THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND DIVIDED POLICY IN LISTED COMPANIES OF TEHRAN STOCK EXCHANGE

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ABSTRACT
This paper studied the relationship between capital structure and profit divided policy in Iran’s stock market. This study investigated the relationship between capital structure and profit divided policy in listed companies in Tehran stock exchange during 1387-1391 with the use of consolidated data. Thus, 109 companies in Tehran stock exchange were selected by screening as a sample of study. On the other hand, F test and Hausman test were used to select the best model for common consolidated data, suitable effects, and random effect. The result of this study indicated that there wasn’t any significant relationship between leverage ratio (capital structure) and profit divided cost (profit divided policy).

Keywords: Capital Structure, Leverage Ratio, Profit Divided Policy, Stock Exchange

INTRODUCTION
Capital structure and profit dividend were first discussed by Modigliani and Miller (1958) who reached to the hypothesis related to markets. They believed capital structure didn’t related to company value. Therefore, managers shouldn’t concern about company’s capital structure during financial and investment decisions. However, total market data is not existed. Therefore, Modigliani and Miller theory needed reformation. Modigliani and Miller (1963) corrected market data and considered companies taxes in their model. Thus, they concluded that company’s value was increased when debt level was increased because interest was tax deductible. Thus, companies will use tax shield when they use debt to support their financially. It should be mentioned that they ignored bankruptcy costs.

Modigliani and Miller studies attracted researchers interested in studying capital structure. Modigliani and Miller research considerably supported profit dividend literature. In (Miller and Modigliani, 1961) their theory of profit divided policy, they concluded that total market data, profit dividend policy were not related to company’s value and they related to production income and retained earnings. This is known as irrelevance of dividend in financial literature. Researchers challenge with Modigliani and Miller’s results is that total market data were not existed.

This study discussed on capital structure and profit divided policy, which were determined each other instead of determining and measuring separately. They aren’t actually related to each other and this may be due to theoretical lack. Thus, this approach which was used in this study was not developed and it was a simultaneous valuation of a real model. Two reasoning are supported this approach.

First: capital structure, profit divided policy, and institutional ownership were affected by the same market shortcoming for example institution theory price, etc.
Second: capital structure, profit divided policy and institutional ownership are interacted. Thus; the any shortcoming in them will affected on the others.

Therefore, this study investigated simultaneously on capital structure and profit divided policy. The engagement between capital structure and profit divided policy in this study is developing according to market. This study is given a new document, evidence about this mystery with the use of list of Tehran stock exchange companies.

Literature
Nicolas et al., (2007) studied on how capital structure features effected on Greece market with the use of pooled data on 19 Greek companies in Aten market during 1997-2000. They studied the relationship
between company’s features such as size, quick ratio, the ratio of market value and an interest expense coverage ratio of market value to office value with capital structure. They found out that there was a negative relationship between capital investment and the ratio of debt coverage, expected growth, and quick ratio. Moreover, there was a positive relationship between company’s size and capital structure. Najjar and Taylor (2008) studied the relationship between capital structure and ownership structure in new Jordan markets. The result indicated that Jordanian companies followed determined factors in capital structure of developed markets such as profitability, company’s size, growth rate, the ratio of the structure of liquidity and asset in market and office. Their result indicated that there wasn’t any significant and negative relationship between investment structure and institutional investors. Furthermore, their results indicated that liquidity, size, and asset structure had a positive, significant relationship and profitability had a negative, significant relationship with Jordanian companies debt.

Huang and Song (2006) studied on 1200 Chinese companies. They investigated on some of capital structure components with debt ratio and stated that debt decreased by increasing profitability and increasing management ownership share in the company, and was increased with company’s size. The amount of tangible assets had a positive effect on that, too. Thus, leverage in Chinese companies had a positive relationship with profitability, growth opportunities, and ownership management.

Rajan and Zingles (1995) studied determined factors in capital on public companies in seven great countries. Their results stated that financial leverage had negative relationship with profitability, and ratio of market value to office value had negative relationship with fixed tangible assets value.

