



Financial Performance as Mediator on the Impact of Investment and Financial Decisions on Stock Price and Future Profit: The Case of the Jordanian Financial Sector

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ABSTRACT

The current study investigates the effect of investment and financial decisions on stock prices and future profits in the presence of financial performance as an intermediate variable. Thus, the case of the Jordanian banking and insurance sector is analysed. The sample includes 13 banks and 10 insurance companies from 2009 to 2018. A structural equation modeling analysis is conducted using the AMOS 23 software to test the hypotheses and validate the model. Financial decision exhibits no effect on future profits and stock prices, whereas investment decision affects future profits and stock prices. Financial performance is considered a mediator in the effect between financing decision and future profits. By contrast, financial performance fails to mediate the impact of financial decision and stock prices. In addition, it cannot mediate the effect of investment decision on future profits and stock prices.

Keywords: Investment Decision, Financial Decision, Financial Performance, Stock Price, Future Profit

JEL Classifications: G1, G2, G11

1. INTRODUCTION

Banking and insurance sectors are considered basic components in any economy because of their important role for achieving stability and increasing growth rates. The banking sector contributes to raising the level of savings and improving return, which is reflected in the increase in investment opportunities, while the insurance sector provides protection for any economic process. Thus, losses are minimized.

Ayuba et al. (2019) and Nurmet et al. (2019) indicated that the financial performance of companies depends on administrative decisions, which are implemented within the company, and is proven by the ability of managers to manage a business and maximize the owners' wealth. Investment decision refers to choosing the investment structure, that is, short- and long-term investments and the level of investment (investment size). Financial decision refers to choosing the financing structure

(debt or equity). The financial department should increase the operational, investment, and financial efficiency that maximize the value of the stock in the market and increase the expected future profits.

Hence, this paper mainly aims to examine the effect of the investment and financing decision on stock prices and future profits in the presence of financial performance as an intermediate variable.

2. THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

Modigliani and Miller (1963) indicated that investment and financial decisions are reflected in maximizing profits and wealth of owners provided that these decisions are ideal. Their previous study (Modigliani and Miller, 1958) is considered one

of the most important studies on the link between investment and financial decision because it concluded that no relationship exists between investment and financial decisions if markets are extremely efficient. Moreover, owners must make appropriate financial decisions to contribute to creating value for the company (Chavez et al., 2015).

Investment decision aims to allocate money in long-term assets that will be profitable in the future (Obara and Eyo, 2000). Such a decision determines the optimal mixture of projects that will be invested between short- and long-term investments. Thus, investment decisions must be taken after the investment project is completely analyzed, because they aim to increase the value of investments, growth in sales, and profits and maximize the value of the company (Virlice, 2013; Vos and Vos, 2000).

Gill et al. (2018) explained that investors create investment decisions on the basis of their rational viewpoints, experience, and available information. Thus, all operational and financial aspects, liquidity and profitability, and the prospects for stock growth are considered while investment decisions are made. The adoption of the investment decision is affected by the following factors (Saksonova, 2010; Jiricek and Dostalova, 2010; Paramasivan and Subramanian, 2009):

1. Investment risks
2. Worth of investment project
3. Diversity of investment project
4. Type of investment
5. Restricted availability of financial resources.

The company's investment and financial decisions must be reflected in its financial performance in a timely and correct manner to become highly efficient. This efficiency proves the management's ability to use its resources and thereby achieve and increase future profits.

Financial performance aims to inform stakeholders and thus encourage them to make decisions, which is a financial case for the company that includes the collection and use of funds and demonstrates the company's ability to manage and control its resources. Analyzing financial ratios during a specific time is the best way to assess the financial performance of companies (Fatihudin et al., 2018; Matar and Eneizan, 2018; Naz et al., 2016; Aliona, 2016). Fatihudin et al. (2018), Erdemir (2019), Ahmad et al. (2019), Ayuba et al. (2019), and Ullah et al. (2019) have indicated a set of ratios that is used to measure the financial performance of companies, such as return on investment, return on equity, and return on assets.

