



Does Financing Decision affect Company Growth? Empirical Evidence from Selected Companies in Jordan

Omar A Bani-Khalaf¹

¹ Ph.D. Candidate, Department of Banking and Finance, Eastern Mediterranean, Famagusta-Northern Cyprus
Email: omarbaikhalaf1993@gmail.com

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ABSTRACT

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The study investigates the impact of financing decisions on Jordanian firms' growth. Therefore, it collects data for 120 companies listed on the Amman Stock Exchange during 2008-2018. The study used a two-step difference and system GMM to test the relationship between variables. In general, results are consistent with the theory and previous findings, confirming a significant relationship between the financing decisions of firms and their performance represented by their growth. Furthermore, the study's findings suggest that firms should modify their capital structure mix to get the highest benefit level.

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Corresponding Author's Email: omarbaikhalaf1993@gmail.com

1. Introduction

Financing decisions may represent a trade-off between stakeholders since the choice of financing source is not totally in the hand of management. Instead, other parties such as shareholders may prefer to use debt, while debt holders prefer to use internal profits shareholders prefer to use leverage when they doubt the manager's behavior. Therefore, they use the debt for extra monitoring since the manager should pay the interest. On the other hand, firms may have restricted from using a debt, especially high-tech firms or any companies with a low level of a tangible asset (Chen & Kim, 1979). Determining the sources of financing is an important decision. These decisions enable the firms to allocate the cost and benefit for each source to avoid any possible losses.

However, several studies have been conducted so far on the issue. Nevertheless, the pioneering work is carried out by Modigliani and Miller (1958). Their work laid the foundation of the new capital hypothesis. Later on Choi, Fabozzi, and Yaari (1989) investigated the role of maximum using debt in reducing taxable income, while Solomon (1963) examined the effect of leverage on the cost of capital. Three notable theories of capital structure that are discussed mainly in the literature include the pecking order theory Elton (1999), static trade-off theory, and the market timing theory (Dong, Loncarski, Horst, & Veld, 2012). The trade-off theory provides a general theoretical framework for the company's capital structure process by comparing the cost and benefits of securities issuance to develop an optimal capital structure. Therefore, the financial structure may differ from one firm to another, where they can use external and internal debt according to their preferences (Scott, 1977).

The capital structure of a particular company can also be explained via pecking-order theory (Myers & Majluf, 1984). According to this theory, the capital structure depends mainly on asymmetric information, so the companies choose internal financing and issue new shares

as of last option. On the other hand, in market timing theory, firms may use debt if they expect an opportunity from a low-interest rate or high tax rate. Also, they issue new shares if the shares are overvalued or repurchase them if it is under-value (Baker & Wurgler, 2002). On other words, the optimum capital structure depends on the cheapest source of funds.

Managers in this context consider the costs and benefits of the chosen source of funds before making funding decisions. However, each funding source is characterized differently and bears different financial consequences. Therefore, how are the owner's expectations to be achieved? For this purpose, the participation of commissioners and managers in the firm's stock ownership through asset substitution is of utmost necessity.

This study aimed to investigate whether financing decisions affect the growth of 120 firms listed in the Amman stock exchange. More specifically, our contribution to the literature is three-fold. First, to our limited knowledge, no study investigates the role of the debt ratio; value traded, and retained earnings along with voluntary reserves on a firm's growth defined by sustainable growth rate and internal growth rate. This study utilized the latest available data from 120 firms listed in the Amman stock exchange. First, it investigated whether debt ratio, value traded, and retained earnings have any role in explaining a firm's growth. Second, we also synthesize the role of voluntary reserves in explaining a firm's growth. Third, we utilized the lasted panel data methods i.e., two-step system and difference GMM, to achieve the aforementioned objectives.

The rest of the study is structured as follows. Section two takes insights from the literature review. The methodology of the study is presented in section three, while section four presents the results and discussions. Conclusion and policy recommendations are in the last section.

2. Literature Review

Financing decisions specify how that the company could get the money to support the financing activity. Also, Khan and Gharaibeh (2007) define the financing decision as focusing on a capital structure by determining the percent of debt and contribution capital structure. While MacKie-Mason (1990) defines it as decisions that aim to determine the selective capital structure by determining the percent of a mix between the debt and equity to achieve the highest value for companies' share in the financial market.

