

Does Financing Decision Affect a Companies' Growth?

Omar Bani-Khalaf *

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Abstract

This study investigates the impact of financing decisions on Jordanian shareholder firms' growth. The data was collected for 120 companies listed in the Amman Stock Exchange during the period 2008-2018. To test the relationship between the study variables, we used the two-step difference GMM and the two-step system GMM. In general, the results are consistent with the theory and previous findings, confirming a significant relationship between financing decisions and firms internal and external growth. Furthermore, the study's findings suggest that firms need to modify their capital structure mix to obtain the highest benefit level.

Keywords: Financing decisions, Firm's growth, GMM, Sustainable growth rate, Internal growth rate, External growth rate

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 companies with a low level of a tangible assets (Chen and Kim, 1979). Therefore, determining the sources of financing is an important decision. such 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 this issue.

Nevertheless, Modigliani and Miller (1958) laid the foundation of the new capital hypothesis. Later on, Choi et al. (1989) investigated the role of maximum usage of debt in reducing taxable income, while Solomon (1969) examined the effect of leverage on the cost of capital. Three notable capital structure theories discussed mainly in the literature include the pecking order theory (Elton, 1999), trade-off theory, and the market-timing theory (Dong et al., 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 (James and Scott, 1977). The capital structure can also be explained *via* the pecking-order theory (Myers and Majluf, 1984). According to this theory, the capital structure depends mainly on asymmetric information, so companies choose internal financing and issue new shares as the 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 they are undervalued (Baker and Wurgler, 2002). In other words, the optimum capital structure depends on the cheapest source of funding.

Managers in this context consider the costs and benefits of the chosen source of funding 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. To the researcher's limited knowledge, no study investigates the role of the debt ratio, value traded, retained earnings, and 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, we investigated whether debt ratio, value traded, and retained earnings have any role in explaining a firm's growth. Second, we synthesize the role of voluntary reserves in explaining a firm's growth. Third, we utilized the latest panel data methods, i.e., the two-step difference GMM and the two-step system GMM, to achieve the earlier mentioned objectives.

The rest of the study is structured as follows. The next section takes insights from the literature review. The study's methodology is then presented, followed by the results and discussion. Conclusion and policy recommendations are in the last section.

Literature review

Financing decisions explain how the company could get the money to support the financing activity. Khan and Gharaibeh (2007) define the financing decision as focusing on a capital structure by determining the percent of debt and contribution capital structure. Mackie-Mason (1990) defined 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 researchers define it as a mixture of debt and equity to create the highest benefit for all stakeholders as much as possible. So, the choice of funding source between internal and external sources 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. He found that different sources have a different effects on the firm performance. Afşar and Karaçayir (2020) Investigated the relationship between investment, financing decisions, and firm value. They used a fixed-effect model, and they found that the financing decisions have affected the firm's value. Ahmad et al. (2021) studied the relationship between information asymmetry and financing decisions. They found that the asymmetric information effects 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, firms can use debt and retained earnings, but what is important is to keep each percentage of fund fixed. The second type is internal growth rate (IGR), which concerns using only retained earnings to finance investments (Smith, 2020). Several previous studies have looked at internal and external growth rates. For instance, Lee (2018) suggested that internal and external growth rates for firms located in a cluster *per se* do not affect firm growth.

Moreover, Chauvet & 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. Finally, 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 firm growth.

Similarly, Xu & Wang (2018) argued that besides the positive impact of intellectual capital on firm performance and sustainable growth, a firm's growth and performance are also affected by physical capital, human capital, and relational capital. Finally, Karpavičius and Yu(2019) studied the relationship between external growth and a firm's financing policy. They found that 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 (2019) 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 & Yu (2019) found that external-growth opportunity is directly associated with higher equity policy of firms, while the inverse is true in the case of higher debt to equity ratio. Similarly Fan (2019) and Doana (2020) concluded that firm growth depends on debt financing being reduced compared to equity financing. Tran et al. (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 size does not affect it.

