

# Explaining the Determinants of Trade Credit: An Empirical Study in the Case of Saudi Arabian's unlisted Firms

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## Abstract

This paper empirically investigates the determinants of trade credit of 403 unlisted Saudi firms over the period from 2000 to 2004. The data show that trade credit is a crucial component in the liability portfolios of unlisted Saudi firms. Moreover, we employ fixed-effects panel estimation to control for firm-specific, time-invariant heterogeneity. Our results provide strong support for the idea of substitution effect between traditional debt and debt provided by suppliers. Moreover, the results reveal that older firms tend to have a lower level of trade credit and larger companies tend to have higher levels. Consistent with the pecking order hypothesis, profitability is negatively correlated with the level of trade credit. The findings also suggest that firms with abundant current assets receive more financing from their suppliers. However, the number of growth opportunities appears to influence the level of trade credit only in small- and medium-sized companies where a significant negative relationship is observed.

**Keywords:** Trade credit, Saudi Arabia, panel data, availability of financial resources, credit worthiness, profitability, liquidity and growth opportunities.

## 1- Introduction

The empirical literature on corporate finance has established a series of facts related to corporate financing decisions. The majority of these facts have, however, been established within the context of long-term debt instruments; little is known about short-term debt sources. The single most important short-term debt option for firms is trade credit, where firms buy goods and/or services on account, i.e., without making immediate cash payment. This type of debt is usually recorded as "accounts payable." However, two significant differences distinguish trade credit from alternative sources of financing. The first difference is the fact that trade credit is offered by non-financial entities and is limited to the purchase of goods, whereas financial institutions may offer loans that are unconstrained and longer-term. The second significant difference is that the cost of trade credit varies widely, whereas the actual cost of institutional credit remains close to nominal cost. Basically, trade credit is more costly than other forms of credit. Nilsen (2002) finds that if trade credit is extended beyond its duration, it becomes very costly and thus becomes an unattractive alternative source of financing.

Despite the cost, trade credit can be an attractive substitute for loans. A key attraction of trade credit is that it provides more financial flexibility than bank loans. Danielson and Scott (2004) argue that when firms face liquidity problems, it is less costly to delay payment to suppliers than to renegotiate loan conditions with banks. Further, suppliers tend to follow a more lenient liquidation policy than banks when a firm faces financial distress (Huyghebaert et al., 2007). Trade credit is also appealing because it allows customers to verify that their purchases comply with the agreed terms and to ensure that any services are provided as agreed. Smith (1987) argues that the customer can refuse to pay and can return the merchandise if the products do not fulfill the agreement. Furthermore, trade credit permits firms to match payments for goods purchased with income from sales. In the absence of trade credit, firms pay for their purchases on delivery. If the frequency of purchase were important and unpredictable, firms would need to keep a precautionary level of cash holdings to settle these payments; keeping such cash holdings would be considered an opportunity cost for the firm. Thus, trade credit implies that the delivery of goods or provision of services and their subsequent payment can be separated. This provides firms the opportunity to reduce the uncertainty of their payments (Ferris, 1981).

A rich theoretical and empirical literature has emerged that identifies numerous variables that appear to affect a firm's demand for trade credit. Two overarching theories dominate the literature: financing theory and transaction theory. The former holds that trade credit demand depends on the implied interest rate of the credit and on the cost of alternative sources of financing; the latter suggests that trade credit helps reduce both transaction costs and the need for customers to hold high cash balances or convert liquid assets into cash (Schwartz, 1974).

Existing theories and most empirical studies, however, focus mainly on developed markets. Very little is known about emerging markets. In a financially inefficient working environment, where contract enforcement is insecure and information is scarce, banks limit the credit they offer to businesses. This limitation induces firms to look for alternative financing options; they often turn to trade credit. Demirguç-Kunt and Maksimovic (2001)

and Ge and Qiu (2007) emphasize that trade credit is an answer for markets where alternative sources of financing are mostly unavailable or where the financial sector is poorly developed. Moreover, trade credit is even more important for unlisted firms given that they are restrained from accessing capital markets (Petersen and Rajan, 1995; Berger and Udell, 1998; Fisman and Love, 2003). Such firms may have to seek alternative sources of external financing, and trade credit provides such an alternative.

