

CAPITAL EXPENDITURES STRUCTURE, COST OF CAPITAL AND SHAREHOLDERS' WEALTH

Hooshang Asheghi-Oskooee

University of Qom, Iran

Abstract

Financing with reasonable cost, correct usage of capital and preventing the creation of unused resources are the financial management's most important tasks. Appropriate financing and correct investment in assets leads to sustainable growth in shareholders' wealth. This study was carried out to investigate the relationship between the capital expenditures structure (CES) and the cost of capital with shareholders' wealth. Using systematic sampling in a five years period, 186 companies, including the listed companies in Tebran Stock Exchange were selected. To analyze data, Partial Least Squares method of Structural Equation Modeling was used. The findings indicated that there is a significant positive relationship between the CES and shareholders' wealth in total, but some components of the CES are not related to shareholders' wealth and it is necessary to be studied carefully. Because, understanding the relationship between the CES and shareholders' wealth is very important to maximize shareholders' wealth and will be most effective in capital expenditures' budgeting. Also, there is a significant inverse relationship between the cost of capital and shareholders' wealth.

Keywords: *Assets structure, Capital expenditures structure (CES), Cost of capital, Shareholders' wealth, Unused resources*

JEL Classification Code No: *G31, D24*

1. Introduction

Providing long-term resources to invest in various economic sectors is one of the major goals of the capital market. The capital markets play a significant role in advancing the countries' economic goals. Typically, the main market capitalization of most countries is the stock exchange. The stock exchange, attracts and directs the savings and liquidity of the community towards productive investments. The main goal of the managers of the companies listed in the stock exchange is to maximize the wealth of their shareholders. The companies' capital structure (resources and expenditures of capital) is one of the factors that can affect this goal. The structure of capital resources (left-hand side of the balance sheet) is one of the important issues for managers (Hassani and Pakmaram, 2017).

One of the important responsibilities of managers is to decide on how to obtain resources and allocate these resources to each of the asset considering the goal of maximizing shareholders' wealth. Kind of financing model that can make a financial performance better for the company is the question of many corporate finance managers (Rezagharehbagh and Mohammadi, 2015). On the other hand, the proper use of capital and the prevention of the creation of unused resources while financing at the right cost is one of the most important tasks of financial management. Proper financing and proper investment in assets can lead to sustainable growth of shareholders' wealth. Due to certainty that all assets are related to the company's performance and, consequently, to the shareholders' wealth, many managers and even researchers in the field of financial management and investment have not paid much attention to studying and researching about. While, the preparatory studies undertaken to initiate this study yield a different result. It specifies that all components of assets do not necessarily have the same relation to the performance and wealth of the shareholders.

An examination of existing databases shows that, there have been few researches on the structure of capital expenditures (asset structure) in a comprehensive manner. However, there are several studies on working capital (part of the CES). Comprehensive analysis of all items on the right side of the balance sheet is one of the features of the present study. The results of this study can provide a comprehensive view for corporate executives and investors regarding capital structure and affect financing and investment practices. So, because decisions about capital expenditures in assets regardless of how they relate to corporate performance and shareholders' wealth can reduce

the company's return, and consequently reduce wealth and also reduce investors' willingness to invest in companies, this study examines the relationship between CES and cost of capital with shareholders' wealth. The study of the relationship between each component of the company's assets with the cost of capital and shareholders' wealth is a new topic that this paper addresses. In the research process, first, theoretical foundations and research background were reviewed, and then the hypotheses related to research questions were designed and analyzed using Structural Equation Modeling.

2. Literature Review and Research Background

2.1 Literature Review

Literature In the last few decades, there have been many changes in the economic situation of countries. This changes, to a widespread, have led the new generation to investing on securities.

Business managers are facing a number of challenges. Due to the expansion of online trading and transactions, investors are able to easily transfer their capitals to a company that generates higher returns. There is no trace of the effective rules restricting the displacement of capital. Corporate executives must accept that the capital will go to where it will increase and not remain available to company forever. This situation creates challenges for corporates managers. In short, all these challenges are, management to create value. That is, key systems and processes in business units should be oriented toward value creation and their orientation towards creating value (Izadinia, 2005). The importance and necessity of using financial management also begins at this point.

