

# Moderating effect of competitive strategies on the relation between financial leverage and firm performance: Evidence from Jordan

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**Abstract:** This study examined the moderating role of competitive strategy in the relationship between financial leverage and performance of firms based on a sample of industrial firms in Jordan between 2007 and 2016. The interaction between competitive strategy and financial leverage was revealed to influence the effects of financial leverage towards the performance of firms in terms of return on assets (accounting-based measure) and market-to-book ratio (market-based measure). Conclusively, obtained results are in line with the notion that firms that employ cost leadership strategy experience tax advantages and increased efficiency through debt financing and/or debt covenants. This study extends the overall understanding on the effects of financial leverage towards performance of firms and how this relationship is moderated by competitive strategy among firms in an emerging market such as Jordan.

**JEL Classifications:** D21, G32

**Keywords:** Financial leverage, firm performance, competitive strategies, industrial firms, Jordan

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## 1. Introduction

Under the assumptions of perfect capital markets, Modigliani and Miller (1958) propounded the notion that the firm value is not determined by its capital structure or securities issues, but by its real assets. These assumptions of perfect capital markets are rather restrictive and unrealistic in nature, which create ambiguity to the theory of capital structure itself. Its inconclusiveness in the context of corporate finance has propelled numerous studies to examine the underlying assumptions of how the capital structure influences the firms' performance and further rationalize this proposition. In particular, one of the key studies that demonstrated the relationship between capital structure and performance of firms is the study performed by Jensen and Meckling (1976), which revealed that financial leverage owned by firms (in their capital structure) influences the behavior and operating decisions of managers, whether to perform in the interest of shareholders (Brav, Graham, Harvey, & Michaely, 2005; Graham & Harvey, 2001; Harris & Raviv, 1991). Following that, studies on the effects of financial leverage towards the performance of firms have been extensively conducted over the past decades, but the empirical evidences presented revealed inconsistency and the relationship remains inconclusive.

Certain studies concluded that the performance of firms is positively related to the financial leverage (Ghosh, Nag, & Sirmans, 2000; Hadlock & James, 2002; Roden & Lewellen, 1995; Taub, 1975) whereas Gleason, Mathur, and Mathur (2000), Fama and French (1998), and Simerly and Li (2000) concluded that financial leverage negatively influences firms' performance. These inconsistencies may also be due to the approaches applied in these studies, which mostly focused only on how financial leverage of firms directly influences their performance (e.g., Barton & Gordon, 1987; O'Brien, 2003; Robinson & Phillips McDougall, 2001) when this relationship may depend on the competitive strategy adopted by these firms (O'Brien, 2003). Moreover, it is not unusual that firms apply different strategies to gain competitive advantage, particularly in a highly competitive environment. Adding to that, competition itself may be a salient factor that drives these firms to acquire debts in order to finance their businesses.

In the context of strategic management, Porter (1985) recommended two types of competitive strategy to gain competitive advantage for superior performance, which are (1) cost leadership strategy and (2) product differentiation strategy. The increasing usage of debt due to the increasing cost of debt compels higher performance among managers in their financial obligations (Berger & Di Patti, 2006). Accordingly, managers are prompted to efficiently utilize the provided financial resources according to the established debt agreements to pay creditors on time (Simerly & Li, 2000). This scenario is known as the critical agency problem-controlling mechanism. Accordingly, competitive strategy significantly influences the effectiveness of this mechanism (Jermias, 2008), which potentially affect the usage of debt. Firms achieve operational efficiency for cost reduction in the context of cost leadership. Thus, operational efficiency is deemed critical in cost leadership. Creditors impose debt agreements, which prompt managers to employ efficient utilization of financial resources for higher performance. Meanwhile, in the context of product differentiation, firms set themselves apart from competitors through the creation of products and services, which emphasizes creativity and innovation. As the decisions made by such firms typically involve risk, firms have to make use of the debt to achieve higher performance without affecting their creativity and innovation.

Meanwhile, the recent free trade agreements between Jordan and countries such as Canada, Europe, and the United States spur intense competition among firms (Al-Rfou, 2012; Hutaibat, 2005), which prompt these firms to employ competitive strategies. Therefore, the need to examine the moderating role of competitive strategy in the relationship between financial leverage and performance of firms is significantly pivotal, particularly among the listed industrial firms in Jordan, which was addressed in this study.

This paper is organized as follows: Section 2 presents an overview of the related literature and the hypotheses of this study; Section 3 provides description of the methodology adopted in this study; Section 4 reports the details of data analyses as well as the obtained results; Section 5 concludes the major findings, limitations, and implications of this study.

## 2. Literature review

There are numerous studies on the effects of financial leverage towards firms' performance, but the concept of debt remains inconclusive for firms. Certain studies (e.g., Balakrishnan & Fox, 1993; Gleason et al., 2000) provided empirical evidences that leverage negatively influences performance of firms. In particular, Jensen & Meckling (1976) revealed the relationship between agency costs (such as monitoring and bonding costs) and debt financing for the sake of protecting the firms' interest. On the other hand,

Myers (1977) asserted that part of the investment goes to the debt holders in debt financing, which prompts equity holders to under-invest, leading to firms' subpar performance. Similarly, Simerly & Li (2000) argued that higher debt empowers the debt holders over these firms through debt covenants, which narrows the options available for the managers and eventually causes ineffective firm management. Debt holders' propensity to put emphasis on intermediate objectives, which primarily focus on acquiring specified principal payments and interest as agreed in the contract, may affect the long-term survival of firms negatively (Jensen, 1986). In addition, the increase in debt financing reduces managers' willingness to take on projects with high risk even when they are profitable (Balakrishnan & Fox, 1993).