Numerous investors tend to invest in shares. Therefore, they must be aware of stock price because it determines the expected future profits within an acceptable level of risk. Furthermore, the investor must be aware of the factors that affect stock prices, including financial information, which can be obtained from financial data that cause stock prices to move (Dang et al., 2018; Cutler et al., 1988). The substantial amount of available data indicates increasing chances to study their prices (Harris, 1991). Gordon (1959) indicated that stock prices must have a specific relationship to earnings (Harris, 1991).

2.1. Previous Studies

Balas (2013) intended to test the effect of financial and investment decisions on financial performance. The study was applied to 22 listed companies on the Bucharest stock exchange from 2005 to 2010 and concluded a statistically significant effect of financial and investment decisions on financial performance.

Khanqah and Ahmadnia (2013) examined the relationship between investment and financial decisions and determined the effect of growth, company size, dividend policy, accounting rate of return, and liquidity on financial decisions. A total of 50 companies listed on the Tehran stock exchange from 2005 to 2010 were used as sample. They concluded that investment decisions exhibit a positive effect on financial decisions during the instance of uncertainty.

Matiin et al. (2018) investigated the influence of investment decisions, financial decisions, strategic risks, efficiency, financial performance, company value, and good governance as intermediate variables for the coal sector in mining companies. This study was applied to a sample of 18 companies listed on the Indonesia stock exchange from 2012 to 2016. Notably, investment decisions fail to affect efficiency, whereas investment decisions affect financial performance. In addition, investment decisions affect the value of the company, and financial decisions influence efficiency, financial performance, and the value of the company.

Ahmed (2008) analyzed the effect of the company's financial policy, profit distribution policy, and structure on performance. The study was conducted from 1999 to 2002 for a sample of 100 indicators for companies listed on the Kuala Lumpur stock exchange. The study emphasized that the company's debt policy (financial decision) affects corporate performance.

Makarim and Noveria (2014) analyzed the financial performance of companies as one of the main tools for making an investment decision. Five companies listed on the Indonesian construction market from 2009 to 2013 were used as sample. They found that the fundamental analysis of investors can be used to Investment decision-making.

Peterson and Benesh (1983) emphasized the relationship between investment decisions and financial decisions among companies through a pilot study on all companies in the standard and poors index, which excludes utility and financing companies, from 1975 to 1979. The number of observations ranged from 534 to 538 companies. Notably, financial decisions exhibit a major influence on investment decisions.

Muiruri and Wepukhulu (2018) focused on the influence of financial decisions on the financial performance of companies listed on the Nairobi stock exchange. The study targeted 66 companies from 2012 to 2016. Findings reveal that capital structure has a positive and slight effect on return on assets, while it has a positive and significant effect on return on shareholders' equity. Liquidity decision exhibits a positive influence on the return on assets and return on equity. Moreover, investment decision has a positive and considerable effect on return on assets and return on equity.

2.1.1. Study contribution

Through a review of related literature, we find that previous studies aimed to examine the effect of investment and financial decisions on a set of dependent variables, including financial performance. Different from them, the current study aims to investigate the effect of investment and financial decisions on stock prices and future profits in the existence of financial performance as an intermediate variable. Furthermore, existing studies were applied in foreign environments, whereas the current study was applied in the Jordanian market, particularly in two important sectors, namely, banking and insurance sectors. The interest in investment and financial decisions increased because of their importance for preventing risks of financial crisis, failure, or bankruptcy. Therefore, the results of the current study may be generalized to the financial sector.

3. METHODOLOGY

The current study employs analytical method using structural equation modeling (SEM). In particular, a model is developed to test the effect of investment and financial decisions on stock prices and future profits in the presence of financial performance as an intermediate variable.