Financial management refers to the managing of capital resources and capital expenditures in such a way that maximize shareholders' wealth (Neveu, 1989). Capital sources are the same as the loans or debts that the company owns or the funds that shareholders have provided to the company in the form of capital and written on the left side of the balance sheet. Capital expenditures are also the acquisition of assets (current assets, fixed assets, investments and other assets) derived from sources of capital and written on the right side of the balance sheet.

Given the fact that wealth is derived from the use of assets, the structure of capital expenditures is one of the important factors that financial managers have to pay attention to for maximizing shareholders' wealth. But the proper structure of corporates' capital expenditures is what seems to be neglected in capital market and competition. Minimize the cost of capital is another effective factor in maximizing shareholders' wealth. Because there are different financing methods, the costs of these methods are also varies. Considering the cost of each financing method and its effect on the company's returns and risks, management should choose resources that will minimize financing costs and maximize shareholders' wealth (Molanazari et al., 2009).

Given what has been noted, the ability of company to participate in creating wealth for shareholders is one of the key factors in deciding whether to invest or not. This goal (wealth creation) is possible through the proper utilization of resources and lowering the cost of capital. So, this study examines the relationship between capital expenditure structure and cost of capital with shareholders' wealth.

2.1.1 Capital Expenditures Structure

One problem with corporate assets is the problem of determining the optimal structure of assets. CES is an important and explicit indicator of investment in assets and financial performance of the company. Due to use of each asset in different parts of the operation, the structure of capital expenditures is influenced by the management's intention to operate more effectively and increase returns. In fact, determining the structure is the decision about the ratio of assets. For example, when more capital is invested in current assets, the company's returns are lower. But, liquidity risk increases if less invested in current assets. Deciding in these cases depends on manager's views about risk and return. In fact, deciding on the CES of a firm is at the discretion of its management, and what actually happens can be different from theory (Chen and Haque, 2015).

The CES is the different types of assets shown in the balance sheet (Neveu, 1989). It should be managed more efficiently (Markovic et al., 2009). So, type of industry, organizational strategies, economic requirements, competition, macroeconomic variables such as interest rate and inflation, and financial indicators such as financing methods, business risk, financial risk, credit risk, political risk, etc. are the most important factors that managers have to put under consideration to allocate resources among different types of assets. The decision about the ratio of assets should be in such a way that it leads to the ultimate goal of financial management that is to maximize the

wealth of shareholders. The CES that can maximize wealth, will be realized under the following conditions (Reilly and Brown, 2000; Litterman, 2003):

- The CES that yields the highest returns based on a certain amount of risk.
- The CES that minimizes the risk of a company for an expected rate of return.

2.1.2 Cost of Capital

Issues related to the cost of capital are related to maximizing shareholders' wealth. Each company has its own special risk and return. Each of the investor groups, such as bondholders, preferred stock holders and ordinary share holders, requires a rate of return that is relevant to that risk.

Cost of capital can be defined as “the rate that makes the present value of the cash flow equal to the value of the capital of the asset in question” (Goncalves et al., 2018). That is, the cost of capital is the minimum return that the company must acquire to preserve the shareholders' wealth. On the other word, the minimum return that a company must earn to have no change in the company's value. So, if the company earn a higher rate of return than the cost of capital, the market value of the company will be increased and in the opposite, the market value of the company will be reduced (Neveu, 1989).

Given that the main purpose of financial management is to maximize shareholders' wealth, it seems that the best way to achieve this goal is to increase the return on investment and minimize the cost of capital.

2.1.3 Maximizing Shareholders' Wealth

Many researchers like Bohme et al. (2005), Shen (2006), Anglano et al. (2014), Gonzalez-Alcorta et al. (1994) and Marston et al. (2011), who seems are not financial management specialists have investigated maximization of profit. However, it is possible to consider maximizing profit as one of the objectives of financial management. But it is not the main objective. The goal of financial management is to maximize the current value of the existing stock (Ross et al., 2016), or to maximize shareholders' wealth (Neveu, 1989).

