Major Equities}}{\text{Total Firm Shares}}$$

**Investment opportunities**

To investigate investment opportunities, two independent variables were used and they were calculated as follows:

$$MBR = \frac{BVA - BVE + MVE}{BVA}$$

Where, BVA is the book value of assets, BVE shows the book value of equities, and MVE shows the market value of equities.

**Profitability:** A variable used to measure the firm profitability is return on assets (ROA):

$$ROA = \frac{\text{Equities}}{\text{Assets}}$$

**2. Research model**

The following regression model was used in this study to test the research hypothesis:

$$SHARE-HOLDERS_{it} = \beta_0 + \beta_1 TAX_{it} + \beta_2 RET_{it} + \beta_3 OWN_{it} + \beta_4 MBR_{it} + \beta_5 ROA_{it} + \epsilon_{it}$$

Where, SHARE-HOLDERS<sub>it</sub> is the number of shareholders in the firm, TAX is changes to Article 105 of Direct Taxes Act, RET shows retained capital to total capital, OWN is ownership conflict, MBR is the investment opportunities, and ROA shows return on assets as an index of the firm profitability.

The aim of this study is to investigate the relationship between one independent variable with a number of dependent variables using historical data to predict the relationship between the variables by developing a model. The data used in a model are of three different types: time series data, cross section data, and pooling data.

**3. Testing hypotheses**

Since the aim of the present study was to explore the impact of changes to tax laws on the number of shareholders in firms listed in the Tehran Stock Exchange, multivariate regression and mixed data were employed to test the research hypothesis. Descriptive and referential statistics were employed in this study to analyze the data and test the research hypothesis. The demographic characteristics of the data were explained using descriptive statistics. Then the classic regression assumptions were examined to estimate the model parameters and test the research hypothesis. Descriptive analysis of data, testing research hypothesis, and development of the regression model were performed using Eviews and SPSS software packages. Table 1 shows how the firms in the sample were selected using systematic elimination method:

Table 1: Firms in the research sample

Description	Number
Total companies listed until 20 March 2011	523
Number of firms listed in the Tehran Stock Exchange over 1996 to 2012	115
Number of firms excluded from the Tehran Stock Exchange over 1996 to 2012	44
Number of firms operating in financial, investment, and banking sectors	22
Firms whose fiscal year did not end in 20 March	87
Firms with no financial statements over 1996 to 2012	119
Firms with outlier data	67
Total firms excluded	454
Total firms included in the sample	69

Table 2: Sample firms in terms of industry

No.	Industry	Frequency
1	Automotive and Parts Manufacturing	18
2	Cement, lime, and plaster	14
3	Pharmaceuticals	10
4	Chemicals	10
5	Basic metals	9
6	Food & Beverage, except for sugar	8
	<b>Total</b>	<b>69</b>

### Research hypothesis

There is a significant relationship between changes in tax rates and the shareholders' behaviors in stock companies. The following regression model was used to test the research hypothesis:

$$\text{SHARE-HOLDERS}_{it} = \beta_0 + \beta_1 \text{TAX}_{it} + \beta_2 \text{RET}_{it} + \beta_3 \text{OWN}_{it} + \beta_4 \text{MBR}_{it} + \beta_5 \text{ROA}_{it} + \epsilon_{it}$$

After testing the regression assumptions and ensuring that they were applied to the model, the result of the regression model fit are present in Table 3. As can be seen, F value (14.218) shows that the whole model is significant. In addition, the values of coefficient of determination (R) and adjusted coefficient of determination (R<sup>2</sup>) in the above models are 41.2% and 38.9%, respectively. Thus, it can be concluded that the independent variables used in the above regression equation account for only 38.9% of variances of the changes in the number of shareholders in firms under study.

Table 3: Regression equation fit

<i>SHARE-HOLDERS</i> <sub>it</sub> = $\beta_0 + \beta_1 \text{TAX}_{it} + \beta_2 \text{RET}_{it} + \beta_3 \text{OWN}_{it} + \beta_4 \text{MBR}_{it} + \beta_5 \text{ROA}_{it} + \epsilon_{it}$				
Variable	Symbol	Coefficient	t	Sig.
Constant	$\beta_0$	2.162	5.5074	0.000
Changes to Article 105 of Direct Taxes Act	TAX	-0.365	2.108	0.036
Retained capital to total capital	RET	-0.248	2.871	0.004
Ownership conflict	OWN	0.125	2.6327	0.0086
Investment opportunities	MBR	0.161	1.118	0.086
Profitability	ROA	-0.471	2.843	0.005
R	0.412	F statistics		14.218
R <sup>2</sup>	0.389	Significant (P-Value)		0.000
		Durbin-Watson statistic		2.021

The significant level (sig) of the independent, variable changes to Article 105 of Direct Taxes Act is less than significant level considered in the study (0.05). In addition, the absolute value of the t-statistic for this variable  $|2.108/2|$  is greater than t-statistic in the table with the same degree of freedom. On the other hand, the sign of this variable is negative and equal to -0.356, which indicates a negative correlation between changes to Article 105 of Direct Taxes Act and the number of shareholders in the firms under study. Accordingly, the main hypothesis of this study stating that there is a significant relationship between changes to Article 105 of Direct Taxes Act and the number of shareholders is confirmed.

### Suggestions

Based on the findings of this study, the following suggestions are offered:

1. The effects of changes to financial and taxation laws on important variables such as capital structure and cost of capital can be examined in future research.
2. Similar studies can be replicated in different industries and it is expected that different results are obtained as the nature of corporate activities varies from one industry to another.

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