



Article Trade Credit Management and Profitability of Jordanian Manufacturing Firms

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Abstract: The significant role of Small and Medium Enterprises (SMEs) in the growth of the economy has been well-documented in the past few decades. Studies in literature have focused on the reasons behind the trade credit offerings and acceptance of SMEs, but empirical findings revealing the positive relationship between trade credit itself and profitability is still limited. Thus, in this paper, the trade credit effect on the profitability of SMEs from the side of supply and demand is examined. The paper focused on 38 SMEs in Amman Stock Exchange (ASE) for the years from 2009 to 2021. The obtained findings showed a positive relationship between accounts payable and profitability, which indicates that SMEs should establish long-term relationships with their suppliers to maintain credit. However, no clear relationship was found between accounts receivable and profitability, represented by ROE and ROA. Furthermore, financial leverage and size were revealed to impact the profitability of SMEs.

Keywords: trade credit; accounts payable; accounts receivable; SMEs; profitability

1. Introduction

Corporate finance has two major sources, namely, bank loans and trade credit. More specifically, commercial loans like bank accounts payable and accounts payable can be sources of credit financing, or this type of financing can also be obtained through short and long-term financial loans and corporate bonds. In the event of a crisis, it is almost impossible for enterprises to gain external financing, and through corporate credit, which is when trade credit steps in and provides the required funds that organizations need. Most SMEs face the risk of not obtaining enough trade credit, which affects their survival.

A trade credit arrangement is one in which a seller agrees to let a buyer make purchases on the seller's terms and pay the seller later without charging interest. In essence, it provides buyers with zero-interest financing. With this arrangement, the buyer can sell the products and make enough money to settle its debt to the seller. Prior studies (e.g., Cheng and Pike 2003) referred to trade credit as a financing instrument that is supplied to clients by their suppliers and in this regard, trade credit management effectiveness affects the risk and performance of the company and as such, it is a crucial part of the corporate financial policy (Lewellen et al. 1980; Hill et al. 2012). Empirical findings confirmed the significant role that trade credit monitoring plays in illustrating the effects on the companies' profitability (e.g., Deloof 2003; García-Teruel and Martínez-Solano 2007; Martínez-Sola et al. 2014). The studies unanimously found a linear relationship between the variables, although such linearity branches out to two contrasting research branches, one of which argues that with increased trade credit investment, the profitability of the company will improve. On the other hand, the other branch contends that the higher the presence of risk of income loss or higher financial costs, the higher the trade credit investment becomes and the lower the profitability of the company becomes. Such contrasting findings are a reflection of the non-linear relationship of trade credit with firm profitability and if this holds true, then there must be a certain business credit level which leads to increased profitability of the company.



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Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). The business could boost profitability by employing trade credit. However, a high investment in trade credit was also associated with a higher risk of revenue loss or excessive costs, which decreased business profitability (Hoang et al. 2019). There are hints that the connection between profitability and trade credit is not linear. Based on the literature review, various researchers (Martínez-Sola et al. 2013; Hoang et al. 2019; Pham and Huynh 2020) have identified a non-linear link between trade credit and profitability.

Moreover, trade credit theories are missing empirical support, and research dedicated to clarifying the trade credit-firm's profitability relationship is still limited. This study is an attempt to minimize the gap in literature in this regard. A dataset is obtained from 38 manufacturing SMEs in Jordan for the years 2009–2021. In Jordan, the manufacturing sector plays a great role in transforming the economic situation and it holds the key to economic success as reflected from this high contribution to the national product of the country. The development of manufacturing is thus, indicative of other related sector growth, while the exports contribute to mitigating the deficit in the trade budget. The manufacturing sector is a suitable choice to be examined due to its importance to the economy of Jordan, contributing approximately 22% of the GDP, and employing around 18% of the population workforce (The Department of Statistics Report 2019).

Since the relationship between the two study variables, trade credit, and profitability is based on theory, the major research question reads, "How does trade credit affect SMEs profitability?"

The above research question can be classified into two sub-questions, which are as follows:

- 1. How does corporate trade credit (receivables) affect the profitability of Jordanian manufacturing SMEs?
- How does the commercial credit (accounts payable) obtained by manufacturing SMEs, affect their profitability?

