Physical Education, Health and Social Sciences

https://journal-of-social-education.org E-ISSN: 2958-5996
P-ISSN: 2958-5988

Determinants of Trade Credit in Emerging Markets: Firm Behavior in Focus

Adnan Khan[1], Dr. Naveed[2], Dr. Zahid Ali[3]

[1] PhD Scholar, Qurtuba University of Science and Information Technology, Peshawar, Pakistan, Email: adnan.ilink@gmail.com
[2] Professor, City University of Science and Information Technology, Peshawar, Pakistan
[3] Department of Commerce and Management Sciences, University of Malakand, Khyber Pakhtunkhwa, Pakistan

DOI: https://doi.org/10.63163/jpehss.v3i1.349

Abstract

The aim of the study is to examine the determinants of trade credit by utilizing firm-level panel data from non-financial firms in emerging Asian markets over the period 2011–2022. The stduy explores how firm-specific factors affect trade credit decisions from the lens of ageny and signalling theories. All variables are computed from Compustat databse to ensure reliability and consistency. To overcome potential endogeneity issues, Generalized Method of Moments (GMM) econometric technique is used to identify the primary drivers of various forms of trade credit. Consistent with signaling and agency theories the study found significant association across all forms of trade credit. Profitability reveled a positive assocaiton with provision and net trade credit, while negative associated with trade credit acquisition. Assets tangibility reveled positive assocaition with net trade credit whily negatively with acquisition. Leverage was positively associated with both provision and acquisition while negatively with net trade credit. Similarly, operating growth showed a nagative assocaition with provsion of trade credit. while, R&D was positively associated. Capital expenditures was negatively associated with both provision and acquisition, but positively with net trade credit. Finally, firm size showed a positive association with provision and acquisition, and negative with net trade credit. The findings offer practical insights for managers and policymakers in emerging Asian markets. By identifying the key determinants of trade credit, ploicymakers can device strategies to inprove financial infrastructures and reduce information asymatery in emrging markets. By understanding the firm level drivers of trade credit, the managers can effectively formulate credit risk management and fiancail planing. Overall, the study contributes to literature by providing new empirical evidence from the context of emerging economies.

Key Words: Emerging Markets, Tangibilty, R&D, Trade Credit, GMM

Introduction

Trade credit is an imperative form of short-term financing for businesses and their supply-chain partners. Its role and importance could be determined from the empirical statistics that trade credit volume is three times greater than bank loans and fifteen times more than commercial papers (Barrot, 2016). Compared to other forms of financing, trade credits offer many benefits, most notably, less complicated procedures and lower costs contribute to the liquidity and profitability of the firm. Moreover, the trade credit records assist in more informed financing and investment