On the contrary, there are also other empirical studies that opposed to the aforementioned claims, which revealed that financial leverage positively influences performance of firms (e.g., Ghosh et al., 2000; Spence, 1985). Jensen (1986) postulated that debt covenants ensure that the financial obligations of managers are performed responsibly and the discretionary expenditure is reduced to settle the debts. Failure to settle these debts leads to financial problems and in more critical cases, bankruptcy, which put the managers' position at risk (Jensen, 1989). Lubatkin & Chatterjee (1994) note that interest is tax deductible in arguing that debt will improve firm performance because a portion of the cost of capital is passed from the stockholders to the government. Harris & Raviv (1991) argued that higher debts drive the common interest of managers and shareholders. These authors propose that by increasing debts, a firm intensifies the influence of its lenders, who can constrain managers' ability to make decisions which the lenders believe would negatively impact the firm. The bonding agreement between a firm and its lenders might discipline managers to run the firm more efficiently (Jensen, 1986).

Basically, there are no consistent evidences to establish the effects of financial leverage towards firms' performance (Harris & Raviv, 1991) given the results obtained varied and contradicted each other. Therefore, certain studies (e.g., Barton & Gordon, 1988; O'Brien, 2003) recommended that studies on the effects of financial leverage towards the performance of firms should consider hypothetically plausible variables through integrative approach. Addressing that, this study examined the moderating role of competitive strategy in the relationship between financial leverage and performance.

Firms employ competitive strategy to gain competitive advantage, which potentially affect their debt borrowing. Porter (1985), who broadly categorized competitive strategy into cost leadership and product differentiation, proposed a framework on how firms decide on the type of strategy to effectively compete; either by producing at the lowest cost in industry (cost leadership strategy) or by delivering unique product or service (product differentiation strategy). This conceptually valid classification is widely recognized and has been extensively adopted in various studies (e.g., David, 2011; Hambrick, 1983; A. Miller, 1998).

The agency theory of capital expounded the effects of such strategies towards the firms' decision on debt borrowing (Jensen & Meckling, 1976). Based on this theory, managers are supposedly function independently and able to make use of the shareholders' stakes for their own benefits. For instance, instead of projecting free cash flows into positive projects, managers use these available resources as bonuses for their own stakes (Jensen, 1986). Thus, debt borrowing is introduced for application in order to ensure managers serve the best interest for stakeholders (Jensen & Meckling, 1976; Jensen, 1986). Therefore, high debt increases the cost of debt, which contributes to higher performance

among managers in fulfilling their financial obligations (Berger & Di Patti, 2006). Meanwhile, debt covenants drive managers to practice efficient utilization of resources in ensuring timely repayment (Simerly & Li, 2000). As previously discussed, this is known as critical agency problem-controlling mechanism, which is highly contingent on competitive strategy (cost leadership or product differentiation) (Jermias, 2008).

Expectedly, firms with cost leadership strategy aim to produce at the lowest cost in the industry. In order to achieve that, there are different aspects to be considered, such as advertising, cost controls, cost reduction in research and development, efficient scale facilities, overhead controls, and sales force. Firms with this strategy typically gain above-average profits despite the lowering of their costs (D. Miller & Friesen, 1986). Thus, operational efficiency is considered integral for firms that employ this type of strategy. In addition, the usage of debt benefits these firms through the increase in managerial efficiency with the monitoring of lenders (Jordan et al., 1998) towards enhanced performance. The monitoring of lenders ensures that managers perform their financial obligations responsibly without discretionary spending (Jensen, 1986). Thus, Jensen (1986) suggested that the control function of debt is significant for firms that endeavor to be efficient. In short, debt covenants propel managers to practice effective utilization of financial resources towards better performance given the significance of operational efficiency in cost leadership strategy.

Meanwhile, firms with product differentiation strategy aim to set themselves apart from competitors by providing products or services of unique quality, specifically in terms of branding, customer service, design, special features, and technology. Typically, firms with this type of strategy primarily focus on unique needs that require high creativity and innovation capabilities, rather than acquiring maximum market share, which drive firms' propensity to invest heavily in research and development activities to remain competitive (Miller, 1987). In order to achieve sustainable competitive advantage, these firms require not just unique competencies, but also substantial financial resources (Postma & Zwart, 2001), which push these firms to borrow from creditors. However, debt covenants with increased debt as well as requirements are likely to limit managers' creativity and innovation for competitive advantage (Balakrishnan & Fox, 1993; Li & Simerly, 2002). Adding to that, these firms also encounter high uncertainty because they deal with risky decisions on products or services that are yet to be realized (Jermias, 2008). The imposed covenants by creditors can affect creativity and innovation activities by avoiding the risky decisions of managers, thus leading to the effective use of debt and achieving a better performance.

