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Research Paper

Explaining the Role of Sources of Financing Mergers and Acquisitions on the Company's Performance based on Pecking Order Theory[1]

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INTRODUCTION AND PUROSE

One of the goals and philosophy of companies is to maximize the wealth of shareholders. The company should act in such a way as to maximize the wealth of common stockholders. One of the ways to increase the wealth of shareholders is to acquire other companies. Merger and acquisition is considered as a type of growth in the company's activities and operations, which makes the company's activities more diverse, and it is considered as one of the companies' strategies to increase the competitive position and an important and strategic decision in financial management. Today, competition at the global level has increased so much that relying on the internal efficiency and strengths of the company alone does not lead to sustainability and growth, companies use each other's exploitable resources jointly by adopting methods of combination and with group synergy against the threats of the competitive environment. They stand up (Pasban et al; 2017). As it was mentioned, among the issues that have taken a large part of the decisions of the financial managers of the companies, is the decision regarding the provision of the required financial resources, or in other words, determining the capital structure. Considering that the capital structure can directly affect the value and reputation of the company, it is of particular

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importance in financial discussions that in this regard, researchers seek to determine an optimal structure of the combination of financial resources by presenting various theories and proposals. With the lowest cost, the resources needed by the company will be provided and the value of the company will also increase. Among the theories presented about the optimal structure of capital is the hierarchical theory (Borojni et al; 2014). The purpose of the current research is to explain the role of financing sources on the performance of acquired companies during the years 2014 to 2018 based on the hierarchy theory. Based on this, the main question that the researcher seeks to answer in the present study is which of the financing sources can affect the performance of the acquired companies? And do companies follow the hierarchy theory for financing?

RESEARCH HYPOTHESES

1. The financing sources of mergers and acquisitions have a significant effect on the return on equity of companies based on the hierarchy theory.
2. Merger and acquisition financing sources have a significant effect on the return on assets of companies based on the hierarchy theory.
3. Merger and acquisition financing sources have a significant effect on the Qotubin ratio of companies based on the hierarchy theory.

RESEARCH METHODOLOGY

In terms of purpose, the current research is applied and descriptive-correlation research. In this research, the relationship between the variables is evaluated and tested using econometric methods such as panel data methodology. To estimate the model, the F and Hausman tests will be performed first to select the best model from the common pooled data, fixed effects and random effects. In this regard, using the data collected from the stock exchange organization, Eviews10 software and Excel software are used for variable calculations. The statistical population of the research consists of all the companies admitted to the Tehran Stock Exchange. The time domain of the research is a five-year period that begins in 2014 and ends in 2018; In other words, companies that were studied between 2014 and 2018 have been investigated. In this research, any type of major stock transaction that gives the acquiring company or companies under its control the ability to elect or retain at least one member of the board of directors with any ownership percentage (5% or higher) is called company acquisition (Bolo and Anabastani). , 2012). Since in Iran, acquired companies prepare independent financial statements after acquisition, therefore, financial statements of target companies are used directly without the need to separate financial information (Arafi and Jahankhani, 2018). The statistical sample of this research is those companies admitted to the stock exchange that have the following conditions:

1) Acquired companies whose shares were traded in the stock exchange between 1394 and 1398 and whose symbol was not removed from the stock market by the end of 1398.
2) Information related to them should be available.
3) The financial year of the companies ends at the end of March every year.

4) Do not be in the group of banks, credit institutions and other financial institutions, financial intermediaries and financial investments.

In this way, the 53 companies that were selected as research samples are not part of financial intermediary and investment companies, because these companies are mainly considered as buyer or mother companies and have access to extensive financial resources.

HOW TO MEASURE RESEARCH VARIABLES

In this research, using the hierarchical model, the three variables of accumulated profit, debt ratio and financial leverage have been used to measure financing methods as independent variables. – Debt: Debt is the obligation to transfer economic benefits by the company, from transactions or other past events, which is obtained by dividing total liabilities by total assets. – Retained earnings: in accounting, it refers to a percentage of the profits of a joint-stock company, which has not been paid to the shareholders in the form of dividends, and the company in question has kept it for reinvestment in its main activities, or debt repayment. The accumulated profit is recorded on the left side of the balance sheet and under the equity column and is obtained by dividing the accumulated profit by the total assets. – Financial leverage: It is obtained by dividing long-term liabilities by total equity. Also, to measure the performance of the company as a dependent variable, the three variables of return on equity, return on assets, and Qotubin ratio, as well as the variable of company size, have been used as a control variable. – Return on equity: the rate of return on equity of company i at the end of year t, which is obtained by dividing net profit by equity. –Return on assets: the return on assets of company i at the end of year t, which is obtained by dividing net profit by total assets. – Kitobin ratio: the market value of the company divided by the value of company i's assets at the end of year t. – Company size: total assets during the financial performance in the desired period, which is obtained from the natural logarithm of the book value of the total assets.