Despite the importance of trade credit in countries where financial institutions and capital markets are not fully developed, there is no literature about this source of financing using Saudi Arabian data. Another innovation introduced by the present study is the focus on unlisted Saudi firms. It is reasonable to expect that unlisted firms have less access to bank loans than do public firms. In addition, publicly listed firms have access to public capital markets, and unlisted firms do not. To fill this gap in the literature, this study uses a unique dataset of 403 unlisted Saudi companies to investigate trade credit as a short-term financing source. The questions addressed in this paper are the following: First, is trade credit a marginal component of the liability portfolios of unlisted Saudi firms, or does trade credit constitute a key alternative to more “common” external financing? Second, is it possible that trade credit can substitute for access to formal financing if the latter is constrained? Third, what determines access to trade credit?

The results obtained show that trade credit accounts for a large proportion of the liability portfolios of Saudi unlisted firms. Moreover, the findings suggest that larger firms with greater growth opportunities receive more financing from their suppliers. In addition, the results show that firms with better access to external financing and with higher profitability use less credit from suppliers.

The remainder of this paper is organized as follows: in Section 2, we present null hypotheses based upon key prior literature on the relationship between trade credit and its determinants. In Section 3, we explain the dataset and methodology used in this study, and the results are reported in section 4. Section 5 summarizes and concludes the study.

## 2- Literature and hypotheses

In an attempt to answer the puzzling question of why firms use trade credit, researchers have developed many theories, which can be broadly classified into two main groups. The first group focuses on the financial motives for using trade credit when financial markets are imperfect. Emery (1984) argues that arbitrage opportunities as a result of different borrowing and lending interest rates serve as purely financial incentives for firms to use trade credit. Petersen and Rajan (1997) summarize this view under financial advantage theories. According to those theories, the supplier of trade credit has a cost advantage over financial institutions. Petersen and Rajan (1997) mention three sources of cost advantage:

- *Advantage in information acquisition.* The supplier may easily (faster and at lower cost) monitor the buyer’s financial operations through the normal course of business.
- *Advantage in controlling the buyer.* The threat to cut off future supplies in case of non-payment practices of the buyer is likely to be more credible than the threat from financial institution to reduce financing in the future. Cunat (2007) further argues that firms offering trade credit may have an advantage over banks in enforcing debt repayment in a situation where it is difficult for the buyer to find alternative suppliers.
- *Advantage in salvaging value from existing assets.* This advantage depends on the type of products the suppliers sell and how much the customer transforms them. The less the goods are transformed by the buyer, the greater the advantage the supplier will have over financial institutions in finding an alternative buyer.

The second category focuses on the transaction motivation of trade credit. Schwartz (1974) argues that trade credit helps reduce both transaction costs and the need for customers to hold high cash balances or convert liquid assets into cash. These reductions are especially important when the cash is needed and the frequency of payments demanded; because bills are accumulated in one transaction, there is a reduction in transaction costs (Ferris, 1981). Summers and Wilson (2002) argue that firms with higher volumes of purchases have higher volumes of transactions and therefore a greater use of trade credit to reduce transaction costs. Moreover, cost advantages can arise from the fact that both goods and financing are supplied from a single source, lowering costs compared with using different suppliers (Mian and Smith, 1992). Suppliers may also price discriminate through trade credit among low quality borrowers, which are usually credit-rationed by financial institutions (Petersen and Rajan, 1995).