Amidu and Abor (2006) in their study “effective factor in ratio of paying profit in Ghana “investigated during 1998-2003 in Ghana. Their results indicated that there was a positive relationship between divided profit, profitability, liquidity, and tax. There was a negative relationship between divided profit and business risk, institutional investors, and growth opportunity. The most important variable in this study was recognized as profitability, liquidity, and growth opportunity.

Anil et al., (2008) determined the effective factor in profit divided policy in India. This study was on it companies during 2000-2006. Independent variables were profitability, tax cash flow, growth opportunity and dependent variables were profit divided policy in regression model. He results were indicated that profitability and liquidity had positive effect on profit divided policy but taxes and growth opportunity had negative effect on profit divided policy.

Nizar (2007) studied the effect of representation problems, ownership structure, messaging tools, growth and investment opportunity and profitability as independent variables on profit divided policy. They concluded that age, size, profitability leverage variables had a positive and significant effect on profit divided policy. But, ownership structure didn’t have significant relationship with profit divided policy. Moreover, their research was supported representation theory.

Kuwari (2009) studied the relationship between ownership structure, free cash flow, growth opportunity, financial leverage, business risk, and profitability with profit divided policy. He found out a significant relationship between ownership, size, profitability variables and profit divided policy. But this study demonstrated a slight relationship between free cash flow, growth, business risk and profit divided policy.

Omid (1374) studied four factors of industry, size, profitability, collateral asset with financial leverage. And finally, they concluded that there was a negative and significant relationship between financial leverage and profitability, and it was significantly related to size. But there wasn’t any significant relationship between industries, collateral assets with financial leverage.

Kimiyagari and Eyn (1387) studied on 78 companies listed in Tehran stock exchange during 1380-1384. They investigated on the effective factors in capital structure. Their results indicated that growth opportunity, asset structure, stock return variables had negative effect on debt, and business risk had a positive effect on deb.

Marmarchi (1378) studied the effective factors on capital structure and financial leverage in industrial companies listed in Tehran stock exchange during 1374-1378. They concluded that growth opportunity and company’s size had a positive effect on financial leverage in a long time. While; the profitability had a negative effect in a short time.
Hashemi and Resaeeyan (1388) studied the effect of size, profitability, growth opportunity as independent variables on profit divided policy as a dependent variable. The results indicated that there wasn’t any significant relationship between profitability and profit divided policy. There was a positive and significant relationship between profitability and profit divided policy in level 95 percent.

Jahankhani and Ghorbani (Poorhaedari and Khaksari, 1387) in their studies investigated and gathered information about the determined factors in profit divided policy in 63 companies during six years. Their result stated that profit divided system of companies followed random pattern. Moreover, accepted messaging theory, expected that if a company was improved more and profit divided was be more, then; size, investment opportunity, financial structure, and company’s financial leverage were the other factors played a role in describing profit divided policy in companies listed in stocks.

Poorheidari and Khaksar (1387) results of their hypothesis implied that the most important factor in profit divided policy in companies listed in Tehran stock exchange was company’s liquidity. On the other hand, the result implied that company’s stable profitability and financial leverage didn’t have effective role in determining profit divided policy. This study indicated that profitable investment was significantly and positively related to profit distribution.

**Research Hypothesis**

Hypothesis: there is a significant relationship between paying profit (profit divided policy) and leverage ratio (capital structure) in listed companies in Tehran stock exchange

The second hypothesis: there is a significant relationship between leverage ratio (capital structure) and paying profit ratio (profit divided policy) among listed companies in Tehran stock exchange

**MATERIALS AND METHODS**

**Methodology**

One of the research purposes is library method that going by studying books, journals, documents and analyzing, comparing, and evaluation (Farshadgohar and Shahidi, 1381). Thus, the purpose of this study is practical and this research is descriptive regression research method, and data were gathered by observing company’s financial statements in Tehran stock exchange.