Though there are different definitions for capital structure, most define it as a mixture of debt and equity, which is to conflict of interest between shareholders and management. So the choice of funding source between internal and external differ for all parties. For example, sometimes, the shareholders may prefer external funding because it is lower cost and has benefits related to taxation. On the other hand, management prefers issuing new shares or using retained earnings as a source of funding since they give more flexibility and avoid restrictions that the debtors could put on the company as a condition for lending. Liu and Zhang (2020) studied the causal relationship between economic uncertainty and financing decisions. They found that economic uncertainty significantly impacts the capital structure by reducing the use of debt.

Kasasbeh (2021) studied the impact of capital structuring and investment sources on the performance of companies in Jordan. They used the GMM method to study the relationship between variables. They found that different sources have different effects on the firm performance. Afsar and Karacayir (2020) investigated the relationship between investment, financing decisions, and firms' value. They used a fixed-effect model, and they found that the financing decisions have affected the firm's value. Ahmad, Hunjra, Islam, and Zureigat (2021) studied the relationship between information asymmetry and financing decisions. They found that the asymmetric information effect choosing the financing sources. Moreover, with high information asymmetry, companies resort to relying on debt.

On the other hand, the sustainable growth rate (SGR) indicates that each funding source's percentage will not change while firms finance new projects and investments (Murphy, 2019). According to sustainable growth rate, the firms can use debt and retained

earnings, but the important is to keep each percentage of funds fixed. The second type is internal growth rate (IGR), which concerns using only retained earnings to finance the investments (Smith 2020). Several previous studies have looked at internal and external growth rates. For instance, Lee (2018) suggests that firms located in a cluster per se do not affect firm growth. Moreover, Chauvet and Ehrhart (2018) used fixed effect and random effect regression models and concluded a positive relationship between aid and firms' growth.

Canarella and Miller (2018) investigated the determinants of firm growth. They found that the growth of U.S. information and communication firms depends on firm size, while agency costs and financial leverage have impeded firm growth. Mukherjee and Sen (2019) used a random effect model to explore the relationship between intellectual capital and sustainable growth rate. They concluded that intellectual capital has a significant impact on firms' growth. Similarly, Xu and Wang (2018) argued that besides the positive impact of intellectual capital on firms' performance and their sustainable growth, a firm's growth and performance are also affected by physical capital, human capital, and relational capital. Karpavičius and Yu (2019) studied the relationship between external growth and a firm's financing policy. They found high-growth companies have higher stock value and lower financial debt.

The productivity growth of firms is determined by many factors, one of which is financial frictions. In this regard, Levine and Warusawitharana (2021) found that the productivity growth of firms is affected by an increase in debt, which in turn will reduce the financial development and growth of firms. Karpavičius and Yu (2019) found that external growth opportunity is directly associated with higher equity policy of the firms while the inverse is true in the case of higher debt to equity ratio. Similarly Doan (2020) and Fan (2019) they concluded that the firms in order to grow dependence on debt financing must be reduced as compared to equity financing. Tran, Walle, and Herwartz (2020) used a heteroscedasticity-based identification strategy to investigate the impact of firm size, local financial development, and corruption on growth. They concluded that financial development and corruption impact a firm's growth, while firm size does not affect it.

3. Methodology

This study investigates the impact of financing decisions on firms' growth. Therefore, we followed (Ahmad et al., 2021) using Two-step difference and system GMM. Dynamic GMM has two advantages. First, it takes the difference of all the variables of a dynamic equation. Second, it is consistent with all non-linear restrictions robust to heteroscedasticity and cross-correlation (Arellano & Bond, 1991; Blundell & Bond, 1998). A plethora of literature exists that used GMM in their studies, to name a few includes (Brown & Petersen, 2009; Guariglia, 2008; Guariglia, Liu, & Song, 2011). We use the following econometric equations for estimation. Sustainable growth rate equation

$$SGR_{i,t} = \alpha_0 + \delta_{sgr}SGR_{i,t-1} + \alpha_1DR_{i,t} + \alpha_2LVT_{i,t} + \alpha_3LRE_{i,t} + \alpha_4VR_{i,t} + u_{i,t} \quad (1)$$

Sustainable growth rate equation

$$IGR_{i,t} = \alpha_0 + \delta_{sgr}IGR_{i,t-1} + \alpha_1DR_{i,t} + \alpha_2VT_{i,t} + \alpha_3RE_{i,t} + \alpha_4VR_{i,t} + u_{i,t} \quad (2)$$

SGR represents the sustainable growth rate of the firm. An IGR is the internal growth rate of the firm. Similarly, DR measured the debt ratio. LER and LVT are the natural logarithms of the retained earnings and value traded, respectively. Whereas voluntary reserve has been represented using dummy variable = 1 if funds are used in case of financial difficulties and 0 otherwise.