Profit maximization is essentially a short-term goal. A company can increase the profit of each share by implementing high risk plans (Neveu, 1989). But increase in the profit does not lead to an increase in share price and shareholders' wealth necessarily; because shareholders give less valence to the risky profits and stocks its profits are more fluctuating. Moreover, the profit can be manipulated (Likierman, 1983; Lambert and Sponem, 2005) and it seems the profit cannot be the only measure to evaluate the value of investment.

Regarding the above discussions, it can be concluded that, the company's performance depends on the use of its assets. On the other hand, the provision of assets requires cost. So, it is necessary, while paying attention to the cost of investing in assets, first, buy appropriate assets to the appropriate extent (The CES issues are shapes at this stage) and then, have to be used appropriately to maximize shareholders' wealth.

The main question of the research arises at this point. How is the relationship between the CES and the cost of capital with shareholders' wealth?

2.2 Research Background

Based on a review of the research background, there is no comprehensive study on the CES. Many previous studies have studied part of the CES - that is, working capital management. Given that the present study has a new and different view compared to previous studies, some researches that are related to the subject are briefly reviewed and then questions and research hypotheses are proposed.

Auerbach (1979) stated that investors who seek to maximize their utility, they tend to maximize current value of their investment. Achieving this goal involves investing in projects that its current value considering the expected return rate of investors is positive. In this way, cost of capital is one of the factors affecting the maximization of shareholders' wealth and should be minimized.

The capital structure (from an accounting standpoint), that been called the structure of capital resources from a financial management perspective - that is, combination of liabilities and shareholders' equity- affect the cost of

capital. So, to determine the cost of capital, it should be measured the debt and equity costs (Gitman et al., 1982; Francis et al., 2008; Berry-Stölzle and Xu, 2018).

Yaghobnezhad et al. (2010) examined various variables of working capital and net operating profit and found an inversely relationship between the variables of working capital management and profitability. They mentioned, an increase in the receivables collection period, the payment period, the Inventory turnover and the cash flow cycle, will reduce profitability. Al-ANI (2013) studied structure of fixed and current assets (it is introduced as the CES by Neveu, 1989). The assets structure doesn't have a strong impact on ROE, he found. In other words, the change in the structure of assets does not correlate with the change in their returns. In another part of the results, it has been stated that, only the fixed assets affect ROE, while they do not affect ROA. On the other hand, current assets have no effect on ROE and ROA, while assets structure in the petrochemical industry affects ROE. Regarding the results of Al-ANI's research, it seems, the impact of assets structure on the shareholders' wealth can be different in different industries. So, it is important issue to be studied.

Tashakori Jahromi et al. (2014) have studied the relationship between working capital variables, such as sales cycle and receivables collection period, with stockholders' wealth (adjusted return). They found, there is a significant positive relationship between working capital components and the optimal level of working capital with stock's adjusted returns.

Aktas et al. (2015) found that the existence of an optimal level of working capital policy and converge of that optimal level by increasing or decreasing investment in working capital, improve firms' stock and operating performance. Also, efficient management of working capital can provide a new sources of internally-generated funds, which can be used at the benefit of firms' shareholders. Mun and Jang (2015) suggest that, working capital influences operating profitability. It has a significant inverse relationship with profitability and an increase in working capital has a negative effect on profitability. Also, the cash level is an important factor in efficient management of working capital. Harc (2015) found that tangible assets have a positive impact on the long-term debt. So, it can be concluded that the CES is related to the cost of capital and can ultimately affect the shareholders' wealth. In another study, Ahmad et al. (2017) found a significant and positive impact of asset structure on capital structure. As it was identified before, the asset structure is the CES and the capital structure is liabilities and shareholders' equity, from the financial management perspective. According to the results of this research, it can be argued that the CES can be related to the shareholders' wealth and cost of capital too.

3. Research Questions and Hypotheses

There are several researches similar to those reviewed in the previous section. But, as previously mentioned, there is no comprehensive study on the CES and cost of capital which be directly related to the shareholders' wealth. So, given the literature review and study of research background, the following questions were raised.

- Is there a significant relationship between the CES and shareholders' wealth?
- Is there a significant relationship between cost of capital and shareholders' wealth?
- How is the model of relationship between the CES and cost of capital with shareholders' wealth?

To answer the first two questions, two main hypotheses and several sub-hypotheses has been raised based on research literature and background.

H1: The CES has a significant relationship with shareholders' wealth.