RESEARCH MEDEL

Based on the research variables, three regression models were explained:

1- The first model: $ROE_{i,t} = a + \beta_1 AE_{i,t} + \beta_2 Debt_{i,t} + \beta_3 Levi_{i,t} + \beta_4 Size_{i,t} + e_{i,t}$

2- The second model: $ROA_{i,t} = a + \beta_1 AE_{i,t} + \beta_2 Debt_{i,t} + \beta_3 Levi_{i,t} + \beta_4 Size_{i,t} + e_{i,t}$

3- The third model: $QTobin_{i,t} = a + \beta_1 AE_{i,t} + \beta_2 Debt_{i,t} + \beta_3 Levi_{i,t} + \beta_4 Size_{i,t} + e_{i,t}$

DATA ANALYSIS AND HYPOTHESIS TESTING

In order to evaluate the reliability of the research variables, the unit root test was used. There are several unit root tests, the most important of which is the test of Levin, Lin and Cho (2002), which assumes that the parameters are consistent and constant throughout the cross-section. According to what is shown in Table 1, the P value for all variables is less than 0.05, as a result, these research variables have been stable at the desired level during the research period.

Table 1. Levin, Lin and Chu's test

p-value	statistics	symbol	Variable
0.000	18.9203	ROE	Return on equity
0.000	15.7426	ROA	return on assets
0.000	44.2342	QTobin	Q-Tobin ratio
0.000	12.3923	AE	Retained earnings ratio
0.000	11.2578	Debt	debt ratio
0.000	20.6502	Lev	Financial leverage
0.000	28/9473	Size	Company size

Source: research calculations

THE RESULTS OF THE HYPOTHESIS TEST

The results of the first research hypothesis test

Table 2. The results of the first hypothesis test

ROE i.t = a + β1 AE i.t + β2 Debti.t + β3 Levi.t + β4 SiZei.t +eit			
Prob.*	t-Statistic	factor	Variable
0/923	-0/096	-1/2005	C
0.000	10/546	93/102	AE
0.000	5/431	0/3800	DEBT
0/043	-2/03	-/238	LEV
0/433	-0/784	-1/511	SIZE
0/31		R-squared	
0/30		Adjusted R-squared	
1/67	Durbin-Watson stat	28/88	F-statistic
		0.000	Prob(F-statistic)

* Significance at the 5% level

Source: research calculations

The results of the second research hypothesis test

Table 3. The results of the second hypothesis test

ROA i.t = a + β1 AE i.t + β2 Debti.t + β3 Levi.t +β4 SiZei.t + eit			
Prob.*	t-Statistic	factor	Variable
0/609	-0/511	-7/378	C
0.000	18/550	74/336	AE
0/569	0/569	0/018	DEBT
0.000	-3/597	-0/164	LEV
0/680	0/4125	0/930	SIZE
0/89		R-squared	
0/85		Adjusted R-squared	
1/92	Durbin-Watson stat	27/36	F-statistic
		0.000	Prob(F-statistic)

* Significance at the 5% level
Source: research calculations

The results of the third hypothesis test of the research

Table 4. The results of the third hypothesis test

QTobin i.t = a + β1 AE i.t + β2 Debti.t + β3 Levi.t +β4 SiZei.t + eit			
Prob.*	t-Statistic	factor	Variable
0/201	1/282	1/722	C
0/846	-0/170	-0/063	AE
0/439	0/774	0/002	DEBT
0/486	-0/697	-0/002	LEV
0/788	-0/268	-0/056	SIZE
0/803		R-squared	
0/746		Adjusted R-squared	
1/92	Durbin-Watson stat	13/926	F-statistic
		0.000	Prob(F-statistic)

* Significance at the 5% level
Source: research calculations

DISISCUSSTION, CONCLUSIONS AND SUGGESTATIONS

The purpose of this research is to explain the role of financing sources on the performance of acquired companies in the Tehran Stock Exchange during the years 2018-2019 based on the hierarchy theory. The results of the research hypotheses test show the different roles of financing sources (Sudanbashte, debt ratio, financial leverage) on the performance of these companies (return on equity, return on assets, Qotubin ratio) considering the hierarchy theory.

•One of the sources of funding for companies is the accumulated profit. According to the predictions of the hierarchy theory, companies first use the company's internal resources for financing, and if they are not sufficient, they turn to external sources. The results of this research show that the accumulated profit has a positive and significant relationship with the return on equity and the return on the company's assets, which means that the more the company uses retained earnings (accumulated profit on total assets) for financing, it leads to Increasing the return on equity and return on assets and improving the company's performance. This result is in line with the results of Ayub Zare Shibani's research (2017) who observed a significant relationship between financing through accumulated profit and return on assets. While it is contrary to the results of Shirvani Harandi's research (2013), he did not observe a significant relationship between financing through retained earnings and return on assets. Also, this finding is in line with the predictions of the hierarchy theory and the research results of Namazi and Hashmati (2016), Mostafa Al-Bakpashi and Khairy Elgiziri (2018), which confirm the theory of financing hierarchy.