There are several empirical evidences on the moderating role of competitive strategy in influencing the effects of financial leverage towards the performance of firms. In particular, both competitive strategy and financial leverage were revealed to influence the performance of firms significantly (O'Brien, 2003; Barton & Gordon, 1988), which demonstrates the possibility of the type of strategy adopted by firms in influencing the effects of financial leverage towards the performance of firms. Meanwhile, Jermias (2008) and Farooq, Ashraf, & Ahmad (2014) corroborated that competitive strategy did function as a moderator in this particular relationship and further revealed that, between the two types of competitive strategy, product differentiation strategy put firms at higher disadvantage. Consistent results on cost leadership strategy reaffirmed that firms experience tax advantages as well as improved efficiency through debt financing (as a result of constraints imposed by debt holders that propel improved performance).

Nonetheless, the effects of financial leverage towards firms' performance in the context of the current study remain ambiguous with inconsistent results: negative relationship (Ramadan & Ramadan, 2015; Zeitun & Tian, 2007), positive relationship (Al-Taani, 2013; Almajali, Alamro, & Al-Soub, 2012), as well as insignificant relationship (which determined that the capital structure is not significant factor to the performance of firms) (Almajali et al., 2012). Moreover, Hutaibat (2005) and Al-Rfou (2012) reaffirmed firms in Jordan employ diverse business strategies to remain competitive due to the intense competition, which is resulted from the new free agreements with countries such as Canada, Europe, and the United States. Therefore, this study examined the moderating effects of competitive strategy on the effects of financial leverage towards firms' performance in developing countries, particularly Jordan. With that, this study proposed the following hypotheses:

**H1:** The negative effects of financial leverage towards return on assets are more significant for firms with product differentiation strategy compared to firms with cost leadership strategy.

**H2:** The negative effects of financial leverage towards market-to-book value are more significant for firms with product differentiation strategy compared to firms with cost leadership strategy.

### 3. Research methodology

#### 3.1. Research design

This study employed panel data regression and sampled listed industrial firms between 2007 and 2016 in Amman Stock Exchange (ASE), which is one of the most extensive stock exchanges in the region of Middle East.

TABLE 1. FIRMS LISTED AT ASE BY THE END OF 2016 SELECTED FOR THE STUDY

SUB-SECTOR TITLES	LISTED FIRMS IN EACH SECTOR	THE SELECTED FIRMS FOR THE STUDY
Pharmaceutical and medical industries	7	6
Chemical industries	8	8
Paper and cardboard industries	2	2
Printing and packaging	1	1
Food and beverages	11	8
Mining and extraction industries	16	15
Engineering and construction	9	9
Electrical industries	4	4
Tobacco and cigarettes	2	2
Textiles, leathers and clothing	7	6
Glass and ceramic industries	1	0
Total	68	61

The effects of financial leverage towards performance of firms in Jordan as well as the moderating role of competitive strategy were specifically examined in this study. Law No. 12 (1964) was the first Company Law in Jordan with its first administration enacted in

1966. As one of the emerging economies, Jordan is strategically located with access to large consumer market, which put it as one of the most important locations in the region of Middle East. However, the non-financial sector in Jordan encounter poor performance in the recent years (Alabdullah, Yahya, & Ramayah, 2014). Only industrial sector was considered for this study because industrial firms tend to adopt diverse competitive strategies and sample of single sector would reduce heterogeneity issue (Ginsberg & Venkatraman, 1985; Moores & Yuen, 2001). As shown in Table 1, this study sampled 61 industrial firms from 10 different sub-sectors in ASE with the exclusion of financial firms, service firms, and other firms with incomplete data.

### 3.2. Measurement of variables

The performance of industrial firms was considered as the dependent variable in this study. More specifically, the performance of industrial firms is typically assessed based on (1) accounting-based measure, which considers financial statements of firms, such as return on assets (ROA), return on equity (ROE), and return on investment (ROI) (e.g., Abor, 2005; Majumdar & Chhibber, 1999) and (2) market-based measure, which includes stock returns and volatility (Welch, 2004). Therefore, this study considered ROA (for accounting-based measure) and market-to-book ratio (for market-based measure) to evaluate the performance of firms including their stock market activity as well as any other potential factors that may influence the performance of firms, which is in line with (Salim & Yadav, 2012; Zeitun & Tian, 2007). With that, these measures were determined based on the following equations:

$$ROA_{(i,t)} = NI_{(i,t)} / TA_{(i,t)} \quad (1)$$

Where, ROA denotes return on assets, NI denotes net income, TA denotes total assets,  $i$  represents firm, and  $t$  represents year. Specifically, ROA indicates the profitability of a firm in relative to its total assets, which provides manager, investor, or analyst significant insights on the efficiency of the firm's asset management in generating earnings.

$$MBV_{(i,t)} = MC_{(i,t)} / BVA_{(i,t)} \quad (2)$$

Where, MBV signifies market-to-book value, MC signifies market capitalization of a firm, BVA signifies book value of assets,  $i$  represents firm, and  $t$  represents year. With this proxy of performance, future expectations of performance of these firms are incorporated as well, which is considered as one of its main strengths (O'Brien, 2003).