H1.1: The Cash to Total Assets ratio (CTA) has a significant relationship with shareholders' wealth.

H1.2: The Short-Term Investments to Total Assets ratio (STITA) has a significant relationship with shareholders' wealth.

H1.3: The Current Assets to Total Assets ratio (CATA) has a significant relationship with shareholders' wealth.

H1.4: The Fixed Assets to Total Assets ratio (FATA) has a significant relationship with shareholders' wealth.

H1.5: The Long-Term Investments to Total Assets ratio (LTITA) has a significant relationship with shareholders' wealth.

H1.6: The Other Assets to Total Assets ratio (OATA) has a significant relationship with shareholders' wealth.

H2: The cost of capital has a significant relationship with shareholders' wealth.

H2.1: The Cost of Debt Capital (CDC) has a significant relationship with shareholders' wealth.

H2.2: The Cost of Equity Capital (CEC) has a significant relationship with shareholders' wealth.

4. Methodology

The method (strategy) of this study is analysis of secondary data. It is applied research and has used quantitative data to explore and describe the subject. This study examined the business level; that is, companies that have one business, not holding companies having several businesses. For this study, the statistical population encompassed companies listed in the Tehran Stock Exchange. The statistical population was screened, because 1) Holdings, the group companies and companies reporting consolidated financial statements, have more than a business were excluded due to lack of access to detailed data about each business and because this study focused on the business level, 2) Their fiscal year ended in March, 3) need to review past performance of business that require the presence of companies in the stock exchange not less than five years. Finally, some 186 companies were selected as sample based on systematically eliminated sampling.

4.1 Research Variables

The independent variables of the research are the CES and the cost of capital and the dependent variable is shareholders' wealth.

4.2 Variables' Measurement Methods

To measure variables, standard methods used by most researchers have been hired.

4.2.1 Capital Expenditures Structure

The cash to total assets (Deakin, 1972), short-term investments to total assets (Doukas and Lang, 2003), current assets to total assets (Öcal et al., 2007), fixed assets to total assets (Deloof, 2003), long-term investments to total assets (Doukas and Lang, 2003) and other assets to total assets ratios are used to calculate the CES.

4.2.2 Cost of Capital

Companies combine equity and debt or loan financing. The firms' cost of capital is usually calculated as the weighted average cost of debt and equity (Ross et al., 2016). It can be calculated by equation 1.

$$\text{Equation 1: } Wacc = r_{debt}(1-t_c) D/V + r_{equity} E/V$$

There is $Wacc$ = weighted average cost of capital, r_{debt} = cost of debt capital, t_c = tax rate, D/V = debt/total financial resources ratio, r_{equity} = cost of equity capital and E/V = equity/total financial resources.

Equation 2 (Ross et al., 2016) has been used to calculate the cost of equity capital.

$$\text{Equation 2: } R_E = D_1/P_0 + g$$

There is R_E = cost of equity capital, D_1 = next period's projected dividend, P_0 = current stock price and g = the dividend growth rate.

Also, the equation 3 has been used to calculate the cost of debt capital.

$$\text{Equation 3: } R_D = i(1-t)$$

There is R_D = cost of debt capital, i = interest rate debt, t = tax rate.

4.2.3 Shareholders' Wealth

For calculating the wealth created for shareholders, the formula provided by Fernández (2002) is used.

$$\text{Equation 4: Created shareholder value} = \text{Equity market value} \times (\text{shareholder return} \times K_e)$$

K_e is the cost of equity capital that is equal with RE (mentioned in equation 2) and calculated by the same method.

5. Data Analysis and Findings

This section consists of categorizing and summarizing and describing and analyzing the data collected. It was done using descriptive and inferential statistics techniques. At first, the research variables were described using descriptive statistics techniques. Then, the structural equation model has been used to construct a model and test the hypotheses.

5.1 Descriptive Statistics

Three main variables have been studied. Research data has an interval scale. To describe the variables of the research, the measures of central tendency and index of dispersion are used, which are shown in Table 1.