decisions (Boubaker, Chebbi, & Grira, 2020). Further, due to an inefficient financial system, firms in developing economies usually rely on trade credit as a significant source of finance and place at top priority in their capital structures (Liu, Wang, & Shou, 2020). The role and importance of trade credit in the financial setting could be imagined from the statistics provided by the International Bank of Settlements (2014), which show that two-thirds of global trade is carried out on trade credit arrangements. Further studies also explained that trade credit is a major component of their financing strategies and occupies a larger space in the firm's liabilities, i.e., 35% of the total liabilities (Dong & Liu, 2022). Although the share and role are prominent, the unmet demand for trade credit still exists in advanced and emerging markets. Statistics show that the unmet demand for trade finance is around 1.1 trillion dollars only in Asia (Beck, Shinozaki, Ferino, Zhang, & Mangampat, 2013). The concept of trade credit could be employed in two ways, i.e., using trade credit (Accounts payable), acquiring goods or services on credit, and providing trade credit (Accounts receivable), selling goods or services or on credit. However, some scholars reported that the provision of trade credit is contingent upon its availability (Shang, 2020). The argument complements suppliers' redistribution view of financial credit to trade credit. The concept holds that the availability of trade credit leads to more trade credit extension by the suppliers. The suppliers apply the credit maturity matching concept to offer trade credit to their customers. Due to its significance in company strategic decisions, trade credit has drawn the attention from academics, business professionals, and policymakers. Numerous studies have sought to uncover critical variables associated with trade credits and have reported variations in the extent and amount of usage and provision of trade credit in the different regions. For example audit quality (Saeed, Munir, & Zafar, 2024), liquidity instrument (Astvansh & Jindal, 2022), firm value (M. D. Hill, Kelly, & Venkiteshwaran, 2015), business strategy (Cao, Chen, & Lee, 2022), assets rediployability (Hasan & Alam, 2022), competitive firces (M. Hill, Hill, Preve, & Sarria-Allende, 2019), stock liquidity (Shang, 2020), return (Machokoto, Gyimah, & Ibrahim, 2022) and growth & cost (Tang & Moro, 2020). However, previous stduies attemtped to focus on one or two determinants of trade credit provision or acquisition. The present stduy attempts to fill the gap by identifying more determinants of all form of trade credit. Moreover, previous studies attempted to explore the determinants of trade credit in developed economies, while, this study adding evidences from emerging markets. Grounding on signaling and agency theories, the study found significant association of all variables across all forms of trade credits. Profitability measured as return on assests reveled a positive assocaiton with provision and net trade credit. The resutls affirmed signalling theory, denoting higher profit sends positve signals to all staleholders, as a result, the mamagers enhance credit supply to their customers for profitability and sales sustainability. In comtrast negative association with trade credit acquisition further affirmed that profitable firms rely lesser on supplier as a source of financing. Assets tangibility emerged as an important determinant and reveled positive assocaition with net trade credit while negatively with acquisition. Similarly, leverage revelaed a significant impact on both provision and acquisition, while negatively associated with net trade credit. Operating growth showed a nagative assocaition with provsion of trade credit. The results holds that the firms reduce trade credit supply to their custoemrs and divert their investment to finance growth requiremetns. Positive association of R&D with provision of trade credit was seen. Capital expenditures were negatively associated with both provision and acquisition, but positively with net trade credit. Finally, firm size showed a positive association with provision and acquisition, and negative with net trade credit.

The findings offer practical insights for managers and policymakers in emerging Asian markets. The emerging markets are known for less developed financial markets and week governance structures. By identifying the key determinants of trade credit, ploicymakers can device strategies to improve financial infrastructures and reduce information asymatery in emrging markets. The

improvements in financial infrastructure will lead to development of formal credit channels and thus lead to busienss developments. By understanding the firm level drivers of trade credit, the managers can effectively formulate credit risk management and fiancail planing. Moreover, the results could be used for allocation funds to the firm specific determinants as per their association with provision, acquisitionandn net trade credits. The study contributes to literature by exploring more determinants of trade credit. Overall, the study contributes to literature by providing new empirical evidence from the context of emerging economies. The remaing paper is organised as follows. Literature reviews and hypothesis developments is discussed in section 2. Section 3 elaborates the methodology, sample, ecnometric techniques and varaibles description. The results and discussion are explained in section 4. The onclusion and contributions are given n section 5.

Literature Review

Considering the role and importance of trade credits in financial settings and business development various studies attempted to examine the determinants of trade credits in both developed and developing economies. Trade credit is used as a tool to gain a competitive edge and add value to the firm. The literature reveals various benefits of trade credit to both providers and acquirers. Through trade credit agreements, firms can establish good and enduring relationships with their customers, resulting in lower borrowing costs, higher discounts, and enhanced purchasing power. The enhanced purchasing power, due to deferred payments, enables the buyers to flourish their sales and add value to their firms (H.-Q. Li, Yang, Xue, & Liu, 2024). Credit sales arrangements also benefit suppliers. They enable firms to increase their customers' liquidity, create higher demand for their goods, and boost sales (Hoang, Xiao, & Akbar, 2019). Suppliers use enhanced demand to gain operational efficiency and smooth the market for their products. Suppliers alter the demand for a specific or overall offering through trade credit terms to gain the advantages of demand smoothing (Emery, 1987). Trust is an integral component in business contracts. Mutual trust between both parties, i.e., buyers and suppliers, is essential in credit agreements. Due to mistrust and information asymmetry in emerging markets, firms rely less on bank loans than trade credit (Atanasova & Wilson, 2003). Trade credit is a trust-building device that enhances the relationships between buyers and suppliers and is termed an implied contract (Wu, Firth, & Rui, 2014). Previous studies have shown trust to be an enabler and facilitator in executing trade credit transactions, specifically in light of signaling theory (Paruchuri, Han, & Prakash, 2021). Information asymmetry results in mistrust and adds to the worries of both parties, suppliers, and customers, when carrying out credit transactions. Buyers show concerns over the quality of the products offered on credit, while the suppliers hesitate to provide trade credit as they doubt the repayment of the credit amount due to moral hazard. Goodwill and trust serve as trust-building devices and fulfill the transaction in such situations. The customers trust the supplier’s goodwill and associate it with their suppliers' product quality and competencies. Meanwhile, the supplier associates the customer's goodwill with the repayment abilities of the customer. So, the concerns of both are resolved through trust and goodwill and, which, emerged as an important determinant of trade credit (Kong, Pan, Tian, & Zhang, 2020; Y. Li & Zhu, 2021). Similarly, other scholars have attempted to test audit quality as a trust-building tool in modern business. An audit by Big-4 was used as a proxy for audit quality, and its impact was assessed on trade credits using a sample of nine emerging Asian economies. Grounded on the signaling theory, audit quality is regarded as a trust-building tool, and it is pleaded that if a Big-4 audit firm is auditing a firm, positive signals are sent to the stakeholders. Consequently, the vendors' trust is built, and they are willing to offer more trade credit (Saeed et al., 2024). Besides the trust builder, the suppliers use trade credit as a competitive strategy. The firms agreed to provide the goods and receive payments in the future under the stated terms of trade credit. The deferred payments enable the customers to develop