3.1 Data, Data Description and Results Discussion

This study uses county-level data for the 120 firms listed in the Amman stock exchange market from 2009 to 2018. The sample consisted of the public shareholder companies and has been chosen according to the availability of information since private firms are not compulsory to announce their financial data to the public. The data have been collected for 69 different companies. We dropped the firms that did not publish their financial data during the sample period. We use three kinds of variables in this study. The first kind is the two dependent variables, such as sustainable growth rate and internal growth rate of firms. The second kind

of variable is the debt ratio, the value of shares traded each year, while the third kind of variable is voluntary reserves. The detail of the data is given in table 1 below.

Table 1
Variables notations, definitions and sources

Variable	Notation	Description/definition	Data Source
sustainable growth rate	SGR	Maximum amount of growth with current level of debt	Amman stock exchange
Internal growth rate	IGR	Financing with current capital structure	Amman stock exchange
debt ratio	DR	Total liability to total asset	Amman stock exchange
Retained Earnings	RE	The earning the firms retained it instead of distribute it to shareholders	Amman stock exchange
Value Traded (JD)	VT	The value of shares traded each year	Amman stock exchange
voluntary reserves	VR	Dummy variable = 1, if funds used in case of financial difficulties and 0 otherwise	

The essential diagnostics of data are given in table 3 below. The first row shows the average value of each variable. The measure in the third column indicates how the actual values of variables have deviated from their mean. In other words, it tells us about the dispersion of the data from their mean value. Skewness and kurtosis are about the shape of the distribution of data. The Jarque-Bera test results show that all the variables are normally distributed.

Table 2
Descriptive Statistics

	DR	VT	IGR	RE	SGR
Mean	0.449006	17971811	-2.032565	8473426.	1.497464
Std. Dev.	0.287606	62262861	21.90650	38599147	19.10394
Skewness	0.293448	3.690638	-1.17790	0.154863	1.622149
Kurtosis	1.790117	2.1577	2.8010	3.15638	4.89052
Jarque-Bera	51.98761	291362.7	2394925.	76681.76	148889.7
Probability	0.000000	0.000000	0.000000	0.000000	0.000000

Literature suggests that collinearity among variables can be identified through a correlation matrix. The existence of a multicollinearity problem in the data can cause overfitting of the model, and we would not be able to separate the contribution of each variable in explaining the dependent variable (Daoud, 2017). Two variables are highly correlated if the correlation coefficient is more significant than 0.95. In our case (see table 3 below), this correlation coefficient for all the variables involved in this study is far lower than 0.95, confirming the non-existence of the Multicollinearity problem. Moreover, it is evident from table 3 that debt ratio and retained earnings are negatively associated with the firm's sustainable growth rate and the internal growth rate of a firm, which is consistent with the theory. When retained earnings are reinvested into the company's operations, it leads to a high growth rate for the company and vice versa.

Table 3
Pairwise correlation

Variables	(1)	(2)	(3)	(4)	(5)
(1) vt	1.000				
(2) dr	0.220	1.000			
(3) re	0.455	0.277	1.000		
(4) sgr	0.263	-0.825	-0.438	1.000	
(5) igr	0.934	-0.606	-0.267	0.159	1.000

4. Empirical Methods and Results

Results from equation (1) and equation (2) are reported in Table 4 below. These are the two main concerned equations of the study where policy outcomes will be drawn based on the results of these two equations.

Table 4 reports results obtained from two different methods, i.e., two-step difference GMM and two-step system GMM. Equations (1) and (2) are obtained while applying the panel mentioned above data methods. As evidenced from table 4, results of difference GMM for the two equations are reported in columns 2 and 3, while system GMM for the same two equations are reported in columns 4 and 5.