Accordingly, the remaining sections are organized in the following way; Section 2 is dedicated to providing the theoretical background of the study and predicting the trade credit-profitability relationship, while Section 3 presents the study methodology, data, and study variables. Finally, Section 4 presents the empirical findings and concludes the study.

2. Literature Review

According to Preve and Sarria-Allende (2010), a trade credit arises when a seller sells his goods on credit as opposed to instant payment, and firms are generally inclined towards offering clients trade loans owing to their probability of increasing, which means corporate sales can lead to increased profitability (García-Teruel and Martínez-Solano 2010).

In reality, trade credit is a business firm's two-pronged wing: on the one hand, it must extend trade credit to its upcoming clients, and on the other, it must obtain trade credit from its past. Trade credit is a crucial source of short-term funding, particularly in developing economies (Hasan and Alam 2022). especially in developing economies (Hill et al. 2017; Li et al. 2016). Moreover, it also constitutes a significant part of the total assets in developed countries firms (e.g., Astvansh and Jindal 2021; Pham and Huynh 2020).

For companies, the basic aim is to increase shareholder value through increased sales and this can be done through trade credit. Another trade credit motivation is the creation of receivables. Accounts receivable investments comprise a huge part of working capital management and that of operating assets when it comes to service and manufacturing firms, and accounts receivables arise when goods/services are sold to customers on credit based on the agreement with them, stipulating the payment of the goods/services at a later period (Venkataramana et al. 2013).

Added to the above, trade receivables constitute one of the major firm's working capital elements, which are mentioned as a current asset in the financial statements, making it a firm investment. The primary aim behind trade credit is to contribute to shareholder value through the balance between liquidity, risk, and profitability (Hrishikes 2002), and

such purpose should emphasize increasing sales along with increasing profits of return (Wood 1953).

Trade credit is currently used for three major categories of purposes as enumerated by Petersen and Rajan (1997) and they are; financial motives dealt with in financial advantage theory, commercial motives dealt with in price discrimination theory, and lastly, operational motives dealt with in transaction costs theory.

To begin with, García-Teruel and Martínez-Solano (2010) contended that according to the financial advantage theory, leveraged firms are more inclined towards trade credit, reflecting that financially constrained firms are more likely to use more trade credit. Studies in the literature showed that providers reap more benefits compared to financial institutions in providing trade credit (e.g., García-Teruel and Martínez-Solano 2010).

In fact, firms' motivation towards positive trade credit receivables originates from several advantages, the first of which trade credit enables buyers' possession of product quality prior to the actual payment; this mitigates information symmetries that arise between buyers and suppliers as mentioned by Long et al. (1993). The second reason is the suppliers' easy access to the financial performance of the buyer and the latter's creditworthiness based on their business transactions (Petersen and Rajan 1997; García-Teruel and Martínez-Solano 2010). As a result, their provision of trade credit is attached to lower risk in comparison to that of bank loans.

The third reason is based on the premise that an increase in trade credit minimizes storage costs for suppliers as this motivates buyers to purchase more products (Ferris 1981). Lastly, trade credit is perceived as a short-term investment based on which the lending firm can maximize its income through implicit interest rates stimulation (Emery 1984). These advantages direct the study to predict that the profitability of the manufacturing firms will increase with increased trade credit receivables.

Moving on to the price discrimination theory, trade credit can be provided for price discrimination despite the lack of financial advantage of the supplier over the financial institutions (Brennan et al. 1988; Mian and Smith 1992). The loan terms remain untouched by the credit quality of the buyer, and thus, a commercial loan minimizes the actual price for lesser-quality borrowers. In the case of low-performing mortgage companies, their lending is confined and thus they create a versatile segment of demand and price discrimination, mitigating the effective product price. This enables them to purchase goods and services and conduct their businesses. However, high-risk customers are more inclined towards accepting more expensive commercial loan offers owing to their cheaper nature compared to other sources, while those that are creditworthy can leverage pre-payment discounts to stay away from over-lending.