positive perceptions regarding the quality of the products. The goods are received before the payment, and the perception of superior quality and deferred payments give a competitive advantage to the suppliers over their rivals (Dass, Kale, & Nanda, 2015; Fabbri & Klapper, 2016). The competitive advantages are considered a value-creation tool in the research (Frennea, Han, & Mittal, 2019). The value creation tool is based on the notion that credit suppliers have a competitive advantage over cash suppliers. Exploiting the edge, they differentiate the price for cash and credit sales and thus enhance the firm's value by charging higher prices. On the other hand, by enjoying a comparative advantage over the formal channels of financing, trade credit is used as a liquidity instrument for inventory. The financially constrained firm prefers to obtain goods on credit from suppliers rather than formal channels of financing. Suppliers have easy and convenient access to customers' information. Access to information gave a comparative advantage to the suppliers over banks or any other financing agencies and enabled the firms to provide trade credit to their customers to support their illiquidity (Cunat, 2007; Love & Zaidi, 2010). The suppliers are notified of adding loyalty to the buyers and liquidating their inventory into sales (Astvansh & Jindal, 2022). Similarly, the buyers use the trade credit facility to manage their cashflows. Firms with financial obstacles use deferred payment facilities to adjust their cashflow deficiencies without affecting their sales operations. Trade credit safeguards against the negative consequences of cashflows or working capital deficiencies (Fisman & Love, 2003). Beyond extension of trade credit to financially constrained firms, the suppliers are also willing to provide trade credits to firms with good reputations to establish long-run relationships and gain more market share and enhanced value (Khoo & Cheung, 2022; Kim & Shin, 2012). Contrary to other scholars' viewpoint, which suggest that trade credit has a positive association with firm value, M. D. Hill et al. (2015) argued that Trade credit enhances the firm's value to a lower level, however after the optimal level, a decline in value is reported at a higher level. This diminishing return trend is not uniform in all economies across the globe. The trend is more pronounced in the US than in emerging markets (Machokoto et al., 2022). In line with the above studies, another research attempted to establish the link between business strategy and trade credits. The sample was divided into two groups based on their orientations: innovation focused (prospectors) and efficiency focused (defenders). It was reported that business strategy is an important intrinsic determinant of trade credit. The prospectors extended more trade credit than defenders. Furthermore, it was revealed that more extension of trade credit enabled the prospectors to reap the benefits of higher sales, enhanced performance, and obtain more trade credit from suppliers. However, in the presence of two moderators in the relationship, it was observed that the prospectors contracted the trade credit in response to high-skilled employees' reduction. The defenders expanded the trade credit supply in response to the increase and ease in bank credit (Cao et al., 2022). To add to the literature on trade credit, Hasan and Alam (2022) attempted to test the effect of Asset redeployability on trade credit. They took a sample of US firms from 1985 to 2015. An inverse relationship with a standard deviation rises in redeployability leads to a 7.09 to 21.21% reduction in trade credits relative to the mean sample . The moderators of financial constraints, fewer liquid assets, and information asymmetry were examined to further these findings. In financial constraints, the firms are compelled to rely more on asset redeployability, the negative association was strengthened. Similarly, in case of fewer liquid assets and information asymmetry, firms rely more on alternative usage of existing assets leaving fewer resources available for trade credit, thus strengthening the negative association. Other studies stated that the provision of trade credit depends on the availability of trade or any other credit to the firm. The accessibility of bank credit adds to firms' provision of trade credit (Shenoy & Williams, 2017). A study explained acquiring and providing trade credit as a risk reduction technique. The authors argued that the default risk associated with the extension of trade credit is reduced through maturity matching between receivables and payables of trade credits.