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 and is robust to heteroscedasticity and cross-correlation. (Arellano & Bond 1991; Blundell & Bond 1998). A plethora of literature exists that used GMM, including (Brown & Petersen 2009; Guariglia 2008; Guariglia et al. 2011). We use the following econometric equations are used for estimation of sustainable growth rate and internal growth rate:

$$SGR_{it} = \alpha_0 + \delta_{SGR}SGR_{it-1} + \alpha_1DR_{it} + \alpha_2LVT_{it} + \alpha_3LRE_{it} + \alpha_4VR_{it} + u_{it} \quad (1)$$

$$IGR_{it} = \alpha_0 + \delta_{SGR}IGR_{it-1} + \alpha_1DR_{it} + \alpha_2VT_{it} + \alpha_3RE_{it} + \alpha_4VR_{it} + u_{it} \quad (2)$$

SGR represents the sustainable growth rate of the firm. IGR is the internal growth rate of the firm. Similarly, DR measures the debt ratio. LER and LVT are the natural logarithms of the retained earnings and value traded, respectively. Finally, the voluntary reserve (VR) is traced using a dummy variable which equals 1 in case of voluntary reserve and 0 in case of no voluntary reserve.

Data, Results and 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 sample consists of 69 companies. Firms that did not publish their financial data during the sample period were dropped. The detail of the data is given in Table 1.

The researcher started with the descriptive statistic presented in Table 2. 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 explain the distribution of data. The Jarque-Bera test results show that all the variables are normally distributed.

To test the multicollinearity among variables, the correlation matrix was used. The existence of a multicollinearity problem in the data can cause overfitting of the model, and we would then not be able to separate the contribution of each variable in explaining the variation in the dependent variable

(Daoud, 2017). Two variables are highly correlated if the correlation coefficient is more than 0.95. In our case (see Table 3), correlation coefficient for all the variables involved in this study are 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, this leads to a high growth rate and *vice versa*.

Table 1: Variables' notations, abbreviations, 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 | Earnings retained by the firms instead of distributing them | 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 are used in case of financial difficulties and 0 otherwise | |

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 |

Table 3: Correlation matrix

| 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 |

Empirical methods and results

Findings From the Sustainable Growth Rate and Internal Growth Rate 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 data methods mentioned above. As evidenced from table 4, results of difference GMM for the two equations are reported in columns 2 and 3, while the results of 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. 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%, the model is validated (Arellano & Bond, 1991; Blundell & Bond, 1998). Also, since the coefficients of the lagged values of both sustainable growth rate and internal growth rates are significant, choosing the dynamic model is correct.

Table 4: Findings of the sustainable growth rate and internal growth rate 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) |
| LVR | 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 overidentification (p-value) | 0.284 | 0.106 | 0.235 | 0.296 |
| Hansen test of overidentification (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 overidentification of instruments. Values of standard errors are given in parenthesis. ***, ** and * show 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 the debt to asset ratio negatively influences both a firm's internal growth rate and sustainable growth rate. For example, a one-unit increase in debt to asset ratio decreases the sustainable growth rate by -0.323 and -0.230, respectively. 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 influencing negatively the internal growth rate. The results are significant in all cases except for the influence on sustainable growth rate in system GMM. For those firms that save funds for times of financial difficulties, their sustainable growth rate is higher by 0.233 than those that do not save funds for times of financial difficulties. The findings are the same in system GMM for internal growth rate, The opposite holds in the case of the internal growth rate equation in difference GMM.

The larger the value of shares traded in the market, growth rate 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 seeking to grow should invest more and retain less of their earnings (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.

Conclusions and Policy Implications

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 and the internal growth rate of a firm. The study used data for 120 firms listed in the Amman Stock Exchange.

The researcher 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, 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 alternative source of financing for their 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 operations.

هل يؤثر قرار التمويل في نمو الشركات؟

عمر بني خلف

قسم المصارف والتمويل، جامعة الشرق الاوسط، عمان، الاردن.

الملخص

تبحث هذه الدراسة في تأثير قرارات التمويل على نمو الشركات الأردنية. تم جمع البيانات من 120 شركة مدرجة في بورصة عمان خلال الفترة 2008-2018. لاختبار العلاقة بين المتغيرات، تم استخدام الاختلاف المكون من خطوتين ونظام GMM. بشكل عام، تتوافق النتائج مع النظرية والنتائج السابقة، مما يؤكد وجود علاقة مهمة بين قرارات التمويل ونمو الشركات الداخلي (المستدام) والخارجي. علاوة على ذلك، تشير نتائج الدراسة إلى أنه يجب على الشركات تعديل مزيج هيكل رأس المال الخاص بها للحصول على أعلى مستوى من المنفعة.

الكلمات المفتاحية: قرارات التمويل، نمو الشركة، GMM، معدل النمو المستدام، معدل النمو الداخلي.

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