Lastly, in transaction costs theory, an operational motive is adopted as explained by Emery (1984) and Frank and Maksimovic (2004). Trade credit decreases the payment costs and administration bills between buyers and suppliers and goods delivery may be related to doubts. In this case, trade credit is affected by patchy markets lacking asymmetric information, which lowers the costs of transactions. A very effective payment method is merchant credit considering it differentiates between payment and shipping, while reducing uncertainty. The trade absence could motivate lending firms to maintain huge cash balances that can be invaluable as a cash management tool, in cases where the buyer matches sales receipts and cash for the purchase, while the buyers set obligations aside and make quarterly/monthly payments (Ng et al. 1999). This enables them to add up future cash outflows confidently and enhance their cash management. Firms having seasonal sales have to incur two major costs, namely warehousing and inventory finance costs.

Generally speaking, there are two parts to a trade credit, which are accounts receivable and payables. Viewed from the supply side, trade credit can be considered as an asset in light of receivables. The following benefits can be reaped from the loan: lower costs of operations, increased sales, increased profitability of partners, and stability of business relationships with clients. Viewed from the demand side, trade credit can be considered as a short-term delay in light of receivables and the advantages attached to commercial praise are plentiful. Trade credit is an effective method to be used to overcome verbal monetary friction and in the old financial system, the credit limit theory is not applicable (Rehman et al. 2016).

The impact of trade credit on firm financial performance yielded conflicting results. Some studies indicated that trade credit has a beneficial impact on a firm's value (Li et al. 2016; Hoang et al. 2019), whereas others found no evidence of a link between trade credit and firm performance (Jory et al. 2020). Some researchers, on the other hand, discovered the exact reverse. Orazalin (2019) identified a negative association between the number of days of accounts payable and the firm's profitability using data from emerging markets.

2.1. Accounts Receivable and Profitability

Studies in literature have demonstrated that accounts receivable management is important to the company's profitability (e.g., Dencic-Mihajlov 2013; Venkataramana et al. 2013; Jindal et al. 2017; Hoang et al. 2019). More specifically, the receivables management practice was the focus of Dencic-Mihajlov's (2013) study in the Republic of Serbia during the 2008–2011 financial crisis. The study is limited to 108 organizations' account receivables policies and the findings showed a positive account receivable-profitability relationship.

Meanwhile, in Venkataramana et al.'s (2013) study, the authors examined the effect of accounts receivable management on selected cement companies working capital and profitability in India. The study concentrated on the years 2001 to 2010, and it found a strong significant effect of receivable management on the companies' working capital and profitability. Similarly, a significant positive relationship between debtors' turnover and profitability in commercial vehicle manufacturing was also revealed by Jindal et al. (2017), for the years 2009 to 2016.

In the East Asian and Pacific region, Hoang et al. (2019) examined the non-linear relationship between trade credit and profitability among 1509 non-financial listed SMEs for the years 2010 to 2016. They found a significant positive effect of trade credit receivable on the examined profitability of SMEs.

2.2. Accounts Payable and Profitability

Literature findings supported the positive relationship between accounts payable and firm value (e.g., Li et al. 2016; Kumaraswamy 2016; Hoang et al. 2019; Abuhommous and Almanaseer 2021) but other studies like Ha et al. (2016) found a negative significant effect of working capital on market value.

In the context of China, Li et al. (2016) adopted a survey by the World Bank in 2003, and used ordinary least squares to determine if trade credit promotes the performance of firms. They revealed a significant positive relationship between trade credit and firm performance. In the GCC, Kumaraswamy (2016) focused on the working capital effect on the performance of cement manufacturing firms for the years 2008 to 2014. Linear regression models were used and the author highlighted positive accounts payable and firm value. A trade credit payable (TCP) has a significant and positive effect on the profitability of SMEs in Hoang et al.'s (2019) study.

In addition to the above studies, using data obtained from Compustat files for the years 2003 to 2017, Abuhommous and Almanaseer (2021) studied the relationship between trade credit and the market value of the firm, with the help of panel data analysis. Their results indicated a negative relationship between financial credit and a firm's market value.

Lastly, in the case of Vietnam, Ha et al. (2016) examined the working capital effect on the SMEs' financial performance using panel data obtained from 1209 firms for the years 2008 to 2015. The authors also used OLS, REM, and FEM, after which they revealed a negative impact of receivables and working capital on the SMEs financial performance.

2.3. Control Variables

In financing, funds are obtained either through debt or equity or the combination of the two, which is referred to as capital structure. Acquisition of new assets through

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borrowed funds is expected to produce profitability or income in excess of borrowing costs, in what is known as leverage. This is the lender's income source and the obligation of the borrowing firm. The use of a share of debt has a direct connection with the market value of the firm (Sardo and Serrasqueiro 2017).