On the basis of the above theories, the literature has succeeded in establishing some stylized facts relating the level of trade credit measured by accounts payable to a variety of independent variables. This study uses five key explanatory variables that prior studies found to determine the level of trade credit. These variables are availability of financial resources, the firm’s creditworthiness, profitability, liquidity and growth. The theoretical considerations and prior empirical evidence with regard to each of the independent variables are discussed

below.

### **I. Availability of Financial Resources**

The first variable is availability of financial resources. Firms use trade credit as a source of financing; consequently, accounts payable depends on the availability of financial resources from banks because bank credit can be considered a substitute for supplier financing. In this sense, the prediction that trade credit is a substitute for insufficient bank financing is empirically confirmed by Petersen and Rajan (1997), Marotta (1997) and Danielson and Scott (2004). They notice that credit-constrained firms use more trade credit when credit conditions are tighter. Moreover, Petersen and Rajan (1997) argue that excessive trade credit could send a negative signal to a bank that a firm cannot obtain credit at other banks. This finding is empirically confirmed by Wilson and Summers (2002) who found that suppliers provide credit for firms that can no longer rely on banks for additional credit. Huyghebaert, et al. (2007), further argue that suppliers are more willing to renegotiate the outstanding debt or grant additional debt, whereas banks are more likely to liquidate borrowers upon default. Following prior research, this study uses three appropriate debt measures. The most traditional measure is total debt (TD), measured as the ratio of total financial debt to assets. Moreover, total debt is disaggregated into its components: short-term debt (STD) and long-term debt (LTD), all scaled by total assets. In this sense, keeping in mind the idea of substitution effect between traditional debt and debt provided by suppliers, it is plausible to expect a negative relationship between trade credit and other sources of alternative financing. Therefore, the following hypotheses are made:

*H1a: The level of trade credit is negatively related to the level of total debt.*

*H1b: The level of trade credit is negatively related to the level of long-term debt.*

*H1c: The level of trade credit is negatively related to the level of short-term debt.*

### **II. Firm's Creditworthiness**

The second variable is related to the quality of the firm's creditworthiness. A firm's size and age are the main proxies used in literature to capture the affect of a firm's creditworthiness on trade credit level. Petersen and Rajan (1997) argue that firms with higher credit quality, measured by size, should receive more credit from their suppliers. Bevan and Danbolt, (2004), further argue that large firms are perceived to have lower risk of default and, thus, suppliers are more willing to extend trade credit to them. In contrast, older firms may possibly use less credit from their suppliers because they can find other sources of finance as a consequence of their credit capacity and reputation. Berger and Udell (1998) highlight that trade credit is more important when firms are younger. This is empirically confirmed by Niskanen and Niskanen (2006), who found that older firms use less trade credit than younger ones. Following Petersen and Rajan (1997), size (SIZES) is calculated as the logarithm of the sales and the age (LAGE) is defined as the log number of years since the foundation of the firm. In general, one would expect a positive relationship between trade credit and a firm's size and a negative relationship between trade credit and a firm's age. Consequently, the following hypotheses are developed:

*H2a: The level of trade credit is positively related to firm size.*

*H2b: The level of trade credit is negatively related to firm age.*

### **III. Profitability**

In the empirical literature, profitability is also found to have an impact on trade credit. According to the pecking order theory of Myers and Majluf (1984), because of information asymmetry, more profitable firms use less external financing. Therefore, firms with a greater capacity to generate internal funds have more resources available; consequently, they will decrease their demand for financing through their suppliers. Petersen and Rajan (1997), Deloof and Jegers (1999) and Niskamen and Niskamen (2006) empirically confirmed the negative dependence between profitability and trade credit. Profitability (PROF) is measured by the ratio of earnings before interest and taxes to total assets. Overall, a negative relationship between trade credit and profitability is expected. Thus, the following hypothesis is made:

*H3: The level of trade credit is negatively related to the level of profitability.*