The validity of the dynamic models is checked through Sargan and Hansen test. While for the serial correlation test in the residuals Arellano-Bond test is used. Since the p-values of Sargan and Hansen and Arellano-Bond AR (2) are well above 10%, therefore validate the model (Arellano & Bond, 1991; Blundell & Bond, 1998). Also, since the coefficients of the lagged value of both sustainable growth rate and internal growth rate are significant, the decision to choose the dynamic model is correct.

Table 4
Findings of the sustainable growth rate and internal growth equations

Variables	Difference GMM		System GMM	
	SGR	IGR	SGR	IGR
L1(sgr & igr)	0.432*** (0.181)	0.321** (0.126)	0.431** (0.192)	0.259 (0.275)
Ldr	-0.323** (0.127)	-0.334** (0.141)	-0.230*** (0.021)	-0.122*** (0.023)
Vr	0.233 (0.264)	-0.312** (0.136)	-0.253 (0.424)	0.316** (0.126)
Lvt	0.253** (0.115)	0.328** (0.141)	0.512*** (0.103)	0.275** (0.117)
Lre	-0.182*** (0.016)	-0.278** (0.123)	-0.352** (0.153)	0.592 (0.636)
Constant	2.78*** (0.143)	1.26*** (0.161)	2.61*** (0.195)	1.81*** (0.123)
Year	Yes	Yes	Yes	Yes
Arellano-Bond test for AR (1)	0.040	0.016	0.010	0.019
Arellano-Bond test for AR (2)	0.120	0.118	0.120	0.116
Sargan test of overid (p-value)	0.284	0.106	0.235	0.296
Hansen test of overid (p-value)	0.431	0.107	0.284	0.312

Note. Arellano-Bond tests are represented by AR (1) & AR (2) for serial correlation in residuals. Sargan and Hansen (p-value) refers to the p-value of Sargan and Hansen test to check the over-identification of instruments. Values of standard errors are given in parenthesis. ***, **, and * shows the level of significance at 1%, 5%, and 10%

The lagged value of debt ratio in all the columns are -0.323, -0.334, -0.230, and -0.122 and are significant at 5% and 10%. These findings suggest that for the sustainable and internal growth rate of a firm, the debt proportion in a firm's total assets to be smaller than the asset proportion. In other words, the debt to asset ratio negatively influences both the internal and sustainable growth rate of a firm. A one-unit increase in debt to asset ratio decreases the sustainable growth rate by -0.323 and by -0.230, respectively, in the difference GMM model and system GMM model. Similarly, a one-unit increase in debt to asset ratio decreases the internal growth rate respectively by -0.334 in the difference GMM model and by -0.122 in the system GMM model. Voluntary reserve positively influences the sustainable growth rate while negatively the internal growth rate. The results are significant in all cases except for its influence on sustainable growth rate in system GMM. For those firms who save funds for times of financial difficulties, their sustainable growth rate is higher by 0.233 than those who do not save for times of financial difficulties. The findings are the same in system GMM for internal growth rate, while the opposite holds in the case of the internal growth rate equation in difference GMM.

As expected, the larger the value of shares traded in the market, the better the firm will be in terms of growth rate, both sustainable and internal. These results are significant across the models and the equations used in this study. Firms to grow should invest more of their earnings and retain less (Thirumalaisamy, 2013). Our finding suggests that the higher the retained earnings, the lesser the firm's growth, confirming the theoretical relationship between the two variables. However, the extent of a negative relationship varies across models and growth equations.

5. Conclusion

This study examined the impact of financing decisions represented by debt to asset ratio, retained earnings, and value traded along with voluntary reverses on the sustainable growth rate of a firm and the internal growth rate of a firm. The study used 120 firms listed in Jordan's Amman stock exchange market.

We used the two-step difference GMM and two-step system GMM. In general, results are consistent with the theory and previous findings, confirming a significant relationship between the financing decisions of firms and their performance represented by their growth. However, their size and sign are different across the two models and two equations used in the study.

Based on findings, the following suggestions are proposed. First, firms listed in the Amman Stock exchange to ensure sustainable growth should find alternative sources of financing than use retained earnings. In other words, they should rely less on retained earnings and find an alternative source of financing for their firm's operations. Also, firms should increase their sales through various advertising policies and find new markets for their products to have a sound financial base and rely less on debt for the operation of their firms.

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