Table 1. Descriptive Statistics

Research variables	Sample size	Mean	Median	Standard deviation	Skewness	Kurtosis
CTA	186	0.043	0.029	0.049	3.425	18.403
STITA	186	0.020	0.000	0.051	4.473	24.741
CATA	186	0.646	0.681	0.196	-0.601	-0.388
FATA	186	0.246	0.203	0.179	1.127	1.001
LTITA	186	0.078	0.023	0.125	2.333	5.570
OATA	186	0.014	0.004	0.033	5.815	43.695
CEC	186	0.295	0.290	0.202	0.909	3.915
CDC	186	0.150	0.118	0.384	17.270	394.217
shareholders' wealth	186	891221.200	15452.376	8099648.740	4.443	93.511

5.2 Inferential Analysis of Findings

In the inferential statistics section, the following tests have been used to investigate the hypotheses:

- Confirmatory Factor Analysis
- Structural Equation Modeling

5.2.1 Confirmatory Factor Analysis

Research variables have been extracted from literature review and previous researches. Confirmatory factor analysis was used to determine the relationship between unobservable and observed variables. Factor loads should be higher than 0.5 and ideally 0.7 or higher (Fornell and Larcker, 1981). Figure 1 shows the path analysis model in the estimating mode of standard coefficients.

The summary of the confirmatory factor analysis results is shown in Table 2. It indicates the suitability of the observed variables' factor loads.

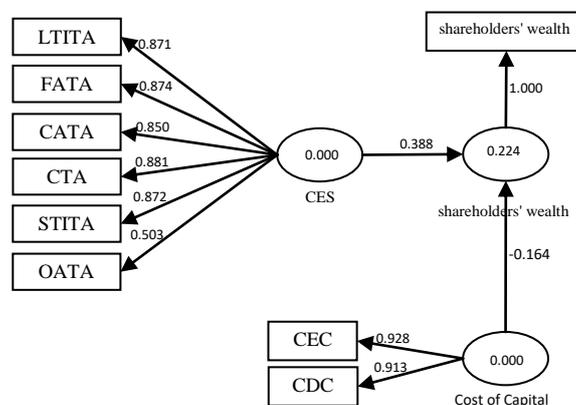


Figure 1. path analysis model in the estimating mode of standard coefficients

Table 2. Factor Loads of Unobservable Variables

Unobservable Variables	Items	Factor Loads
CES	CTA	0.881
	STITA	0.872
	CATA	0.850
	FATA	0.874
	LTITA	0.871
	OATA	0.503
Cost of Capital	CEC	0.928
	CDC	0.913
Shareholders' Wealth		1.000

5.2.2 Structural Equation Modeling

The structural equation model of the relationship between variables, which was designed using SmartPLS software, was investigated after confirmatory factor analysis and identifying the factor loads. Figure 2 shows the model in the absolute value of t-statistic. This model tests all measurement equations and structural equations using t-statistic. According to this model, if the value of t-statistic is more than 1.96, then the path coefficient in the 95% confidence level is significant. Given that the absolute value of t-statistic for all paths is more than 1.96, the coefficient of paths is significant at 95% confidence level.

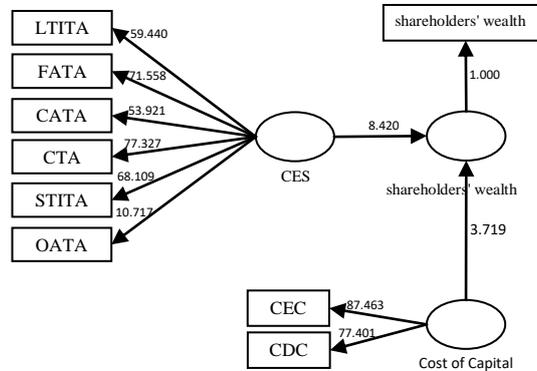


Figure 2. Model in the state of absolute significance of t-statistic

Validity, reliability and goodness-of-fit indexes of the model are shown in Table 3 and the correlation coefficients and divergent validity index are shown in Table 4.