**Population and Sample of Population**

The population of this study was all the companies in Tehran stock exchange and elimination method was used to select the sample. Thus the sample consisted of companies listed in Tehran stock exchange for 5 years, since 1387 to 1391. They had the following features:

1) These companies were the member of stock exchange from the first till the end of this research
2) These companies were not the member of Banks, financial institutions, investment companies, financial intermediation, and leasing companies.
3) Their stock were exchanged during these years
4) Those companies didn’t stop their activity during research.
5) Those companies shouldn’t be less than once in a year
6) They shouldn’t change their financial year during 1386-1391
7) Their financial year should be the end of year in Esfand
8) The research model

In this research Pooled regression model is used as the following models

$$\gamma_{it} = a + B'X_{it} + \varepsilon_{it}$$

$$LEVit = \pi_0 + \pi_1DPO + \pi_2PIO + \pi_3ROE + \pi_4BR + \pi_5TANG + \pi_6LIQ + \pi_7MB + \pi_8SIZE + \pi_9IND + \varepsilon_{it}$$

$$DPOit = \pi_0 + \pi_1LEV + \pi_2PIO + \pi_3ROE + \pi_4BR + \pi_5TANG + \pi_6LIQ + \pi_7MB + \pi_8SIZE + \pi_9IND + \varepsilon_{it}$$
Indian Journal of Fundamental and Applied Life Sciences ISSN: 2231 – 6345 (Online)
An Open Access, Online International Journal Available at www.cibtech.org/sp.ed/jls/2015/03/jls.htm
2015 Vol. 5 (S3), pp. 2367-2374/Tabari and Shirazi

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1) LEV = leverage ratio measured by ratio of total liabilities
2) DPO = the ratio of paying profit measured by: divided profit of each share to each share profit
   DPO = paying profit: divided profit of each share to that share (just in capital structure model)
   PIO = intuitional ownership percentage
   ROE = the ratio of return of equity: net income to equity
   BR = the ratio of standard deviation of company’s assets: net income to total asset
   TANG = the ratio of tangible and stable asset: stable asset to total asset
   LIQ = the current ratio: current ratio: current asset to current liabilities
   MB = the ratio of market value to office value: market value asset to office value asset
   SIZE = natural logarithm of total asset
   IND = a dummy variable that is equal 1 if the company is productive and is zero whenever it is service company

\( \epsilon_{it} \) = the residuals error

Checking the First Model Correlation

To investigate the lack of correlation, Durbin-Watson statistic model was used. This statistic was recorded 2.036 in table -7. It is implied that lack of correlation between residuals are accepted.

The significance of fixed effects model for two tests of F and Hausman is used.

Table 1: the result of F- Limmer test

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistic</th>
<th>Degree of freedom</th>
<th>P- Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>4.982708</td>
<td>(108,427)</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Table 2: Hausman test result

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistics</th>
<th>Degree of freedom</th>
<th>P- Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>12.612432</td>
<td>9</td>
<td>0.0109</td>
</tr>
</tbody>
</table>

According to the results of two tests (F & Hausman), both of their results is less than 5 percent. Thus regression model related to fix effect model is used.

Checking the Second Model of Correlation

Durbin-Watson statistic model is used to investigate the lack of correlation. This statistic is 2.069 and existed in table-8. Based on evaluated statistics, this model indicated that lack of correlation between residuals, and it is accepted.

The Significance of Fixed Effect Method

For testing the significance of the fixed effects two statistical tests of F and Housman are used.

Table 3: Statistical F test result

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistics</th>
<th>Degree of freedom</th>
<th>P- Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>15.021613</td>
<td>(108.427)</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Table 4: Hausman test result

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistics</th>
<th>Degree of freedom</th>
<th>P- Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>35.025781</td>
<td>9</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

According to the result of both applied tests, (F & Hausman), both of the tests is probably less than 5 percent. Thus, related regression model to the fixed effects method is used.
RESULTS AND DISCUSSION

Results

Descriptive Statistics Results
To investigate the common and basic features of variables, evaluating model, exact analyzing of them, and knowing research population, descriptive statistics related to variables is important. Thus, descriptive statistics related to studied variables are summarized table-5. The statistics consisted of mean, mode, distribution, variance, and standard deviation of variables in this research.