3.1. Research Hypotheses

- H₀₁: Financial decision has no effect on the return on assets.
- H₀₂: Investment decision has no effect on the return on assets.
- H₀₃: Investment decision exhibits no effect on the return on equity.
- H₀₄: Financial decision exhibits no effect on the return on equity.
- H₀₅: The return on assets has no effect on the return on equity.
- H₀₆: The return on assets has no effect on future profit.
- H₀₇: Financial decision exhibits no effect on future profit.
- H₀₈: The return on equity has no effect on future profit.
- H₀₉: The return on equity has no effect on stock price.
- H₁₀: Investment decision exhibits no effect on stock price.
- H₁₁: The return on assets has no effect on stock price.
- H₁₂: Investment decision has no effect on future profit.
- H₁₃: Financial decision has no effect on stock price.

3.2. Population and Sample Study

The study population consists of all companies operating in the banking and insurance sectors, while the study sample comprised 23 companies as shown in Table 1.

3.3. Data Collection

Annual financial reports published on the Amman stock exchange website, books, periodicals, and research, masters, and doctoral dissertations published on the Internet are utilized for data collection.

3.4. Model of Study

The following model reflects the study problem that is represented by the effect of investment and financial decisions on stock prices and future profits in the existence of financial performance as an intermediate variable.

Figure 1 illustrates the study model including a group of independent, dependent, and intermediate variables that are related to each other. SEM is a method that solves systems of linear

equations simultaneously and analyze the best relationships among variables through a graph. In addition to several techniques such as regression analysis, path analysis, and factor analysis, SEM is also used to test the suitability of the assumed model (Stein et al., 2012; Hox and Bechger, 2014) and the ability of this technique to measure direct and indirect relationships among variables (Civelek, 2018).

SEM aims to evaluate the suitability of the assumed model to assess whether it provides a good fit of data through a set of indicators (Hox and Bechger, 2014). Such a method is more statistically suitable for testing hypotheses than other methods (Hoyle, 1995; Karagoz, 2016).

Therefore, SEM is used in this study to examine the extent of conformity of the default study model using the Amos Version 23 software to evaluate the suitability of this model through a set of indicators. Table 2 indicates the SEM analysis results.

3.5. Study Variables

3.5.1. Independent variables

Independent variables: Based on the review of previous literature, the following measures are adopted (Gabow, 2017; Alslehat and Altahtamouni, 2014; Lopez-Gutierriz et al., 2015):

- Investment decision: This variable is measured according to the following formula:

Figure 1: The study model

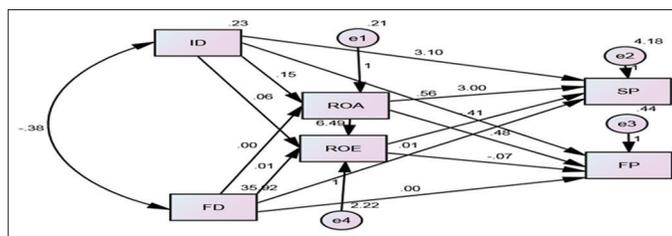


Table 1: Study sample

Number of companies	Sector
13	The banking sector
10	The insurance sector

Table 2: Hypothesized model (goodness-of-fit indices)

Threshold values	Fit indices	Indicators name
Measures		
Absolute fit level		
GFI >0.90	0.998	GFI
RMSEA <0.08	0.035	RMSEA
P-value <0.05	0.022	Root mean square residual
Incremental fit level		
NFI >0.90	0.998	NFI
TLI >0.90	0.992	TLI
CFI >0.95	0.999	CFI
AGFI >0.90	0.961	AGFI
Parsimonious fit index		
CMIN/DF <5	1.287	

GFI: Goodness of fit index, RMSEA: Root mean square error of approximation, TLI: Tucker Lewis index, CFI: Comparative fit index, AGFI: Adjusted goodness of fit index, NFI: Normed fit index

(Total assets on the day (t)–Total assets on the day (t–1))/
Total assets on the day (t–1)

- Financing decision: This variable is measured through the debt ratio according to the following formula:

$$\text{Debt ratio} = \text{Total liabilities}/\text{Total assets.}$$

3.5.2. Dependent variables

Dependent variables: The dependent variables are listed as follows:(<https://www.ase.com.jo/en>)

- Closing prices: It is the annual closing prices for the study sample companies
- Future profits: It is a net annual profit for the study sample companies.