This study considered financial leverage as the independent variable, which is calculated based on the ratio of total liabilities to total assets. This calculation was extensively adopted in studies on capital structure (Huizinga, Laeven, & Nicodeme, 2008; Matar & Eneizan, 2018; Rajan & Zingales, 1995). Financial leverage offers two main benefits: (1) trade credit is recognized as short-term financing source and (2) financial leverage is available for all firms. In particular, the study measured the degree of financial leverage for a firm to finance business activities based on the following equation:

$$FLEV_{(i,t)} = TL_{(i,t)}/TA_{(i,t)} \quad (3)$$

Where, FLEV indicates financial leverage, TL indicates total liabilities of a firm, TA indicates total assets of a firm,  $i$  represents firm, and  $t$  represents year.

This study included three control variables, namely, (1) firm size, (2) growth opportunities of firm, and (3) dividend policy of firm. Firstly, firm size essentially represents the financing patterns of a firm. Small firms tend to employ informal financing and lower external financing compared to large firms (Beck, Demirguc-Kunt, Laeven, & Levine, 2008). The natural logarithms of the total asset are taking as a measurement for this variable to reduce the influence of outliers in the regression analysis. Secondly, high growth opportunities of firms reflect high performance ratio based on the notion that investments generate profits (Zeitun & Tian, 2007). Expectedly, growth opportunities positively influence the performance of firms. This variable is measured by taking the log-differences of the firm's sales. Finally, dividend policy of firms is calculated as the yearly dividend per share over the earnings per share. Compared to firm with low dividend payout, firm with high dividend payout is more likely to have higher market value with lower book value of assets (Jermias, 2008).

Apart from that, this study conceptualized competitive strategy as the moderator in the relationship between financial leverage and performance of firms. In this context, competitive strategy comprised of cost leadership strategy and product differentiation strategy, which generally reflect the strategic orientation of firms. Similar to previous studies (e.g., Chen & Jermias, 2014; O'brien, 2003; Robinson & Phillips McDougall, 2001), this study categorized firms based on the framework proposed by Porter (1985). Besides its internal consistency, this classification proves to be academically accepted as well (Hambrick, 1983; Dess & Davis, 1984).

Similar to other studies (e.g., Chen & Jermias, 2014; Farooq et al., 2014; Singh & Agarwal, 2002), this study objectively classified firms using cluster analysis based on the types of competitive strategy, which are cost leadership and product differentiation. Besides that, this study used three classifying variables: (1) inventory turnover, (2) asset utilization efficiency, and (3) premium price capability (Farooq et al., 2014; Gani & Jermias, 2006; Jermias, 2008), which were measured based on the following equations (4, 5):

$$IVT_{(i,t)} = SA_{(i,t)}/INV_{(i,t)} \quad (4)$$

Where, IVT signifies inventory turnover, SA signifies sales of a firm, INV signifies inventory of a firm,  $i$  represents firm, and  $t$  represents year. Inventory turnover represents the significance of cost leadership to firm. In order to gain higher profit, firms employ cost leadership strategy through economy of scale (Farooq et al., 2014), which reduce their inventory turnover in days. Meanwhile, firms that employ product differentiation strategy do not rely on the economy of scale, but through high prices. As a result, these firms have higher inventory turnover in days.

$$AUE_{(i,t)} = SA_{(i,t)}/TA_{(i,t)} \quad (5)$$

Where, AUE denotes asset utilization efficiency, SA denotes sales of a firm, TA denotes the total assets of firm,  $i$  represents firm, and  $t$  represents year. The significance of cost leadership strategy for firms is associated to AUE, where firms produce at the lowest cost in the industry through cost minimization, economy of scale, overhead cost control, and tight cost control in achieving higher efficiency in their operations, such as in the areas of advertising, research and development, sales force, and services (Porter, 1980). Therefore, firms with cost leadership strategy achieve higher ratio of asset utilization efficiency compared to firms with product differentiation strategy.

$$PPC_{(i,t)} = GM_{(i,t)}/SA_{(i,t)} \quad (6)$$

Where, PPC represents premium price capability, GM is gross margin of firm, SA denotes sales of a firm,  $i$  represents firm, and  $t$  represents year. Premium price capability of a firm reveals the ability of a firm to charge premium prices. Expectedly, compared to firms with cost leadership strategy, firms with product differentiation strategy deliver innovative products and services with higher capability for premium price.

Using cluster analysis, inventory turnover, asset utilization efficiency, and premium price capability differentiate the type of competitive strategy in firms, which revealed that firms with product differentiation strategy, compared to firms with cost leadership strategy, have higher inventory turnover in days, lower operational efficiency, and higher gross profit margin (Farooq et al., 2014; Gani & Jermias, 2006; Jermias, 2008).

### 3.3. Data analysis technique and empirical models

This study employed panel data regression to examine the relationship between financial leverage and performance of firms. Panel data regression primarily depends on an observation set of individual variables over different time points (Hsiao, 1986; Yaffee, 2003), which is a widely adopted method. Compared to time series analysis or cross section analysis, panel data analysis is capable to eliminate unobservable heterogeneity for every observation in the sample, reduce multicollinearity among variables, include higher degrees of freedom, and reduce bias (Baltagi, 2005).