<table>
<thead>
<tr>
<th>variables</th>
<th>Mean</th>
<th>Variation</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVO</td>
<td>0.5161</td>
<td>0.5161</td>
<td>0.2443</td>
</tr>
<tr>
<td>DPO</td>
<td>0.1294</td>
<td>0.1294</td>
<td>0.1208</td>
</tr>
<tr>
<td>PIO</td>
<td>0.4426</td>
<td>0.4426</td>
<td>0.3433</td>
</tr>
<tr>
<td>ROE</td>
<td>0.0817</td>
<td>0.0817</td>
<td>0.1651</td>
</tr>
<tr>
<td>BRO</td>
<td>0.1815</td>
<td>0.1815</td>
<td>0.3607</td>
</tr>
<tr>
<td>TANGO</td>
<td>0.5600</td>
<td>0.5600</td>
<td>0.1544</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.8419</td>
<td>0.8419</td>
<td>0.1144</td>
</tr>
<tr>
<td>Mb</td>
<td>1.4570</td>
<td>1.4570</td>
<td>0.9574</td>
</tr>
<tr>
<td>SIZE</td>
<td>12.4225</td>
<td>12.4225</td>
<td>1.4214</td>
</tr>
<tr>
<td>IND</td>
<td>0.2923</td>
<td>0.2923</td>
<td>0.4552</td>
</tr>
</tbody>
</table>

First hypothesis: as the first test result demonstrated in table -7, P-value related to Prob F(F-statistics) is indicating the significance of total regression, equal to 0.0000 and implied that this model is significant at 99 percent level, and R^2 determined coefficient is 691 percent and indicated that 69 percent of dependent variables changes are determined with model variables.

<table>
<thead>
<tr>
<th>variables</th>
<th>Coefficient</th>
<th>T Statistic</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.010411</td>
<td>0.053335</td>
<td>0.195192</td>
<td>Not significant</td>
</tr>
<tr>
<td>DPO</td>
<td>-0.079485</td>
<td>-0.817454</td>
<td>0.097235</td>
<td>Not significant</td>
</tr>
<tr>
<td>PIO</td>
<td>0.127287</td>
<td>2.073277</td>
<td>0.061394</td>
<td>Positive and significant</td>
</tr>
<tr>
<td>ROE</td>
<td>-0.182230</td>
<td>-0.572812</td>
<td>0.318133</td>
<td>Not significant</td>
</tr>
<tr>
<td>BR</td>
<td>-0.047741</td>
<td>-0.331141</td>
<td>0.144170</td>
<td>Not significant</td>
</tr>
<tr>
<td>TANG</td>
<td>-0.059690</td>
<td>-1.109798</td>
<td>0.053784</td>
<td>Not significant</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.055563</td>
<td>0.428375</td>
<td>0.129707</td>
<td>Not significant</td>
</tr>
<tr>
<td>MB</td>
<td>-0.018004</td>
<td>-2.112719</td>
<td>0.008522</td>
<td>Negative and significant</td>
</tr>
<tr>
<td>LN SIZE</td>
<td>0.039814</td>
<td>4.376253</td>
<td>0.009098</td>
<td>Positive and significant</td>
</tr>
<tr>
<td>IND</td>
<td>0.006747</td>
<td>0.440959</td>
<td>0.015300</td>
<td>Not significant</td>
</tr>
<tr>
<td>R^2</td>
<td>0.857</td>
<td>0/210</td>
<td>0.691</td>
<td>0000/0</td>
</tr>
</tbody>
</table>