Empirical findings have generally supported a negative financial leverage-firm value relationship and these include those reported by Sardo and Serrasqueiro (2017); Vo and Ellis (2017); Manrique and Martí-Ballester (2017); Platonova et al. (2018); Xie et al. (2019); Uyar et al. (2020), and Li et al. (2020). Nevertheless, other studies supported a positive leverage effect on the financial performance of the firm (e.g., Sardo et al. 2018; Soewarno and Tjahjadi 2020), while others revealed a negative firm size-firm performance relationship (e.g., Yang and Chen 2019).

3. Data, Variables, and Methodology

3.1. Data

The study data comprises Jordanian Manufacturing Firms' data obtained from Amman Stock Exchange (ASE) for the years 2009 to 2021. The sample firms (38) were obtained from the ASE list, with the companies selected meeting three major conditions; availability of annual reports for the examined years, availability of the firm's account receivable information for the period, and availability of the firm's accounts payable during the period. Table 1. shows the measures used in the study to know the effect of trade credit on the profitability of Jordanian SMEs.

Table 1. Definitions of Variables.

Variable	Abbreviation	Measurement	Expected Sign/s
Return on assets	ROA	EBIT/Total assets	+
Return on equity	ROE	EBIT/Total equity	+
Earnings per share	EPS	Net income-preferred dividends/Total share outstanding	+
Account receivables	REC	REC Accounts receivable/Total assets	
Account payable	PAY	Accounts payable/Total debts	+/-
Financial leverage	FL	Total debts/Total assets	+/-
Gross domestic product	GDP	Gross domestic product	+/-
Inflation	INF	Inflation	+/-
Size	S	In(Assets)	+/-

3.2. Variables

This study's dependent variables are Return on Assets (ROA), Return on Equity (ROE), and Earning Per Share (EPS), which are performance indicators. First, ROA refers to the ratio of EBIT to total assets, while ROE is the ratio of EBIT to total equity. Moreover, the main explanatory variables of the study are account receivables (REC) and account payable (PAY), with the former calculated based on the ratio of accounts receivable to total assets, while the (PAY) is calculated based on the ratio of accounts payable to total debts. The study's macroeconomic variables are gross domestic product (GDP) and inflation (INF). The entire regressions cover control variables adopted from prior literature to shed light on the profitability of the firms (Platonova et al. 2018; Xie et al. 2019; Uyar et al. 2020; Li et al. 2020), firm size (S) is measured using the logarithm of assets and leverage is measured through the ratio of debt to total assets. Lastly, the macroeconomic variables are GDP and inflation.

3.3. Methodology

The primary estimation method used in the study is Regular Least Squares (OLS) after which fixed effect estimate (FE) is employed in order to control the existence of individual heterogeneities. Specifically, FE estimation considers the presence of company-specific objections that encapsulate the effects of company-specific variables that remain constant indefinitely. In the corporate finance literature, the potential endogeneity issue exists in financial decisions and for this, the Hausman (1978) test was conducted to carry out a comparison of the estimation coefficients made by the instrument's variables (using the first delay period of the independent variable) and by the normal least squares, based on the null hypothesis regarding the explanatory variables exogeneity. The null hypothesis was rejected and thus, the study used instrumental variables estimation.

Based on the existing literature, the research model was developed and study variables were selected to test the effect of trade credit on Jordanian SMEs' profitability (Jindal et al. 2017; Hoang et al. 2019; Soewarno and Tjahjadi 2020; Abuhommous and Almanaseer 2021). The logical representation of the variables required the use of a multivariate linear regression model, which enabled the estimation of the way a set of exploratory variables influence their dependent counterpart;

$P_{it} = \alpha_{it} + \beta_1(REC_{it}) + \beta_2(PAY_{it}) + \beta_3(FL_{it}) + \beta_4(SIZE_{it}) + \beta_5(GDP_{it}) + \beta_6(INF_{it}) + \varepsilon_{it}$

In the above equation, P_{it} represents the dependent variable (ROA, ROE, and EPS), i represents the period and t represents the time. Moreover, (REC_{it}) represents the independent variable of account receivables and (PAY_{it}) represents the independent variable of accounts payable. The control variables are (FL_{it}), which is the financial leverage, and (SIZE_{it}) which is the size of the firm. The macroeconomic variables are (GDP_{it}), which is the Gross domestic product, and (INF_{it}) which is inflation. Lastly, ε_{it} represents the error term which is constant. The study's purpose is to present the relationship between firm profitability and trade credit, with the other two coefficients representing the relationship.