With respect to the objective of this study, this study presented mathematical explanations for the following models. This study applied multiple regression technique for the full sample based on the following equation:

$$ROA_{it} = \alpha + \beta_1 FLEV_{it} + \beta_2 STR_{it} + \beta_3 (FLEV * STR)_{it} + \beta_4 SIZE_{it} + \beta_5 GOP_{it} + \beta_6 DPP_{it} + \varepsilon_{it} \quad (7)$$

$$MBV_{it} = \alpha + \beta_1 FLEV_{it} + \beta_2 STR_{it} + \beta_3 (FLEV * STR)_{it} + \beta_4 SIZE_{it} + \beta_5 GOP_{it} + \beta_6 DPP_{it} + \epsilon_{it} \quad (8)$$

Where, ROA denote return on assets, MBV represent market to book value of assets, FLEV refers to the financial leverage, SIZE is the firm size, GOP refers to the firm’s growth opportunities and DPP represent the firm’s dividend payout policy.

#### 4. Empirical results

##### 4.1. Cluster analysis

Prior to regression analysis (to analyze the moderating effects of competitive strategy), selected firms were classified into (1) cost leadership and (2) product differentiation using cluster analysis, which was similarly adopted by Singh and Agarwal (2002). More specifically, three significant classifying variables (IVT, AUE, and PPC) were used to classify these firms into two clusters. Firms that employ product differentiation strategy reveal high IVT in days, low AUE, and high PPC. On the contrary, firms that employ cost leadership strategy demonstrate low IVT in days, high AUE, and low PPC.

Referring to Table 2, the results of cluster analysis revealed two clusters with distinct characteristics pertaining to the classifying variables (inventory turnover, asset utilization efficiency, and premium price capability). With a total sample of 596 observations, 48 observations (8%) were recorded in Cluster 1 whereas 548 observations (90%) were recorded in Cluster 2. Meanwhile, 14 observations (2%) were of missing data. With respect to the classifying variables, firms with cost leadership strategy were classified in Cluster 2 whereas Cluster 1 represented firms with product differentiation strategy.

TABLE 2. RESULTS OF CLUSTER ANALYSIS

Variables / Cluster	Cluster 1	Cluster 2
AUE	0.036 times	0.625 times
PPC	1.779 times	0.279 times
IVT	3417.1 days	169.2 days
Number of Cases in Each Cluster	48 (8%)	548 (90%)

##### 4.2. Descriptive statistics

Mean, minimum and maximum values, and standard deviation of continuous variables as well as explanatory variables in this study are presented in Table 3. As known, the performance of firms (dependent variable) in this study was measured by two proxies, which were (1) return on assets (ROA) and (2) market-to-book value (MBV). As shown in the table, the variable of MBV has recorded an average 1.11, and varying from (-3.1) to

3.5. While the other proxy for firm performance which is, ROA has recorded, a lower average compares to MBV approximately equal to 0.21%, with maximum is 43%.

This study focused on the effects of financial leverage (FLEV) towards the performance of firms, with competitive strategy as the moderator. FLEV was measured based on the ratio of total liabilities to total assets, which recorded mean ratio of approximately 36%, with a range between 0.39% and 227%. The percentage indicated certain firms depended on leverage during certain period, up to the point of 227% of their total assets. In other words, this implies that these firms significantly depended on external finance as their main financing source for their operations, which is consistent with the results presented by Ayyagari, Demirgüç-Kunt, and Maksimovic (2012) in their study on firms in developing countries.

The relationship between moderator and independent variable of this study revealed an average of approximately 36%. The final three variables presented in Table 3 were the control variables of this study. In particular, the natural logarithm of total assets measured the firm size (SIZE), which revealed mean ratio of 7.27 with a range between 5.5 and 9.1. Meanwhile, the log-difference of total sales measured the growth opportunities (GOP), which recorded mean ratio of 0.82% with a range between -1.9 and 7.72. Last but not least, the final control variable was dividend policy of firms, which ranged between (-160)% and 671%, with an average of 48.8%.

TABLE 3. THE DESCRIPTIVE STATISTICS FOR ALL VARIABLES

VARIABLES	OBSERVATIONS	MEAN	STD. DEV.	MINIMUM	MAXIMUM
ROA	600	0.0021	0.1347	-1.9529	0.4329
MBV	586	1.1171	0.6983	-3.1183	3.5343
FLEV	600	0.3624	0.2591	0.0039	2.2752
STR	596	0.8947	0.3071	0	1
FLEV*STR	600	0.0072	0.0801	-0.3447	0.3242
SIZE	600	7.2787	0.5801	5.5963	9.0875
GOP	553	0.0082	0.4635	-1.9159	7.7202
DPP	600	0.4886	2.8365	-1.6034	67.1621

#### 4.3. Regression analysis

This study applied fixed and random effects regression models based on the results of Hausman test and Breusch–Pagan LM test. In addition, this study performed several diagnostic tests, such as autocorrelation test, heteroscedasticity test, multicollinearity test, and panel unit root test, to examine the robustness of observations, specifically to validate the reliability of regression models as well as whether they are free from econometric issues. Obtained results revealed that the data were free from stationary issue, but multicollinearity issues for the moderator considered in this study were present. However, this is not surprising because multicollinearity issues typically present in studies on interaction effect or moderation because models with the presence of either of these have high correlation with independent variables. In particular, the interaction term (e.g.,  $x*z$ ) is typically associated to the components of  $x$  and  $z$  (Aguinis, 2004). Addressing these, mean-centered approach and standardized approach are typically adopted as solutions.