### **IV. Liquidity**

Liquidity is a critical factor that might affect the demand for financing in general and the demand for trade credit in particular. According to the matching principle, firms finance short-term needs with short-term financing. Morris (1976) argues that a firm has to match the maturity of its liabilities to the life of its assets to ensure that cash flow generated by assets is sufficient to pay periodic debt payments. The ratio of current assets to total assets is used to capture the influence of liquidity (CA) on trade credit level. Furthermore, following Deloof and Jegers (1999) and García-Teruel and Martínez-Solano (2010), the metric of current assets is disaggregated into its components: cash holdings (CASH), accounts receivable (REC) and inventories (INV), all scaled by total assets. These components can be seen as collateral. In this sense, one would expect a positive relationship between trade credit and liquidity variables. So, the following hypotheses are made:

*H4a: The level of trade credit is positively related to current assets level.*

*H4b: The level of trade credit is positively related to cash level.*

*H4c: The level of trade credit is positively related to receivable level.*

*H4d: The level of trade credit is positively related to inventory level.*

## V. Growth

Growth is another variable found to be relevant in determining trade credit. Jensen and Meckling (1976) and Myers (1977) argue that firms with substantial growth opportunities have an incentive to engage in asset substitution and underinvestment problems. Thus, firms with more investment opportunities are expected to have less debt, indicating an inverse relationship between growth opportunities and liability variables. Myers (1977) and Ozkan (2001), further argue that if firms issue short-term rather than long-term liabilities, this problem will be mitigated. However, when the firm is financially constrained, it may resort to using trade credit. Arslan and Umutlu (2010), further argue that suppliers may finance the growth of their customers to assure growth of their own sales and to eventually capture future profitable business from the firms. As employed in prior studies by Deloof and Jegers (1999) and Niskamen and Niskamen (2006), this variable is measured by the yearly percentage change in sales. Despite the contradiction in the above arguments, one would expect that firms with greater increases in sales are expected to use less trade credit due to the high degree of information asymmetry. Thus the following hypothesis is made:

*H5: The level of trade credit is negatively related to the level of sales growth.*

## 3- Data and Methodology

There is no databank of financial information on Saudi Arabian companies. However, Saudi corporate law requires companies - specifically joint stock and limited liability companies - to submit annually audited financial statements to the department of corporation at the ministry of commerce. Therefore, the data used in this study were collected annually from the archive of the department of corporate at the ministry of commerce.

The sample includes the unlisted Saudi companies found in the archive of the department of corporate at the ministry of commerce from 2000 to 2004. The selection of the sample was carried out according to the following criteria. First, companies' financial statements have to be audited by licensed auditors to ensure the reliability of data. Because corporate law requires the limited liability companies to submit annually audited financial statements to the department of corporate at the ministry of commerce, the financial statements of companies included in the sample are audited. Second, all companies in the data set have the legal form of a limited liability company. Third, all companies in the data set have annual accounting data for all five years of the studied period.. The reason for a minimum of five years of data is to improve estimation and statistical results, especially when using balanced panel data. As a result of applying the above criteria, the final sample ended up with a panel of 403 firms. In addition to the above criteria, once outliers were identified, they were sorted in ascending and descending order and then winsorized to the nearest acceptable value (maximum or minimum clear value).

### Table 1: Summary Statistics

TC represents accounts payable over total assets; STD, LTD and TD are the ratio of short-term, the long-term and total debt over total assets, respectively; SALES the sales in million dollars; AGE the age of the company; ROA refers to EBIT over total assets; CA current assets over total assets, CASH, REC and INV are the ratios of cash holdings, the accounts receivable and inventory over current assets, respectively; GROWTHS is sales growth.