3.5.3. Intermediate variables

Intermediate variables: The intermediate variables are financial performance, which are measured by the following indicators (Andrew, 2006; Moldovan et al., 2016):

- Return on assets: It is the net profit after tax is divided by total assets. This variable is measured according to the following formula:

$$\text{Return on assets} = \frac{\text{Net income after tax}}{\text{Total asset}}$$

- Return on equity: It is the net profit after taxes are divided by the total equity. This variable is calculated according to the following formula:

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Shareholders' equity}}$$

4. STATISTICAL ANALYSIS

4.1. Hypothesized Model (Goodness-of-fit Indices)

Table 2 presents the results, which are specified as follows:

1. Absolute fit level: This test indicates the suitability of the study model. Among the tests used in the good conformity index, the following indices are obtained: The goodness of fit index, root mean square error of approximation, and root mean square residual reach 0.998, 0.035, and 0.022, respectively. Therefore, indicates the suitability of the proposed study model.
2. Incremental fit level: This analysis shows the incremental extent of the factor or framework, that is, the extent that the results are increasingly accepted. The most important indices in this analysis include: Normed fit index, tucker lewis index, comparative fit index, adjusted goodness of fit index. This indices reach 0.998, 0.992, 0.999, and 0.961, respectively. Thus, the study model is successful and accepted.
3. The parsimonious fit index: Minimum value of the discrepancy function divided by degrees of freedom (CMIN/DF) value is <3. Therefore, the model is fully accepted.

4.2. Hypothesis Testing of Hypothesized Model

Table 3 lists the hypotheses results and indicates the direct relationships between the variables of the study.

Table 3: Regression weights for hypotheses testing result

Hypothesis	Direction of influence	Estimate	S.E.	C.R.	P	Support
H ₀₁	ROA←FD	0.002	0.005	0.310	0.757	Accepted
H ₀₂	ROA←ID	0.149	0.064	2.332	0.020	Reject
H ₀₃	ROE←ID	0.063	0.211	0.301	0.764	Accepted
H ₀₄	ROE←FD	0.008	0.017	0.488	0.626	Accepted
H ₀₅	ROE←ROA	6.486	0.215	30.175	***	Reject
H ₀₆	FP←ROA	0.481	0.214	2.246	0.025	Reject
H ₀₇	FP←FD	-0.005	0.007	-0.666	0.505	Accepted
H ₀₈	FP←ROE	-0.069	0.030	-2.329	0.020	Reject
H ₀₉	SP←ROE	-0.409	0.091	-4.511	***	Reject
H ₁₀	SP←ID	3.102	0.289	10.735	***	Reject
H ₁₁	SP←ROA	3.004	0.658	4.567	***	Reject
H ₁₂	FP←ID	0.555	0.094	5.898	***	Reject
H ₁₃	SP←FD	0.007	0.023	0.309	0.757	Accepted

1. The first hypothesis, which states that financial decision has no effect on the rate of return on assets, is accepted. Therefore, the banking and the insurance sectors do not depend on debt to increase the rate of return on assets, and several factors including working capital affect the return on assets
2. The second hypothesis is rejected, whereas the alternative hypothesis, which posits that investment decision affects the rate of return on assets, is accepted. This finding reinforces the first hypothesis given that the two sectors rely on their working capital investment and other areas of investment to increase the rate of return on assets
3. The third and fourth hypotheses, which indicate that investment and financing decisions exhibit no effect on the rate of return on equity, are accepted. The owners primarily aim to maximize the value of the company as a whole, thereby positively reflecting on the value of the stock and future total profits
4. The fifth and sixth hypotheses are rejected. Thus, the alternative hypotheses for each of them are accepted. In particular, the rate of the return on assets affect the rate of the return on equity and future profits
5. The seventh hypothesis, is accepted, which states that financial decision has no effect on future profits. This result reinforces the result of the first, third, and fourth hypotheses because the two sectors do not rely on debt to achieve future profits
6. The eighth and ninth hypotheses are rejected, and their alternative hypotheses are accepted. In particular, the rate of return on equity affects future profits and stock prices, which is the owners' goal in accordance with the third and fourth hypotheses
7. The tenth and twelfth hypotheses are rejected, whereas their alternative hypotheses are accepted. These hypotheses state that investment decision influences stock prices and future profits. Therefore, investment decision exhibits a significant effect on investors in the banking and insurance sectors given that they are concerned with future profits and stock prices
8. The eleventh hypothesis is rejected, whereas the alternative hypothesis is accepted. In particular, the rate of return on assets influences share prices, thereby achieving the owners' goal
9. The thirteenth hypothesis is accepted, which posits that financial decision exhibit no effect on stock prices. Therefore, the banking and the insurance sectors prevent debt financing