Table 3. Validity, Reliability and Goodness-of-Fit Indexes

Unobservable Variables	AVE	CR	R ²	\sqrt{AVE}	$\sqrt{R^2}$	GoF
(1) CES	0.673	0.923	0.000	0.860	0.515	0.442
(2) Cost of Capital	0.570	0.814	0.000			
(3) Shareholders' Wealth	1.000	1.000	0.265			

Table 4. Correlation Coefficients and Divergent Validity Index

Unobservable Variables	(1)	(2)	(3)	\sqrt{AVE}
CES	1.000			1.000
Cost of Capital	0.473	1.000		0.820
Shareholders' Wealth	-0.434	-0.563	1.000	0.773

Average Variance Extracted (AVE) indicates the convergent validity of the measurement model. If the value is less than 0.5, the validity of the indexes, whether individually or structurally, is doubtful (Fornell and Larcker, 1981). Given that all AVE values are more than 0.5, the measurement model has credibility. Composite Reliability (CR) or convergent validity is present when CR is larger than 0.7 and CR should be larger than AVE too (Hair Jr et al., 2014). As shown in Table 3, both conditions are met. Therefore, the model has the necessary reliability. The results of the main research hypotheses test in Table 5 and the results of sub-hypotheses test are also shown in Table 6.

Table 5. Structural Equation Results for Research Hypotheses Test

Independent Variable	Dependent Variable	β	t-value	Sig	R ²	Result	Relation Direction
CES	Shareholders' Wealth	0.388	8.420	0.001	0.224	Confirmed	+
Cost of Capital		-0.164	3.719	0.001		Confirmed	-

|t|>1.96 Significant at P<0.05, |t|>2.58 Significant at P<0.01

Table 6. Structural Equation Results for Research Sub-Hypotheses Test

Independent Variable	Dependent Variable	β	t-value	Sig	R ²	Result	Relation Direction
CTA	Shareholders' Wealth	0.120	1.579	0.115	0.244	Unconfirmed	
STITA		0.143	2.237	0.031		Confirmed	+
CATA		-0.085	-1.147	0.252		Unconfirmed	
FATA		0.288	3.719	0.000		Confirmed	+
LTITA		0.138	2.852	0.005		Confirmed	+
OATA		-0.008	-0.109	0.913	Unconfirmed		
CDC		-0.174	-1.639	0.009	0.141	Confirmed	-
CEC		-0.233	-3.530	0.000	Confirmed	-	

6. Discussion and Conclusion

According to the research findings, it can be concluded that there is a direct and significant relationship between the CES and shareholders' wealth with 95% confidence. Also, there is a reciprocal and significant relationship between the cost of capital and the shareholders' wealth with 95 percent confidence. Although, in general, the existence of such a relationship is obvious and there is no doubt, but the most important part of the results is related to the details of the relationship. These details were investigated through sub-hypotheses. The results showed that despite the general relationship between independent variables and dependent variable of research, all components of the independent variables do not have the same relation to the dependent variable. This increases the importance of the issue and indicates the need to focus on the CES.

The results of the testing of the sub-hypotheses shown in Table 6 show that there is no relation between the CTA, CATA and the OATA with the shareholders' wealth.

Cash is one of the components of current assets that Mun and Jang (2015) also have paid attention to the its importance in managing working capital. The absence of a relationship between CTA and CATA with shareholders' wealth, is the same as the results of Al-ANI (2013), Yaghobnezhad et al. (2010) and Tashakori Jahromi et al. (2014). But, differs with the results of Aktas et al. (2015) and Mun and Jang (2015), which focused on working capital and in particular on the cash flow cycle. The differences observed in the results of these studies can be attributed to the time, economic, and political conditions of the countries in which the research is carried out. Also, the type of industry in which the company operates may have a significant impact on the research results. This could be the subject of future researches.

In general, it seems, the absence of a significant relationship between the CATA as well as the OATA with shareholders' wealth, appears due to the concept of unused resources. Current assets are items that, if invested in, excessively necessary, reduce stockholders' returns (stockholders' wealth) due to low returns or lack of returns. For example, cash surplus on need, does not produce any returns.

Other assets are not used in the company's operations. These assets are acquired and maintained in order to gain more future returns. Obviously, in conditions of market downturn, holding such assets cannot increase the company's returns, and may even reduce the company's return due to the lack of increase in value or even their devaluation. This could reduce shareholders' wealth, especially if it is financed from debt. The results of Harc (2015) and Ahmad et al. (2017) also confirmed, the CES is related to the cost of capital and the capital structure (liabilities and shareholders' equity).