The resultant assets from a grant of trade credit, are adjusted against payable liabilities (Fabbri & Klapper, 2008). Similarly, through the analogy of the redistribution view of trade credit, the availability of a financing option enables firms to extend more trade credit. A study was conducted to empirically investigate relationships by taking samples of 66 countries. It was concluded that suppliers allowed more trade credit in countries with more access to finance. Further, significant differences were reported in different countries and geographic locations, and a strong correlation was observed with product market dynamics in trade credit usage (M. Hill et al., 2019). Another study attempted to investigate the determinants of trade credit provision using pooled samples from sixty-six countries. Financial constraints and competitive forces were revealed as significant forces shaping trade credit behavior. Additionally, dissimilarities in the pattern of trade credit across regions and country-level heterogeneity directly affect trade credit were reported (M. Hill et al., 2019). Likewise, another study determines the relationship between trade credit and stock liquidity measures, considering receivables, payables, and net trade credits. It was found that the provision of credit exceeds the usage of trade credits in typical firms. The firm's decisions to provide trade credit were highly correlated with the usage of trade credit. Stock liquidity measures were negatively associated with both the demand and supply side of trade credits, and it is evident that more liquid stock firms rely less on trade credits (Shang, 2020). Besides the benefits, importance, and role of trade credits in the modern business framework, the literature also elaborated on various worries and risks associated with providing and obtaining trade credit. For example, a study showed trade credit as a tool to finance customers' financial constraints and increase their liquidity. However, providing trade credit beyond a certain level may create problems for the suppliers; the buyers may not be able to repay the credit on time, and the suppliers encounter higher risk exposure. Additionally, over-provision of trade credit and blocking of investment, the supplier may lose financial flexibility and not grab investment opportunities (Cao et al., 2022; Hoang et al., 2019). Similarly, Tang and Moro (2020) explained trade credit from the suppliers' perspective and divided their findings into two broader categories: growth and cost. They elaborated on the growth aspect, where the trade credit provision enables the firm to enhance its sales and gain a larger market share. On the cost side, however, the trade credit provision is the most expensive investment for suppliers. Trade credit extension puts a break on growth, and liquidity may result in costly payment delays and threatening the firm's survival in the worst scenario. In emerging economies, the cost aspect is even more detrimental than in advanced economies. In line with the above, Barrot (2016) argues that extending trade credit is not always efficient and convenient for firms. Trade credit might be costly for the suppliers. Specifically, firms with financial constraints must borrow or infuse additional investment to finance the trade credit provision. The situation worsens when the firms must cater to the needs of more prominent firms in slower payment inflows (Murfin & Njoroge, 2015). Contrary, some studies explained the drawbacks of trade credit from a customer perspective, i.e. an acquirer of credit. Although suppliers may be willing to extend trade credit, the customers might not always be willing to benefit from the offer. The managers of the acquiring firms view trade credit through a control lens. They consider the trade credit arrangements as suppliers providing illiquid inputs instead of cash. In return, they may gain some control over the firm. So, the dual-class owners may refrain from relying on trade credit as a financing source, and managers may avoid such arraignments to avoid continuous monitoring (Sah & More, 2022).

In the light of the above literature the following hypotheses are made to be tested in the study:

H_1: Firm size has a significant association with Trade Credit

H_2: Profitability has a significant association with Trade Credit

H_3: Tangibility has a significant association with Trade Credit

H_4: Leverage has a significant association with Trade Credit

H_5: Opearting growth has a significant association with Trade Credit
H_6: Research & Development has a significant association with Trade Credit
H_7: Capital expenditures has a significant association with Trade Credit

Methodology

Sample of the Study

The sample includes all publicly listed non-financial companies in emerging Asian countries from 2011 to 2022. The relevent financial data to compute the varaibles was obtained from compustate database.