	Obs.	Mean	Std. Dev.	Perc. 10	Median	Perc. 90
<b>TC</b>	2015	0.2279	0.2104	0.0204	0.1635	0.5552
<b>STD</b>	2015	0.1286	0.1778	0	0.042	0.3955
<b>LTD</b>	2015	0.0243	0.0628	0	0	0.106
<b>TD</b>	2015	0.1564	0.1913	0	0.0703	0.4872
<b>SIZES</b>	2015	25.93	81.25	0.9991	7.66	54.1
<b>AGE</b>	2015	18.23	7.42	9	17	29
<b>ROA</b>	2015	0.0815	0.1342	-0.0314	0.0673	0.2229
<b>CA</b>	2015	0.6969	0.2534	0.3012	0.7606	0.9699
<b>CASH</b>	2015	0.0795	0.1106	0.0204	0.0373	0.2233
<b>REC</b>	2015	0.4371	0.2623	0.1037	0.3997	0.8285
<b>INV</b>	2015	0.1803	0.1841	0	0.13	0.4369
<b>GROWTHS</b>	2015	0.0752	0.2275	-0.2074	0.0104	0.5019

Table 1 shows descriptive statistics about the variables. This table shows that trade credit represents approximately 23% of firms' total assets; however, as noted previously, this value differs from one sector to another. Moreover, this value is greater than the mean of other forms of financial debt, including total debt (approximately 16%), short-term debt (approximately 13%) and long-term debt (2.43%), which reveals the importance of supplier financing to firms. The original scale of the measures of size is reported to provide



The second model is the extended form of the first model, in which the reduced-form variables of total debt and the investment in current assets are disaggregated into different components: short-term debt, long-term debt, cash, accounts receivable and inventory. Therefore, the regression equation to be estimated is:

$$TC_{it} = \alpha + \beta_1 STD_{it} + \beta_2 LTD_{it} + \beta_3 SIZE_{it} + \beta_4 LAGE_{it} + \beta_5 ROA_{it} + \beta_6 CASH_{it} + \beta_7 REC_{it} + \beta_8 INV_{it} + \beta_9 GROWTHS_{it} + \varepsilon_{it}$$

Where  $TC_{it}$  represents the trade credit of firm  $i$  at time;  $STD_{it}$  the short-term debt;  $LTD_{it}$  the long-term debt;  $SIZE_{it}$  the size;  $LAGE_{it}$  the age of the company;  $ROA_{it}$  the return on assets;  $CASH_{it}$  the cash holding;  $REC_{it}$  the investment in receivable accounts;  $INV_{it}$  the investment in inventory;  $GROWTHS_{it}$  the sales growth.

#### 4- Results

The aim of this section is to provide answers to the second and third questions. For this purpose, extended and reduced forms were estimated using the data of 403 companies over the period from 2000 to 2004. To provide an in-depth comparison of the results with previous studies, the extended and reduced forms were also estimated using the data of small and medium companies<sup>1</sup>.

Table 4 reports the results of reduced and extended models. All the estimations have been performed using the fixed effect model because the computed Hausman statistics reject random effects in favor of our chosen fixed effects model. Moreover, the F-test values reveal that regressions are highly significant; thus, we are able to reject the null hypothesis of joint insignificance of our coefficients at less than the 1% level in all cases, and the overall  $R^2$  measure differs slightly among them. In general, the results obtained in different estimations (columns 1 to 4) are consistent with one another.

INSERT TABLE 3

**Table 3: Determinants of Accounts Payable**

TC represents accounts payable over total assets; STD, LTD and TD are the ratio of short-term, the long-term and total debt over total assets, respectively; SIZE is the log of sales, LAGE is the log of (1+ the age of the company); ROA refers to EBIT over total assets; CA current assets over total assets, CASH, REC and INV are the ratios of cash holdings, the accounts receivable and inventory over current assets, respectively; GROWTHS is sales growth. All estimations have been performed using fixed effect estimators.