4. Results and Discussion

This section is dedicated to the descriptive statistics process and results in terms of mean, standard deviation, and minimum and maximum values of the dependent, independent, and control variables. This is followed by the presentation of the correlation matrix which covers the variables' correlation and the performance of the ordinary least squares (OLS) for estimating the profitability relationships with the independent and control variables.

A choice between the fixed effect approach and the random effect approach is made for statistical testing. In the fixed model, each entity is assumed to have distinct or individual characteristics which may impact the explanatory variables, whereas in the random effect model, the generalized least squares (GLS) model is used for estimation, with time and individuals randomly considered. The Hausman test is used for selecting between fixed and random effects; the choice depends on which can explain the panel regression model accurately.

4.1. Descriptive Statistics

In Table 2, the dependent variables, independent variables, and control variables' descriptive statistics are tabulated.

Stats	ROA	ROE	EPS	REC	PAY	FL	S	GDP	INF
Mean	0.022425	-1.88211	-0.50353	0.32222	0.140255	0.325112	12.14212	8.308797	2.68544
SD	0.442235	28.28051	14.32224	0.222332	0.141835	0.222242	1.432023	0.061215	2.296081
Min	-1.12	-312.888	-185.282	0	0	0.008308	12.22251	8.177429	-0.87685
Max	3.2	182	28.44	1.822042	0.823125	1	20.82428	8.390606	4.845519

Table 2. Descriptive Statistics.

The above table contains the mean, standard deviation, maximum, and minimum values of the variables.

The correlation test results defining the test statistics of the relationship between the variables are presented in the above table. This is considered to be the best method to

measure the variables' relationships because of its covariance method basis. It furnishes information concerning the relationship's magnitude and direction. The assumption is such that the coefficient value should not exceed 0.8, for multicollinearity issue to be absent. Table 3. indicates that that the coefficient values remained lower than 0.8, which means there is valid regression.

Table 3. Correlation Matrix.

	REC	РАҮ	FL	S	GDP	INF
REC	1					
PAY	-0.1043651 *	1				
FL	-0.0518709 *	0.0235222 *	1			
S	-0.2530601 *	-0.5024394 *	0.0273698 *	1		
GDP	0.1430091 *	0.0059812 *	0.2109365 *	-0.0149641 *	1	
INF	-0.0762761 *	0.0120244 *	-0.0725466 *	0.0212345 *	-0.0020051 *	1

* indicate statistical significance at 10% level.

4.2. OLS Results

Two models were tested to choose which one is more suitable, using panel data analysis and the Hausman test results to determine the outcome. A fixed model is developed including a cross-section-specific effect and a time-specific effect. The model generally includes cross-section dummies and time dummies to control both entity and time effects. The cross-section dummies are added and the model examines the firm differences in the intercepts, while controlling the differences across entities in observable/unobservable predictors. Time dummies are then included to measure the effects of time on the intercept.

The regression result of the preferred model, which is the fixed model is presented in Table 4. and the model was used to investigate the relationship between REC, PAY, leverage, firm size, ROA, ROE, and EPS.

From the above table, a negative relationship is noted between (ROA, ROE, and EPS) and REC at a significant level. Prior studies have shown that accounts receivable management is critical to a company's profitability (e.g., Dencic-Mihajlov 2013; Venkataramana et al. 2013; Martínez-Sola et al. 2014; Jindal et al. 2017; Hoang et al. 2019). A positive relationship is noted between (ROA, ROE, and EPS) and PAY at a significant level. This positive impact may be due to a shorter cash cycle, which reduces transaction costs for trade payables. In addition, this favorable impact could be attributed to a shorter cash cycle, which lowers transaction costs for trade payables. These results are aligned with those reported in prior literature (e.g., Li et al. 2016; Kumaraswamy 2016; Hoang et al. 2019; Abuhommous and Almanaseer 2021), they concluded that the positive relationship between accounts payable and (ROA, ROE, and EPS).