Econometric Techniques and Model

In line with previous studies and data structure the Generalized Method of Moments (GMM) is used to assess the key determinants of Trade Credit. Based on the theoretical and conceptual framework, the relationship between CSR and trade credit is examined through the following equations:

$$T\_C\_P = \beta_0 + \beta_1 Size_{ist} + \beta_2 ROA_{i,t} + \beta_3 Tang_{uts} + \beta_4 Lev_{i,t} + \beta_5 C\_Flow_{i,t} + \beta_6 O\_Growth_{,t} + \beta_7 R\&D_{i,t} + \beta_8 RC\_Exp_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$T\_C\_A = \beta_0 + \beta_1 Size_{i,t} + \beta_2 ROA_{i,t} + \beta_3 Tang_{,t} + \beta_4 Lev_{i,t} + \beta_5 C\_Flow_{i,t} + \beta_6 O\_Growth_{,t} + \beta_7 R\&D_{i,t} + \beta_8 RC\_Exp_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$T\_C\_N = \beta_0 + \beta_1 Size_{i,t} + \beta_2 ROA_{i,t} + \beta_3 Tang_{,t} + \beta_4 Lev_{i,t} + \beta_5 C\_Flow_{i,t} + \beta_6 O\_Growth_{,t} + \beta_7 R\&D_{i,t} + \beta_8 RC\_Exp_{i,t} + \varepsilon_{i,t} \quad (3)$$

Variables Formulation

The extension of trade credit facilities by the firms to their customers is described as a trade credit provision and computed as accounts receivables to net sales (Luo, Wei, & He, 2023; Pattnaik & Baker, 2023; Xiu, Liu, Feng, & Yin, 2023; Zou, Xie, & Mei, 2023). Trade credit usage is measured by taking account payable, notes payable and customer advances to total assets (H.-Q. Li et al., 2024; Luo et al., 2023; Zhou & Li, 2023; Zou et al., 2023). While, net trade credit is calculated as the difference between receivable days and payable in days (Shang, 2020). Firm size was proxied by taking log of total assets. Profitabioity was mesured by taking net income to total assets. Similarly, tangibility and leverage was computed by taking PPE and total liability to toal assets respectively. cash flows, R&D and capital expeditures were proxied as net cashflows, R&D Exp and capital expenditures to taol assets respetively.

Results and Discussion

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
TC Provision	7214	59.372	52.443	0	298.686
TC Acquisition	7214	49.82	49.535	0	299.774
TC Net	7214	9.35	52.707	-174.085	210.761
F Size	7510	11.682	2.634	2.628	19.921
Profitability	7360	.052	.14	-6.214	4.076
Tangibility	7240	.353	.215	0	.925
Leverage	7510	.526	.504	0	28.166
Cash flows	7191	.009	.067	-2.519	.832
Op Growth	6867	-2.242	193.487	-13263.504	179.814
R Development	3955	.026	.381	0	23.909
C Expenditures	7180	.053	.046	0	.561

Trade Credit provision comprising 7214 observations, with a means score of 59.37 and a standard deviation of 52.44. The results in Table 1 suggest that on average, firms in the sample provide 59.37 days of trade credit to their customers. Trade credit acquisition shows 7,214 observations, with a mean of 49.82 and a standard deviation of 49.53, suggest that, on average, firms take 49.82 days to pay their accounts payable. While, Net trade credit mean value is 9.35, with a standard deviation of 52.70. The above discussion and results indicate that the standard deviation is relatively high across all trade credit variables, suggesting significant variability in trade credit behavior among firms. Similarly, the large range between minimum and maximum values exhibits the diverse nature of trade credit practices, which aligns with previous studies showing that trade credit varies across firms and countries in terms of both duration and amount (Kong et al., 2020; Zhou & Li, 2023). Other variables of the study consist of firm size, profitability, tangibility, leverage, cash flows, operating growth, research and development, and capital expenditures. The firm size, determined as a logarithm of total assets, has an average of 11.68 with a range from 2.628 to 19.921. Return on assets represents profitability, has an average of 0.052 and a standard deviation of 0.14. Tangibility and leverage demonstrated mean scores of 0.35 and 0.52, respectively. The literature suggests that cash flow and operating growth may demonstrate positive and negative trends. The descriptive table indicates that the mean scores are 0.009 and -2.24, respectively. The negative signifies the unfavorable values present in the observed data. Finally, capital expenditure was controlled to check for the significance of the association. The capital expenditure represented a mean score of .053 from 0 to .561.