Numerical instability is closely linked to multicollinearity issues, which can be addressed through mean-centered approach (Afshartous & Preston, 2011). This approach significantly reduces the multicollinearity issue because the correlation between the interaction term of the deviations from the mean-transformed variables and these deviations from the mean decreases by a large degree (Cronbach, 1987). Thus, this study considered this particular approach in addressing the multicollinearity issue. The obtained results for all models are presented in Table 4, which revealed no correlation among the independent variables with VIF results varied between 1.01 and 1.60. In other words, there was no multicollinearity issue among the independent variables for models presented in this study. Additionally, the obtained results of diagnostic tests implied that the data of this study had autocorrelation and heteroscedasticity issues, which led to the application of fixed and random robust standard errors methods in addressing these violations of assumptions.

TABLE 4. THE REGRESSION RESULTS

VARIABLES	MODEL (1)			MODEL (2)		
	COEFFICIENT	T-STATISTIC	VIF	COEFFICIENT	T-STATISTIC	VIF
FLEV	-0.3455	-6.88***	1.60	-0.3799	-1.44*	1.56
STR	-0.0248	-1.22	1.34	0.1045	0.76	1.34
FLEVSTR	0.2125	2.21**	1.33	-2.1436	-2.92***	1.29
SIZE	0.1427	2.36**	1.03	0.1056	0.92	1.03
GOP	-0.0062	-0.52	1.03	0.1726	1.58	1.03
DPP	0.0007	1.10	1.01	-0.0008	-0.45	1.01
INTERCEPT	-0.8885	-2.05**		0.3676	0.43	
R <sup>2</sup>		0.35			0.15	
F-STATISTIC		0.00			0.03	

Notes: Significant level \*\*\* 1%, \*\* 5% and \*10%.

As presented in Table 4, the obtained regression results of corrected models revealed acceptable goodness of fit for the models based on significant F-test, with 35% and 15% of the variations in the dependent variables for Model (1) and Model (2), respectively, were explained by the independent variable. Nonetheless, the obtained regression results of Model (1) and Model (2) provided evidences that the relationships between financial leverage and ROA and MBV among industrial firms in Jordan was significantly negative at 1% level and 10% level, respectively. In other words, higher financial leverage reduces ROA (accounting-based measure) and MBV (market-based measure), which is corroborated with previous studies on firms in developed countries and developing countries (Balakrishnan & Fox, 1993; Frank & Goyal, 2003; Tzelepis & Skuras, 2004; Zeitun & Tian, 2007). Consistent with Raza, Aslam, & Farooq (2013), firms in developing countries tend to overleverage themselves, which contribute negative performance.

Competitive strategy (cost leadership and product differentiation) as the moderator (STR) was considered as the dummy variable in the regression models of this study. Firms with cost leadership strategy were coded as 1 whereas firms with product differentiation strategy were coded as 0. The obtained results revealed that STR did influence the effects of financial leverage (FLEV) towards firms' performance in terms of ROA and MBV. Moreover, statistically significantly positive coefficient of FLEVSTR was revealed. The relationship between FLEV and performance of firms was linear. Meanwhile, the sum of

coefficients on FLEVSTR and FLEV indicated the relationship for cost leadership while the coefficient on FLEV indicated the relationship for product differentiation. As shown in Model (1), the relationship between FLEV and ROA was significantly influenced by STR at 5% level. Based on the coefficient, it was found that the negative effects of FLEV were more significant for the case of product differentiation compared to the case of cost leadership, which supported the first hypothesis in this study. On the other hand, referring to Model (2), STR was revealed to influence the relationship between FLEV and MBV at 1% level. Based on the coefficient, the negative effects of FLEV were more significant for the case of cost leadership than for the case of product differentiation, which rejected the second hypothesis in this study. Despite the varied results between Model (1) and Model (2), this study proved that the effects of financial leverage towards firms' performance were moderated by competitive strategy. The results of both regression models could be due to the significantly positive relationship between the quality orientation and performance of firms (Kanagasabai, 2008; Slater & Narver, 1996), which subsequently influence the relationship between financial leverage and performance of firms through cost leadership strategy in both models. These results somehow explained the inconsistencies found in previous studies on the effects of financial leverage towards the firms' performance.

As for the control variables, firm size was revealed to have significantly positive relationship with ROA in Model (1) only, which is shown in Table 4. There was insignificant relationship between firm size and MBV in Model (2). Adding to that, there were insignificant relationships between the remaining control variables with ROA and MBV, respectively.

## 5. Conclusion

This study primarily aimed to examine the moderating effects of competitive strategy on the relationship between financial leverage and performance of selected industrial firms in Jordan. Compared to its neighboring countries, such as Iraq, Syria, and Palestine, Jordan is politically stable, which enhances the stability of other essential aspects in this country. Moreover, firms in Jordan have become essential to the economic development due to the economic reform over the past three decades. Besides that, previous studies presented inconclusive results on the effects of financial leverage towards the performance of firms. Thus, both of these aspects propelled this study to propound hypotheses that competitive strategy influence the effects of financial leverage towards the performance of firms. As a result, the present study reaffirmed that competitive strategy did moderate the relationship, which are consistent with previous studies, such as Jermias (2008) and Farooq et al. (2014). In line with Jensen (1986), Simerly & Li (2000), and O'Brien (2003), firms that employ cost leadership strategy experience tax advantages and increased efficiency through debt financing and/or debt covenants. However, Modigliani & Miller (1958) suggested that financial leverage and firms' performance are not associated, which contradicted this study. Nonetheless, this study revealed financial leverage did influence the performance of firms despite the moderating effects of competitive strategy. The effects of debt towards the performance of firms possibly vary in different contexts, which explains the inconsistent results obtained in related studies.