•The debt ratio, which in this research is obtained from the ratio of total liabilities to total assets and is known as the leverage ratio in many scientific researches, has a positive and significant relationship with the return on equity in all sample companies. This means that the more the company uses the debt ratio (borrowing) for financing, it leads to an increase in the return on equity and an improvement in the company's performance. From this result, it is inferred that companies should set a certain limit for financing from external debt sources. This result is consistent with the research results of Namazi and Shirzadeh (1381), Bagherzadeh (1382), Bigler (1385), Pikani (1386) and Ayub Zare Shibani (1397), who stated the relationship between capital structure (debt ratio) and return on equity. There is a significant and multiple correlation. It is also consistent with the results of Salim et al.'s (2012) research, which showed that with the increase in debts, the capital structure changed, the financing cost increased, and this process caused a decrease in the rate of return on assets, the rate of return on capital, earnings per share, and the company's performance and profitability.

•In examining all sample companies, financial leverage has a negative and significant relationship with return on equity and return on assets. By increasing the financial leverage, which is achieved in this research by the ratio of total debt to total equity, the return on equity and the return on company assets decrease. This means that the more the company uses financial leverage (debt-to-equity) for financing, it leads to a decrease in the return on equity and the return on assets and the company's performance. This result is contrary to the research results of Ramlia and Lataneb (2019), who stated that in the Malaysian sample, there is a significant positive correlation between the company's leverage and the company's financial performance.

· Another result obtained from this research is that no significant relationship was observed between Sudanbashte, debt ratio and financial leverage with the value of the company. This result is in line with the research results of Mojtahedzadeh, Alavi and Khodabakhshi (1388) and contrary to the research results of Farid Sifouri and Hamid Jalilian (1396). This indicates the confirmation of the relationship between financing methods and the value of companies listed on the Tehran Stock Exchange.

• According to the static parallel theory, companies seek to achieve an optimal capital structure (debt ratio) that maximizes the value of the company, while according to the hierarchy theory, there is no optimal debt ratio and companies regardless of the optimal capital structure, only based on the predetermined hierarchy, they will finance. In this theory, companies can finance from internal or external funds. In addition, financing from internal funds is always a priority, and funds from outside the company are used only if internal funds are not sufficient. In this case, they prefer issuing debt to issuing shares. Therefore, the company's financing hierarchy can be expressed as the first choice of managers is the use of internal funds (accumulated profit), then the issuance of low-risk debt securities, and finally, the issuance of equity securities is the last priority. According to what was said, the results of the first and second hypothesis of the research confirm that the company first uses internal financial resources (Sudanbashte) to provide financial resources, and even excludes external resources. In addition, it uses more borrowing (debt ratio and financial leverage) when external financial resources are needed. This result is in agreement with the research results of Donalson, Mears and Bradley (1961), Myers and Majlov (1984), Myers (1985), Sandro Mears (1998), Athis, Goej and Kapert (2010) and Kurdestani and Najafi Imran (2017). Profitable companies prefer internal sources of financing to external sources, and also, it is aligned with the results of the research of Mario Fischer (2017). He uses a two-stage model based on the hierarchical theory and claims that the acquiring companies initially use internal sources for financing and only use external financing in the second stage if needed. On the other hand, it is contrary to the results of Bagherzadeh (1381), Abedi (1384), Eslami Bidgoli and Mazaheri (1388), Flannery and Ranjan (2006), Eldumiati and Ismail (2009), Rab and Robinson (2009) that the prediction of the theory Hierarchies do not approve financing options.

Acquisition and merger activity is a common and important activity in every industry and economy, and most of its decisions are taken by senior managers due to the burden of decisions and its important results, and it is considered part of company level strategies. While understanding the great importance of the subject, the present research has explained and tested the role of merger and acquisition financing sources on the performance of companies based on the hierarchy theory. According to the results of this research, it can be said that obtaining a specific model to explain the financing policies of companies is a difficult matter that requires extensive research, but in any case, it does not seem that a specific theory alone can answer the complex mystery of capital structure. Users of financial information, including investors, are advised to pay attention to the results of performance evaluation as a tool for predicting future plans and improving the strengths and eliminating the weaknesses of the economic unit before making any decisions regarding the selection of financing methods. to do During each research, wider and newer aspects of the subject are revealed, which can be a starting point for further studies. Therefore, according to the results of the research and its limitations, the following suggestions are suggested for further research: 1- Re-examining the research subject by considering the type of industry in order to create a better comparison. 2- Re-examining the research subject using other financial theories. 3- Re-examining the research subject by considering other control variables.

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