Table 2. Country-wise Sample Size

Country	**Total Number of Firms**		
	Observations	**Percent**	**Cum.**
China	124	19.38	19.38
Taiwan	98	15.31	34.69
Hongkong	75	11.72	46.41
Korea	72	11.25	57.66
India	55	8.59	66.25
Malaysia	33	5.16	71.41
Turkey	32	5.00	76.41
Singapore	30	4.69	81.09
Russia	26	4.06	85.16
Indonesia	25	3.91	89.06
Thailand	20	3.13	92.19
Saudi Arab	17	2.66	94.84
Philippines	16	2.50	97.34
Qatar	7	1.09	98.44
Bahrain	4	0.63	99.06
Oman	3	0.47	99.53
Kuwait	2	0.31	99.84
UAE	1	0.16	100.00
Pakistan	0	0.00	100.00
Total	640	100	

Table 2 presents the country-wise distribution of the final sample. As depicted, China contributed the highest number of firms, with 124 firms (19.8%), followed by Taiwan with 98 firms (15.31%), and Hong Kong with 75 firms (11.72%).

Table 3. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) TC Provision	1.000									
(2) TC Acquisition	0.415*	1.000								
	(0.000)									
(3) TC Net	0.550*	-0.509*	1.000							
	(0.000)	(0.000)								
(4) F Size	-0.112*	-0.111*	-0.007	1.000						
	(0.000)	(0.000)	(0.567)							
(5) Profitability	-0.073*	-0.141*	0.072*	0.008	1.000					
	(0.000)	(0.000)	(0.000)	(0.486)						
(6) Tangibility	-0.192*	-0.173*	-0.023	0.092*	-0.061*	1.000				
	(0.000)	(0.000)	(0.054)	(0.000)	(0.000)					
(7) Leverage	0.035*	0.175*	-0.133*	-0.018	-0.247*	0.030*	1.000			
	(0.003)	(0.000)	(0.000)	(0.120)	(0.000)	(0.012)				
(8) Cashflows	-0.001	0.003	-0.005	-0.005	0.068*	-0.074*	-0.082*	1.000		
	(0.932)	(0.817)	(0.674)	(0.678)	(0.000)	(0.000)	(0.000)			
(9) Operating Growth	0.001	0.013	-0.012	0.007	-0.010	0.009	-0.007	-0.016	1.000	
	(0.952)	(0.296)	(0.351)	(0.535)	(0.419)	(0.486)	(0.568)	(0.208)		
(10) C Expenditures	-0.144*	-0.105*	-0.042*	0.035*	0.066*	0.485*	0.030*	-0.040*	0.008	1.000
	(0.000)	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.011)	(0.001)	(0.513)	

**** p<0.01, ** p<0.05, * p<0.1*

The correlation matrix represents the significnat correlations among variables of the stduy and cofirming the positive or negative associatons. The matric show that firm size is negatively associated with both provision and acquisition of trade credit. similary, the profitability, leverage, and capital expenditures are significantly correlated with all forms of trade credits, providing justification to our hypothesis.

Table 4. Regression Results

VARIABLES	(1) TC Provision	(2) TC Acquisition	(3) TC Net
L.TC_P	0.492***		
	(0.0277)		
L.TC_A		0.131***	
		(0.00654)	
L.TC_Nt			0.164***
			(0.00509)
Firm Size	3.758***	5.639***	-1.644***
	(0.555)	(0.563)	(0.526)
ROA	9.092***	-140.1***	124.5***
	(2.790)	(14.83)	(9.445)
Tangibility	-10.94	-124.0***	128.8***
	(7.340)	(14.17)	(11.09)
Leverage	38.05***	210.7***	-192.6***
	(6.927)	(6.509)	(5.562)
Operating Growth	-0.00197***	-0.0810	0.0712
	(0.000301)	(0.0516)	(0.0435)
R & Development	0.383***	-0.128	-0.165
	(0.0381)	(0.408)	(0.415)
Capital Expenditures	-47.96***	-96.77***	59.60***
	(12.41)	(18.43)	(11.63)
Observations	3,596	896	896
Number of Firm	404	168	168