Second Hypothesis
The second test result demonstrated in table -8, and indicated that P-value related to F (PRO(F-statistics) is significant at the total regression 0.0000 and stated this model is significant at 99 percent level. R^2 Determined coefficient is 96 percent and implied that 96 percent of independent variables changes determined with model variables.
Table 8: Estimation the Research Model, the fourth model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>SD</th>
<th>T statistics</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.119819</td>
<td>0.027785</td>
<td>-4.312398</td>
<td>0.0000</td>
<td>Negative significant and</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.001860</td>
<td>0.002464</td>
<td>-0.754903</td>
<td>0.4507</td>
<td>Not significant</td>
</tr>
<tr>
<td>PIO</td>
<td>-0.011097</td>
<td>0.006005</td>
<td>-1.848007</td>
<td>0.0653</td>
<td>Not significant</td>
</tr>
<tr>
<td>ROE</td>
<td>-0.015680</td>
<td>0.015997</td>
<td>-0.980184</td>
<td>0.3276</td>
<td>Not significant</td>
</tr>
<tr>
<td>BR</td>
<td>0.005424</td>
<td>0.007648</td>
<td>0.709242</td>
<td>0.4786</td>
<td>Not significant</td>
</tr>
<tr>
<td>TANG</td>
<td>0.015147</td>
<td>0.005469</td>
<td>2.769765</td>
<td>0.0059</td>
<td>Positive significant and</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.081911</td>
<td>0.014975</td>
<td>5.469667</td>
<td>0.0000</td>
<td>Positive significant and</td>
</tr>
<tr>
<td>MB</td>
<td>0.053265</td>
<td>0.001418</td>
<td>37.56845</td>
<td>0.0000</td>
<td>Positive significant and</td>
</tr>
<tr>
<td>LN SIZE</td>
<td>0.008028</td>
<td>0.001324</td>
<td>6.061938</td>
<td>0.0000</td>
<td>Positive significant and</td>
</tr>
<tr>
<td>IND</td>
<td>0.001496</td>
<td>0.001575</td>
<td>0.949845</td>
<td>0.3427</td>
<td>Not significant</td>
</tr>
<tr>
<td>R²</td>
<td>0.968</td>
<td>960</td>
<td>0/061</td>
<td>60/113</td>
<td>0000/0</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>Regression SD</td>
<td>F statistic</td>
<td>F statistic</td>
<td>probability statistics</td>
<td>0000/0</td>
</tr>
</tbody>
</table>

Conclusions
The result of hypothesis test with the related data to companies listed in Tehran stock exchange during 1387-1391 demonstrated that there wasn’t any significant relationship between leverage ratio (capital structure) and paying profit ratio (profit divided policy). Lack of significant relationship may be due to company’s problems in financial support in Iran.
And this is derived from economics structure of the country. Usually, in Iran companies liabilities contracts is not limited to the profit distribution. On the other hand, in Iran companies prefer to increase leverage ratio (increasing financial risk) instead of decreasing profit distributions, increases investment to reform financial structure and decrease risks.
The following results were related to controlled variables:
1-there is a significant and positive relationship between institutional ownership and leverage ratio (capital structure) in 109 companies listed in Tehran stock exchange and this result is the same as Najjar and Hosseini (2009), Cespedes et al., (2009), Henrich (2002), Braisford et al., (2000) results.
2- There isn’t any significant relationship between leverage ratio (capital structure) and profitability in 109 companies listed in Tehran stock exchange
3-ther isn’t any significant relationship between business risk and leverage ratio (capital structure) among 109 companies listed in Tehran stock exchange
4- There isn’t any significant relationship between fixed asset and leverage ratio among 109 companies listed in Tehran stock exchange
5- There isn’t any significant relationship between liquidity and leverage ratio among 109 companies listed in Tehran stock exchange
7- There is a positive and significant relationship between companies size and leverage ratio (capital structure) among 109 companies listed in Tehran stock exchange. This result is the same as Rajan and Zingal (1995), Nikolaos et al., (2007), Fama and French (2002), Chen and Strange (2005), Hung and Song (2006), Bahadori (2002), Tsai and Gu (2007), results.
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8-There is a negative and significant relationship between institutional ownership and paying profit ratio (profit divided policy) among 109 companies listed in Tehran stock exchange and this result is the same as Barkley et al., (2006), Zekhaser and Pound (1990), Jensen et al., (1992), Mauri and Pajuste (2002), Guo and Ni (2008), Kouki and Guizani (2009) results.

9-There isn’t any significant relationship between profitability and paying profit ratio (profit divided policy) among 109 companies listed in Tehran stock exchange.

10-There isn’t any significant relationship between business risk and paying profit among 109 companies listed in Tehran stock exchange.

11-There is a positive and significant relationship between tangible assets and paying profit (profit divided policy) among 109 companies listed in Tehran stock exchange and this result is the same as Al-Najjar anh Hosseini (2009) findings.

12-There is a positive and significant relationship between liquidity and paying profit (profit divided policy) among 109 companies listed in Tehran stock exchange and this finding is the same as PoorHeidari and Khaksar (1387), Garmroodi (1384), Anil and Kapor (2008) findings.

13-There is a positive and significant relationship between growth opportunity, paying profit among 109 companies listed in Tehran stock exchange.

14-There is a significant and positive relationship between companies size and paying profit (profit divided policy 0 among 109 companies listed in Tehran stock exchange.

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