Perhaps one of the main reasons for the lack of comprehensive attention to the CES by the researchers is the perception of an obvious relationship between it and the shareholders' wealth, or the firm's performance and returns. But, as stated above, the lack of attention to the proper combination of assets (CES) can create unused resources and thus reduce the returns.

The results of this study showed that the assumption of the existence of the relationship between all the components of the asset with the shareholders' wealth is not correct and it is necessary to decide more carefully on the composition of the assets. Also, researchers need to deviate from focusing only on the left side of the balance sheet and working capital, and to consider the right side of the balance sheet comprehensively.

What is remarkable as the final result of this study, is the absence of a relationship (in other words, the existence of a very weak relationship) between current assets (working capital) and other assets with shareholder wealth and the relationship between other components of the CES as well as the cost of capital with the shareholders' wealth.

The relation between all elements of the CES (assets structure) with the shareholders' wealth is not the same. Therefore, more attention should be paid to research in this field.

References

- Ahmad, G. N., Lestari, R., & Dalimunthe, S. (2017), "Analysis Of Effect Of Profitability, Assets Structure, Size Of Companies, And Liquidity To Capital Structures In Mining Companies Listed In Indonesia Stock Exchange Period 2012 - 2015", *JRMSI - Jurnal Riset Manajemen Sains Indonesia*, 8(2), 339-354.
- Aktas, N., Croci, E., & Petmezas, D. (2015), "Is working capital management value-enhancing? Evidence from firm performance and investments", *Journal of Corporate Finance*, 30, 98-113.
- Al-ANI, M. K. (2013), "Effects of assets structure on the financial performance: Evidence from sultanate of Oman", in 11th EBES Conference proceedings in Ekaterinburg, Russia, 2013, Institute of Economics, The Ural Branch of Russian Academy of Sciences, pp. 147-165.
- Anglano, C., Guazzone, M., & Sereno, M. (2014), "Maximizing profit in green cellular networks through collaborative games", *Computer Networks*, 75, 260-275.
- Auerbach, A. J. (1979), "Wealth Maximization and the Cost of Capital", *The Quarterly Journal of Economics*, 93(3), 433-446.
- Berry-Stölzle, T. R., & Xu, J. (2018), "Enterprise Risk Management and the Cost of Capital", *Journal of Risk and Insurance*, 85(1), 159-201.
- Bohme, S. R., Zorabedian, J., & Egilman, D. S. (2005), "Maximizing Profit and Endangering Health: Corporate Strategies to Avoid Litigation and Regulation", *International Journal of Occupational and Environmental Health*, 11(4), 338-348.
- Chen, G., & Haque, M. (2015), "Firm's Asset Structure Change: Evidence From Industrial, Commercial Machinery and Computer Equipment in the U.S. Market", *China-USA Business Review*, 14(1), 1-9.
- Deakin, E. B. (1972), "A Discriminant Analysis of Predictors of Business Failure", *Journal of Accounting Research*, 10(1), 167-179.
- Deloof, M. (2003), "Does Working Capital Management Affect Profitability of Belgian Firms? ", *Journal of Business Finance Accounting*, 30(3-4), 573-588.
- Doukas, J. A., & Lang, L. H. (2003), "Foreign direct investment, diversification and firm performance", *Journal of International Business Studies*, 34(2), 153-172.
- Fernández, P. (2002), "A Definition of Shareholder Value Creation", *SSRN Electronic Journal*, available at: <http://www.iese.edu/research/pdfs/DI-0448-E.pdf> (accessed 5 January 2019).
- Fornell, C., & Larcker, D. F. (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, 18(1), 39-50.
- Francis, J., Nanda, D., & Olsson, P. (2008), "Voluntary Disclosure, Earnings Quality, and Cost of Capital", *Journal of Accounting Research*, 46(1), 53-99.