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4 depicts that firm size is positively associated with both provision and acquisition of trade credit, while denoting a significant negative association with net trade credit. The results imply that the volume of provision and acquisition of trade credit increases with firm size. The firms are more likely to provide trade credit to their customers and simultaneously acquire more trade credit from their suppliers as they grows. These findings support H_1, based on signaling theory, which suggests that firm size serves as credibility signal. Customers, links firm size with their financial soundness, in response expect them to facilitate their working capital requirements. Similarly, firms leverage their size as a strength, sending positive signals of financal soundness and credit worthiness to suppliers through trust channels. As a result, suppliers are more willing to extend more trade credit to larger firms. Similarly, profitablity being the second imprtant determinants of

tradec redit reveles a positive association with both provision and net trade credit, while denoting a significant negative association with trade credit acquisition. The results imply that the volume of provision and net trade credit increases with firm profitability. The firms are more likely to provide trade credit to their customers as they earn more. Contrary, the profitability is inversly associatied woth trade credit supply from suppliers. These findings support H_2, grounded agency and signaling theories. The firms enhance trade credit supply to their customers to sustain their profitabilty and sales. Similarly, firms leverage their profitablity as a strength, sending positive signals of financal soundness and credit worthiness to banks and alternate sources and thus reduce reliance on costly trade credits. Leverage being an importnt determinant of trade credit shows positive association with both provision and acquisition of trade credit, while denoting a significant negative association with net trade credit. The results imply that the volume of provision and acquisition of trade credit is contengent upon leverage. These findings support H_3, staing that leverage influce trace credit choices. Leverage ratios are used as a measuirng rods to determine the volume of both tprovision and acquistion of trade credit. moreover, the resutls in column shows operating growth is a determinant of trade credot provsion by denoting a significant negative association and affirmed H_4. The firm divert their investment to support their growth activities and concequently reduce trade creedit supply to custoemrs. Likewise, R&D being an integral component of the busienss revled a significant positive assocaition woth provsion of trade credit. while, capital expenditures denoted negative associaton with both provision and acquisition of trade creodit. Capital expenditures being long run in nature, calls for long run commitment of investmetn, thus reduce both provisiona dn acquisition of trade credit. the results provided imparical afn theoratical bases for acceptace of H_5, H_6 and H_7 of the stduy.

Conclusion

The paper attempted to explore the determinanats of trade credit in the context of emerging asian markets. The stduy reveled firm size, profitablity, leverage, tangibility, R&D, operating growth and capital expenditures as critical determinants of all from of trade credits. Signalling and agency theories provided theoratical foundations to determine the association among the variables and imperical testing. Using sample of asian emerging markets and data from compustate database panel data medels were used to ascertain the assoication. Due to potential endogeniety concerns, GMM techniques were applied in analysis. The finding confirmed all hyothesis and showed a significant relatioship. The study contributes to signalling and agency theories by adding empirical evidences form emerging markets. Besides its theoretical, the study also made contextual contribution in the research area of trade credit. As illustrated in the literature, previous studies primarily focused on investigating determinants of trade credit in developed countries. Keeping in view the differences in the patterns and structures of developed and developing economies, this study is unique in adding empirical findings from the Asian emerging markets.

References:

Astvansh, V., & Jindal, N. (2022). Differential effects of received trade credit and provided trade credit on firm value. *Production and Operations Management, 31*(2), 781-798.

Atanasova, C. V., & Wilson, N. (2003). Bank borrowing constraints and the demand for trade credit: evidence from panel data. *Managerial and decision economics, 24*(6-7), 503-514.

Barrot, J. N. (2016). Trade credit and industry dynamics: Evidence from trucking firms. *The Journal of Finance, 71*(5), 1975-2016.

Beck, S., Shinozaki, S., Ferino, M. I., Zhang, Q., & Mangampat, E. (2013). Asian Development Bank trade finance survey: Major findings.

Boubaker, S., Chebbi, K., & Grira, J. (2020). Top management inside debt and corporate social responsibility? Evidence from the US. *The Quarterly Review of Economics and Finance, 78*, 98-115.

Cao, Z., Chen, S. X., & Lee, E. (2022). Does business strategy influence interfirm financing? Evidence from trade credit. *Journal of Business Research, 141*, 495-511.

Cunat, V. (2007). Trade credit: suppliers as debt collectors and insurance providers. *The review of financial studies, 20*(2), 491-527.

Dass, N., Kale, J. R., & Nanda, V. (2015). Trade credit, relationship-specific investment, and product market power. *Review of Finance, 19*(5), 1867-1923.