	S&M	Total	S&M	Total
<b>TD</b>	-0.322*** (-10.35)	-.306*** (-10.77)		
<b>STD</b>			-0.369*** (-10.66)	-.351*** (-10.93)
<b>LTD</b>			-0.122* (-1.67)	-0.121** (-2.17)
<b>SIZE</b>	0.127*** (8.13)	0.098*** (7.48)	0.130*** (8.24)	0.102*** (7.70)
<b>LAGE</b>	-0.275*** (-4.03)	-.159*** (-2.84)	-0.254*** (-3.68)	-.139*** (-2.47)
<b>ROA</b>	-0.223*** (-6.41)	-.206*** (-7.01)	-0.221*** (-6.29)	-.205*** (-6.93)
<b>CA</b>	0.143*** (4.33)	0.132*** (4.58)		
<b>CASH</b>			0.089* (1.88)	0.113*** (2.78)
<b>REC</b>			0.143*** (4.27)	0.131*** (4.48)
<b>INV</b>			0.150*** (2.87)	0.143*** (3.13)
<b>GROWTHS</b>	-0.030** (-2.21)	-0.005 (-0.43)	-0.031** (-2.26)	-0.006 (-0.51)
<b>C</b>	-0.291*** (-2.53)	-.291*** (-2.98)	-0.422*** (-3.45)	-0.343*** (-3.45)
<b>R<sup>2</sup> within</b>	0.1449	0.1105	0.1496	0.1125
<b>R<sup>2</sup> between</b>	0.1213	0.1046	0.1047	0.0890
<b>R<sup>2</sup> overall</b>	0.1242	0.1049	0.1139	0.0922
<b>Corr (ui, x)</b>	-0.1211	-0.0806	-0.1125	-0.0927
<b>F test</b>	16.21***	33.26***	21.17***	22.59***
<b><math>\chi^2</math> (6) &amp; (9)</b>	24.90***	22.03***	27.73***	35.07***
<b>Observations</b>	1365	2015	1365	2015

t statistic in brackets. \*\*\*, \*\* and \* indicate coefficient is significant at the 1%, 5% and 10% level, respectively.

$\chi^2$  is the Hausman specification test for fixed versus random effects panel estimation.

Regarding the explanatory variables, the coefficient of the total debt variable is negative and significant at the 1% level under both “total” and “small and medium” samples (columns 1 and 2). Therefore, we fail to reject

<sup>1</sup> European Commission defines MSMEs based on turnover as follows: small enterprises are greater than €2 million and less than or equal €10 million; medium enterprises are greater than €10 million and less than or equal to € 50 million.

hypothesis H1a. This result implies that unlisted Saudi firms reduce their levels of debt from suppliers when they have the chance to access other financial resources. To analyze this aspect in greater depth, columns 3 and 4 show that total debt is disaggregated into short-term and long-term debt. The results illustrate the strong significant negative relationship between short-term debt and trade credit level in both samples. Therefore, we are unable to reject hypothesis H1b. The negative and significant correlation between trade credit and long-term debt is also confirmed, but with lower explanatory power in the magnitude and significance of the coefficients. Therefore, we fail to reject hypothesis H1c. This means that unlisted firms reduce their levels of debt from suppliers not only when they have the chance to access other short-term financial resources but also when they can use more long-term debt. Therefore, these results provide strong support to the substitution effect between trade credit and other external resources, in particular short-term debt. These results also confirm previous findings of Petersen and Rajan (1997), Marotta (1997), Danielson and Scott (2004), Bougheas et al. (2009) and García-Teruel and Martínez-Solano (2010).

Concerning the quality of the variable of a firm's creditworthiness, both proxies previously considered show the expected relationship. The relationship between trade credit and a firm's size is found to be positively significant under both forms and both samples. Consequently, hypothesis H2a cannot be rejected. These results can be explained by the fact that large companies are more able to receive trade credit financing from their suppliers. Consistent with a previous finding of Petersen and Rajan (1997) and Bougheas et al. (2009), these results may reflect the fact that larger companies have stronger reputations because they are perceived to have lower risk of default. A firm's age is found to be significantly negatively associated with trade credit; thus, we fail to reject hypothesis H2b. This means that older companies rely less on trade credit financing. Bearing in mind that the Saudi financial market is characterized as a bank-dominated system, this result suggests that older firms have stronger reputations and more-established financial histories; thus, these firms have greater access to bank loans. This finding is consistent with the finding of Niskanen and Niskanen (2006) in the Finnish market.