- Gitman, L. J., & Mercurio, V. A. (1982), "Cost of Capital Techniques Used by Major U.S. Firms: Survey and Analysis of Fortunes 1000", *Financial Management*, 11(4), 21-29.
- Goncalves, A. F., Rossoni, L., & Mendes-Da-Silva, W. (2018), "Board social capital reduces implied cost of capital for private companies but not of state-owned companies", *Management Decision*, doi:10.1108/md-11-2017-1205
- Gonzalez-Alcorta, M. J., Dorfman, J. H., & Pesti, G. M. (1994), "Maximizing profit in broiler production as prices change: A simple approximation with practical value", *Agribusiness*, 10(5), 389-399.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014), "Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research", *European Business Review*, 26(2), 106-121.
- Harc, M. (2015) , "The relationship between tangible assets and capital structure of small and medium-sized companies in Croatia", *Ekonomski vjesnik/Econviews-Review of Contemporary Business, Entrepreneurship and Economic Issues*, 28(1), 213-224.
- Hassani, H. & Pakmaram, A. (2017), "Factors influencing Capital Structure of Companies with Emphasis on the Business Cycle", *Journal of Financial Management Strategy*, 5(1), 77-97. (in persian)
- Izadinia, N. (2005), "A Critique on Performance Measurement Techniques in Accounting and Proposing the Measure of Economic Value Added and Free Cash Flows for Corporate Reporting", *Faculty of Administrative Sciences and Economics Journal (University of Isfahan)*, 17(1), 57-79. (in persian)
- Lambert, C., & Sponem, S. (2005), "Corporate governance and profit manipulation: A French field study", *Critical Perspectives on Accounting*, 16(6), 717-748.
- Likierman, A. (1983), "Evidence on Accusations of Manipulating Profitability: Adjustments for Inflation by the Nationalised Industries 1976–81", *Accounting and Business Research*, 14(53), 29-34.
- Litterman, B. (2003), *Modern investment management: An equilibrium approach*, Wiley, New York.
- Markovic, B., Dunkovic, B., & Jukic, D. (2009), "Public Investments And Borrowing: New Challenges For The Local Governmetns In Eastern Croatia", In Barkovic D., Runzheimer B. 5th Interdisciplinary Management Research Meeting, pp. 497-508.
- Marston, S., Clark, G., Anderson, G., Kersbergen, R., Lunak, M., Marcinkowski, D., . . . Erickson, P. (2011), "Maximizing profit on New England organic dairy farms: An economic comparison of 4 total mixed rations for organic Holsteins and Jerseys", *Journal of Dairy Science*, 94(6), 3184-3201.
- Molanazari, M., Hejazi, R. & Sahraei, M. (2009), "Investigating the relationship between financing methods (external sources) and the success and failure of companies listed in Tehran Stock Exchange", *The Financial Accounting and Auditing Researches*, 2(6), 65-86. (in persian)
- Mun, S. G., & Jang, S. (2015), "Working capital, cash holding, and profitability of restaurant firms", *International Journal of Hospitality Management*, 48, 1-11.
- Neveu, R.P. (1989), *Fundamentals of Managerial Finance: Cincinnati*, South-Western Publishing Co., Ohio.
- Öcal, M. E., Oral, E. L., Erdis, E., & Vural, G. (2007), "Industry financial ratios—application of factor analysis in Turkish construction industry", *Building and Environment*, 42(1), 385-392.
- Reilly, F. K., & Brown, K. C. (2000). *Investment analysis and portfolio management*, Dryden Press, Forth Worth.
- Rezagharehbagh, R. & Mohammadi, P. (2015), "Impact of Financing Approach on Corporate's Financial Performance in Economic Fluctuations (Case Study of Automotive Industry)", *Journal of Financial Management Strategy*, 3(1), 51-70. (in persian)

Ross, S. A., Westerfield, R., & Jordan, B. D. (2016), *Fundamentals of corporate finance* (11th Edition), New York, NY: McGraw-Hill Education.

Shen, Z. M. (2006), "A profit-maximizing supply chain network design model with demand choice flexibility", *Operations Research Letters*, 34(6), 673-682.

Tashakori Jahromi, M., Ahadi Serkani, Y. & Talaneh, A. (2014), "Working capital management and shareholders' wealth", *Journal of Accounting and Auditing Review*, 21(2), 127-150. (in persian)

Yaghobnezhad, A., Vakilifard, H. & Babaei, A. (2010), "The relationship between working capital management and profitability in listed companies in Tehran Stock Exchange", *Financial Engineering and Portfolio Management*, 1(2): 117-137. (in persian)