Both ROA (accounting-based measure) and MBV (market-based measure) were measured to examine the robustness of the obtained results in this study. Results demonstrated that there was significant relationship between financial leverage and performance of firms,

which was moderated by competitive strategy. However, the moderating effects presented in each regression model varied. Consistent with Farooq et al. (2014), Model (1) in this study revealed that the negative effects of financial leverage towards performance of firms (ROA) were more significant for firms that employ product differentiation strategy; which supported the first hypothesis. Conversely, Model (2) in this study demonstrated the negative effects of financial leverage towards performance of firms (MBV) were more significant for firms that employ cost leadership strategy; which rejected the second hypothesis and inconsistent with the results presented by Jermias (2008). This could be due to the difference between the sample used in this study (sample from developing country) and the sample used by Jermias (2008) (sample from developed country). The latter sample vary from the former sample in numerous characteristics, such as corporate capital structure, corporate governance, financial system in emerging markets (which is commonly more bank-based than in developed countries), liquidation law, ownership structure, political system, and taxation system. Despite similar measurements applied in both studies, different samples eventually produce different results.

Accordingly, this improves the overall understanding on the effects of financial leverage towards the performance of firms as well as how this relationship is moderated by the type of competitive strategy employed by firms in an emerging market such as Jordan. This study serves significant implications to the policymakers and business sector, specifically in Jordan. In addition, this study contributed significant results as inputs to assist relevant authorities or regulatory bodies, including ASE and Central Bank of Jordan, in their efforts of planning and designing appropriate policies for business operations in Jordan. Moreover, the current overview of the business sector and their contributions to economic growth can be evaluated by these authorities.

## References

- Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*, 6(5), 438-445.
- Afshartous, D., & Preston, R. A. (2011). Key results of interaction models with centering. *Journal of Statistics Education*, 19(3), 1-24.
- Aguinis, H. (2004). *Regression Analysis for Categorical Moderators*: Guilford Press.
- Al-Rfou, A. N. (2012). Competition and organizational performance: Empirical evidence from Jordanian firms. *Electrical Appliances*, 3(1), 13-17.
- Al-Taani, K. (2013). The relationship between capital structure and firm performance: evidence from Jordan. *Journal of Finance and Accounting*, 1(3), 41-45.
- Alabdullah, T. T. Y., Yahya, S., & Ramayah, T. (2014). Corporate governance mechanisms and Jordanian companies' financial performance. *Asian Social Science*, 10(22), 247-262.
- Almajali, A. Y., Alamro, S. A., & Al-Soub, Y. Z. (2012). Factors affecting the financial performance of Jordanian insurance companies listed at Amman Stock Exchange. *Journal of Management Research*, 4(2), 266-289.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2012). *Financing of firms in developing countries: Lessons from research* (World Bank Policy Research Working Paper, 6036).
- Balakrishnan, S., & Fox, I. (1993). Asset specificity, firm heterogeneity and capital structure. *Strategic Management Journal*, 14(1), 3-16.

- Baltagi, B. (2005). *Econometric Analysis of Panel Data*. John Wiley & Sons.
- Barton, S. L., & Gordon, P. I. (1987). Corporate strategy: Useful perspective for the study of capital structure? *Academy of Management Review*, 12(1), 67-75.
- Barton, S. L., & Gordon, P. J. (1988). Corporate strategy and capital structure. *Strategic Management Journal*, 9(6), 623-632.
- Beck, T., Demirguc-Kunt, A., Laeven, L., & Levine, R. (2008). Finance, firm size, and growth. *Journal of Money, Credit and Banking*, 40(7), 1379-1405.
- Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, 30(4), 1065-1102.
- Brav, A., Graham, J. R., Harvey, C. R., & Michaely, R. (2005). Payout policy in the 21st century. *Journal of Financial Economics*, 77(3), 483-527.
- Chen, Y., & Jermias, J. (2014). Business strategy, executive compensation and firm performance. *Accounting & Finance*, 54(1), 113-134.
- Cronbach, L. J. (1987). Statistical tests for moderator variables: flaws in analyses recently proposed. *Psychological Bulletin*, 102(3), 414-417.
- David, F. R. (2011). *Strategic management: concepts and cases*. Upper Saddle River, N.J.: Prentice Hall.
- Fama, E. F., & French, K. R. (1998). Taxes, financing decisions, and firm value. *Journal of Finance*, 53(3), 819-843.
- Farooq, U., Ashraf, A. A., & Ahmad, N. (2014). Investigating the moderating role of firm strategy in the relationship between leverage and performance. *Middle-East Journal of Scientific Research*, 21(2), 341-346.
- Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2), 217-248.
- Gani, L., & Jermias, J. (2006). Investigating the effect of board independence on performance across different strategies. *The International Journal of Accounting*, 41(3), 295-314.
- Ghosh, C., Nag, R., & Sirmans, C. (2000). The pricing of seasoned equity offerings: evidence from REITs. *Real Estate Economics*, 28(3), 363-384.
- Ginsberg, A., & Venkatraman, N. (1985). Contingency perspectives of organizational strategy: a critical review of the empirical research. *Academy of Management Review*, 10(3), 421-434.
- Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The interrelationship between culture, capital structure, and performance: evidence from European retailers. *Journal of Business Research*, 50(2), 185-191.
- Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2-3), 187-243.
- Hadlock, C. J., & James, C. M. (2002). Do banks provide financial slack? *the Journal of Finance*, 57(3), 1383-1419.
- Hambrick, D. C. (1983). High profit strategies in mature capital goods industries: A contingency approach. *Academy of Management Journal*, 26(4), 687-707.
- Harris, M., & Raviv, A. (1991). The theory of capital structure. *Journal of Finance*, 46(1), 297-355.
- Hsiao, C. (1986). *Analysis of Panel Data* (1st ed.). Cambridge, UK: Cambridge University Press.
- Huizinga, H., Laeven, L., & Nicodeme, G. (2008). Capital structure and international debt shifting. *Journal of Financial Economics*, 88(1), 80-118.