The three models (ROA, ROE, and EPS) are significantly related to leverage. These results are aligned with prior studies' results. Empirical findings, such as those reported by Sardo and Serrasqueiro (2017), Vo and Ellis (2017), Manrique and Martí-Ballester (2017), Platonova et al. (2018), Xie et al. (2019), Uyar et al. (2020), and Li et al. (2020) have generally supported a negative financial leverage-firm value relationship. The three models (ROA, ROE, and EPS) are also significantly positively related to firm size. These results consisted of those highlighted in previous literature (e.g., Sardo et al. 2018; Soewarno and Tjahjadi 2020).

ROA	COEF.	STD. Err.	Sig
REC	-1.495119	2.845742	0.036
PAY	1.948928	1.558959	0.011
LEV	-0.142297	0.015170	0.002
S	2.460524	0.293779	0.014
GDP	-3.310554	6.864879	0.003
INF	0.431258	0.178242	0.027
R squared	72.3%		
F	5.30614	Prob (F-Stat)	0.000
Hausman test Chi-Sq	5.01852	Prob (Chi-Sq)	0.003
ROE	COEF.	STD. Err.	Sig
REC	-1.479547	7.148740206	0.049
PAY	7.387475	3.916236159	0.006
LEV	-0.101323	0.038109587	0.019
S	2.473213	0.737998323	0.007
GDP	-2.471750	17.24514786	0.028
INF	-0.054579	0.447760984	0.005
R squared	78.2%		
F	5.54932	Prob (F-Stat)	0.000
Hausman test Chi-Sq	5.03593	Prob (Chi-Sq)	0.0472
EPS	COEF.	STD. Err.	Sig
REC	-0.101946	0.145854886	0.039
PAY	0.083009	0.079902495	0.028
LEV	-0.005495	0.000777545	0.006
S	0.150496	0.015057291	0.014
GDP	-0.623478	0.351850677	0.023
INF	0.017182	0.009135613	0.017
R squared	63.7%		
F	5.83612	Prob (F-Stat)	0.000
Hausman test Chi-Sq	5.12873	Prob (Chi-Sq)	0.0531

Table 4. Model 1 Fixed Effect Model Results (ROA, ROE, and EPS).

Based on the results in Table 4, a negative relationship exists between (ROA, ROE, and EPS) and GDP at a significant level. This result is aligned with those reported in prior literature Kumar et al. (2021) and Machokoto et al. (2022), who generally supported a negative relationship between firm profitability and GDP. A positive relationship exists between (ROA and EPS) and inflation at a significant level. This result is consistent with previous research by Kumar et al. (2021) and Machokoto et al. (2022), who stated that there is a positive relationship between inflation and firm profitability. ROE is also significantly negatively related to inflation. The R-squared measure of the proportion of the dependent variable variation (ROA, ROE, and ESP) explained by the independent, control variables, and macroeconomic variables, are (72.3%, 78.2%, and 63.7%) respectively.

5. Conclusions

The primary objective of this research is the investigation of the relationship between REC, PAY, leverage, firm size, and macroeconomic variables (GDP and INF) and the profitability of the firm using three models, ROA, ROE, and EPS. The underpinning theories and their background were presented and explained, and following a thorough review of relevant literature, three hypotheses were developed to examine the research questions. The paper adopted the ordinary least squares (OLS) regression model, the Hausman test, and the fixed effect model for panel data analysis to test the formulated hypotheses. The

findings showed significant relationships in the three models in terms of REC, PAY, leverage, size of the firm, and macroeconomic variables (GDP and INF).

The model results indicated a negative relationship between profitability and receivables and this could be attributed to the lack of inefficiency in policies establishment for manufacturing firms in Jordan. The results supported a positive and significant PAY relationship, and a significant relationship with the size and leverage of the firms. The results also supported the significant relationship between macroeconomic variables and firms' profitability. The ROE model showed the highest R-squared level. All the models' results supported the importance of trade credit decisions and their impact on the manufacturing the profitability of SMEs and thus, the decisions need to be reviewed on a period and continuous basis. The study's limitation is that the effects of trade credit on unlisted SMEs, as well as the effects of financial distress on the relationship between trade credit and firm performance, were not investigated. This is just a thought for future research.

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