Consistent with the pecking order hypothesis, the results in all cases of this study reveal that return on assets as a proxy for profitability has a significant negative impact on trade credit with high economic value. Therefore, we fail to reject hypothesis H3. This means that a firm with higher profitability has a lower level of trade credit. Given that trade credit is extremely expensive, profitable firms have greater capacity to generate internal funds; thus, they have a decreased demand for financing through their suppliers. This is also consistent with previous results found by Petersen and Rajan (1997), Delloof and Jegers (1999), Niskamen and Niskamen (2006) and García-Teruel and Martínez-Solano (2010).

In line with the previous findings (Petersen and Rajan, 1997; Delloof and Jegers, 1999; Niskanen and Niskanen, 2006), the results in columns 1 and 2 show that the variable of current assets is positively correlated with trade credit under both samples with high economic and significance values; thus, we fail to reject hypothesis H4a. This means that unlisted Saudi firms with more investment in current assets use more credit from their suppliers. To further analyze this finding, the current assets variable is disaggregated into cash, receivable and inventory (columns 3 and 4). Consistent with a previous finding of Bougheas et al. (2009), the results illustrate a significant positive relationship between cash and trade credit level at the 1% level under the S&M sample and at the 10% level under the total sample. Therefore, we are unable to reject hypothesis H4b. The positive and significant correlation between trade credit and proxy for receivables is also confirmed; thus, one would not be able to reject hypothesis H4c. In line with the finding of Bougheas et al. (2009), the relationship between inventory level and trade credit is also positive and significant at the 1% level. Therefore, we fail to reject hypothesis H4d. In general, these results provide strong support for the idea of a matching principle, in which firms tend to match the maturity of their liabilities and the liquidity of their assets.

Consistent with the asset substitution and underinvestment arguments of Jensen and Meckling (1976) and Myers (1977), the results show that the relationship between the growth variable and trade credit is negative and significant at the 5% level under the S&M sample (columns 1 and 3). However, the growth coefficient is no longer significant when the model is estimated using the data from the total sample (columns 2 and 4). Consequently, we are unable to reject hypothesis H5 only under the S&M sample but not under the total sample. This suggests that S&M Saudi firms with higher sales growth and by extension, those most likely to have more growth opportunities face difficulty obtaining credit financing from their suppliers. However, these results are contrary to the findings of previous studies (Delloof and Jegers, 1999; Niskanen and Niskanen, 2006).

## 5- CONCLUSIONS

This study provides empirical evidence of the determinants of trade credit using a sample of 403 unlisted Saudi Arabian firms from 2000 to 2004, with the objective of finding out if trade credit constitutes a key alternative to more "common" external financing. Descriptive statistics show that trade credit represents approximately 23% of firms' total assets. This value is greater than the mean of other financial debt, including total debt (approximately 16%), short-term debt (approximately 13%) and long-term debt (2.43%), which reveals

the importance of supplier financing for unlisted Saudi firms.

Moreover, the second objective of the study is to determine whether trade credit can substitute for formal financing. The regression analyses confirm that short-term, long-term and total financial debt decrease with trade credit. This implies that unlisted Saudi firms reduce their levels of debt from suppliers when they have the chance to access other financial resources; it also provides strong support for the substitution effect between trade credit and other external resources.

Finally, consistent with the pecking order hypothesis, profitability is found to be negatively correlated with the level of trade credit. Findings also suggest that firms with abundant current assets receive more financing from their suppliers. However, the level of growth opportunities appears to influence the level of trade credit only in small- and medium-sized companies where a significant negative relationship is observed.

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