Table 4: Direct, indirect, and total effects

	Standardized total effects (group number 1 - default model)				Standardized direct effects (group number 1 - default model)				Standardized indirect effects (group number 1 - default model)					
	FD	ID	ROA	ROE	FD	ID	ROA	ROE	FD	ID	ROA	ROE		
ROA	0.02	0.154	0.000	0.000	ROA	0.020	0.154	0.000	0.000	ROA	0.000	0.000	0.000	
ROE	0.033	0.147	0.895	0.000	ROE	0.014	0.009	0.895	0.000	ROE	0.018	0.138	0.000	0.000
FP	-0.045	0.365	0.022	-0.318	FP	-0.041	0.365	0.307	-0.318	FP	-0.004	0.001	-0.285	0.000
SP	0.01	0.573	0.063	-0.527	SP	0.016	0.568	0.534	-0.537	SP	-0.006	0.005	-0.472	0.000

to increase stock prices in the market, because debt financing increases interest in the two sectors.

4.3. Direct, Indirect, and Total Effects of the Hypothesized Model

Given that financial performance is an intermediate variable, it is calculated in different manner that is called direct and indirect effect. Table 4 reveals the strength of the intermediate variable (represented by financial performance through the measures of the rate of return on assets and the rate of return on equity) on the effect of investment and financial decisions on stock prices and future profits.

1. The direct effect between the financial decision and future profits is -0.041, whereas the indirect effect is -0.004. Therefore, the indirect relationship is stronger and succeeds more than the direct relationship, and the intermediate variable represented by financial performance mediates the effect between the financial decision and future profits
2. The direct effect between the financial decision and stock prices reaches 0.016, whereas the indirect effect is -0.006. Therefore, the direct relationship is stronger than the indirect relationship. In addition, financial performance fails to mediate the effect between financial decision and stock prices
3. The direct effect between investment decision and future profits reaches 0.365, whereas the indirect effect is 0.001. Thus, the direct effect is stronger and more successful than the indirect effect. Moreover, financial performance fails to mediate the effect between investment decision and future profits
4. The direct influence between investment decision and stock prices is 0.568, and the indirect effect is (0.005). Consequently, the direct effect is stronger and more successful than the indirect effect. Furthermore, financial performance fails to mediate the effect between the investment decision and stock prices.

5. CONCLUSIONS AND RECOMMENDATIONS

The study obtained a set of results as follows:

1. Financing decision has no effect on the rate of return on assets, the rate of return on equity, future profits, and stock prices
2. Investment decision affects the rate of return on assets, stock prices, and future profits. However, investment decision exhibits no affect on the rate of return on equity
3. The rate of return on assets influences the rate of return on equity, future profits, and stock prices
4. The rate of return on equity affects future profits and stock prices

5. Financial performance mediates the effect between the financial decision and future profits, but it fails to mediate the effect between financial decision and stock prices
6. Financial performance lacks the mediating effect between investment decision and future profits and stock prices.

This study provides recommendations based on the results above.

1. The banking and insurance sectors should focus on their investment decision by supporting future profits and stock prices
2. The banking and insurance sectors should adopt policies that increase future profits by attracting new investors
3. Further studies should be carried out on different sectors and with different variables. For instance, the risks of investment and financial decisions and liquidity decision should be investigated.

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