- Hutaibat, K. A. (2005). *Management accounting practices in Jordan: A contingency approach*. University of Bristol.
- Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*, 76(2).
- Jensen, M. C. (1989). Eclipse of Public Corporation. Available at SSRN: <https://ssrn.com/>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jermias, J. (2008). The relative influence of competitive intensity and business strategy on the relationship between financial leverage and performance. *The British Accounting Review*, 40(1), 71-86.
- Kanagasabai, K. (2008). Market orientation and company performance: A study of selected Japanese and Sri Lankan companies. *Journal of Faculty of Economics, Gakushuin University*, 44(4), 291-308.
- Lubatkin, M., & Chatterjee, S. (1994). Extending modern portfolio theory into the domain of corporate diversification: does it apply? *Academy of Management Journal*, 37(1), 109-136.
- Majumdar, S. K., & Chhibber, P. (1999). Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance. *Public Choice*, 98(3-4), 287-305.
- Matar, A., & Eneizan, B. M. (2018). Determinants of financial performance in the industrial firms: Evidence from Jordan. *Asian Journal of Agricultural Extension, Economics & Sociology*, 22(1), 1-10.
- Miller, A. (1998). *Strategic Management* (3 ed.). New York: Irwin McGraw-Hill.
- Miller, D. (1987). The structural and environmental correlates of business strategy. *Strategic Management Journal*, 8(1), 55-76.
- Miller, D., & Friesen, P. H. (1986). Porter's (1980) generic strategies and performance: An empirical examination with American data Part I: Testing Porter. *Organization Studies*, 7(1), 37-55.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48(3), 261-297.
- Moore, K., & Yuen, S. (2001). Management accounting systems and organizational configuration: a life-cycle perspective. *Accounting, Organizations and Society*, 26(4-5), 351-389.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147-175.
- O'Brien, J. P. (2003). The capital structure implications of pursuing a strategy of innovation. *Strategic Management Journal*, 24(5), 415-431.
- Porter, M. E. (1985). *Competitive strategy*. New York, Free Press.
- Postma, T. J., & Zwart, P. (2001). Strategic research and performance of SMEs. *Journal of Small Business Strategy*, 12(2), 1-13.
- Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 50(5), 1421-1460.
- Ramadan, Z. S., & Ramadan, I. Z. (2015). Capital structure and firm's performance of Jordanian manufacturing sector. *International Journal of Economics and Finance*, 7(6), 279-284.
- Raza, H., Aslam, S., & Farooq, U. (2013). Financing pattern in developing nations empirical evidence from Pakistan. *World Applied Sciences Journal*, 22(9), 1279-1285.

- Robinson, K. C., & Phillips McDougall, P. (2001). Entry barriers and new venture performance: a comparison of universal and contingency approaches. *Strategic Management Journal*, 22(6-7), 659-685.
- Roden, D. M., & Lewellen, W. G. (1995). Corporate capital structure decisions: evidence from leveraged buyouts. *Financial Management*, 24(2) 76-87.
- Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia-Social and Behavioral Sciences*, 65, 156-166.
- Simerly, R. L., & Li, M. (2000). Environmental dynamism, capital structure and performance: a theoretical integration and an empirical test. *Strategic Management Journal*, 21(1), 31-49.
- Singh, P., & Agarwal, N. C. (2002). The effects of firm strategy on the level and structure of executive compensation. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 19(1), 42-56.
- Slater, S. F., & Narver, J. C. (1996). Competitive strategy in the market-focused business. *Journal of Market-focused Management*, 1(2), 159-174.
- Spence, A. M. (1985). Capital structure and the corporation's product market environment *Corporate capital structures in the United States* (pp. 353-382): University of Chicago Press.
- Taub, A. J. (1975). Determinants of the firm's capital structure. *The Review of Economics and Statistics*, 57(4), 410-416.
- Tzelepis, D., & Skuras, D. (2004). The effects of regional capital subsidies on firm performance: an empirical study. *Journal of Small Business and Enterprise Development*, 11(1), 121-129.
- Welch, I. (2004). Capital structure and stock returns. *Journal of Political Economy*, 112(1), 106-131.
- Yaffee, R. (2003). A primer for panel data analysis. *Connect Information Technology at NYU*, 1-11. Retrieved June 4, 2018 from <http://citeseerx.ist.psu.edu>
- Zeitun, R., & Tian, G. (2007). Capital structure and corporate performance: evidence from Jordan. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.2496174>