Dong, D., & Liu, P. (2022). Corporate social responsibility and trade credit during periods of monetary contraction. *Journal of Applied Economics, 25*(1), 1127-1155.

Emery, G. W. (1987). An optimal financial response to variable demand. *Journal of financial and quantitative analysis, 22*(2), 209-225.

Fabbri, D., & Klapper, L. F. (2008). Market power and the matching of trade credit terms. *World Bank Policy research working paper*(4754).

Fabbri, D., & Klapper, L. F. (2016). Bargaining power and trade credit. *Journal of Corporate Finance, 41*, 66-80.

Fisman, R., & Love, I. (2003). Trade credit, financial intermediary development, and industry growth. *The Journal of Finance, 58*(1), 353-374.

Frennea, C., Han, K., & Mittal, V. (2019). Value appropriation and firm shareholder value: Role of advertising and receivables management. *Journal of Marketing Research, 56*(2), 291-309.

Hasan, M. M., & Alam, N. (2022). Asset redeployability and trade credit. *International Review of Financial Analysis, 80*, 102024.

Hill, M., Hill, K., Preve, L., & Sarria-Allende, V. (2019). International evidence on the determinants of trade credit provision. *Managerial Finance*.

Hill, M. D., Kelly, G. W., & Venkiteshwaran, V. (2015). On the diminishing return to trade credit. *Journal of Financial Research, 38*(3), 305-317.

Hoang, H. C., Xiao, Q., & Akbar, S. (2019). Trade credit, firm profitability, and financial constraints: Evidence from listed SMEs in East Asia and the Pacific. *International Journal of Managerial Finance, 15*(5), 744-770.

Khoo, J., & Cheung, A. (2022). Managerial ability and trade credit. *Financial Review, 57*(2), 429-451.

Kim, S.-J., & Shin, H. S. (2012). Sustaining production chains through financial linkages. *American Economic Review, 102*(3), 402-406.

Kong, D., Pan, Y., Tian, G. G., & Zhang, P. (2020). CEOs' hometown connections and access to trade credit: Evidence from China. *Journal of Corporate Finance, 62*, 101574.

Li, H.-Q., Yang, Y., Xue, F.-W., & Liu, Z.-Y. (2024). Annual report readability and trade credit financing: Evidence from China. *Research in International Business and Finance, 69*, 102220.

Li, Y., & Zhu, D. (2021). Investigating when religious culture increases trade credit: A signaling theory approach. *Business Ethics, the Environment & Responsibility, 30*(4), 738-757.

Liu, B., Wang, Y., & Shou, Y. (2020). Trade credit in emerging economies: an interorganizational power perspective. *Industrial Management & Data Systems*.

Love, I., & Zaidi, R. (2010). Trade credit, bank credit and financial crisis. *International Review of Finance, 10*(1), 125-147.

Luo, C., Wei, D., & He, F. (2023). Corporate ESG performance and trade credit financing–Evidence from China. *International Review of Economics & Finance, 85*, 337-351.

Machokoto, M., Gyimah, D., & Ibrahim, B. M. (2022). The evolution of trade credit: New evidence from developed versus developing countries. *Review of Quantitative Finance and Accounting, 59*(3), 857-912.

Murfin, J., & Njoroge, K. (2015). The implicit costs of trade credit borrowing by large firms. *The review of financial studies, 28*(1), 112-145.

Paruchuri, S., Han, J.-H., & Prakash, P. (2021). Salient expectations? Incongruence across capability and integrity signals and investor reactions to organizational misconduct. *Academy of Management Journal, 64*(2), 562-586.

Pattnaik, D., & Baker, H. K. (2023). Factors affecting trade credit in India. *International Review of Economics & Finance, 88*, 634-649.

Saeed, A., Munir, Z., & Zafar, M. W. (2024). Audit quality and corporate trade credit: evidence from the Asian emerging markets. *International Journal of Emerging Markets, 19*(8), 2049-2069.

Sah, N. B., & More, D. G. (2022). Dual class firms and trade credit. *Finance Research Letters, 46*, 102303.

Shang, C. (2020). Trade credit and stock liquidity. *Journal of Corporate Finance, 62*, 101586.

Shenoy, J., & Williams, R. (2017). Trade credit and the joint effects of supplier and customer financial characteristics. *Journal of Financial Intermediation, 29*, 68-80.

Tang, Y., & Moro, A. (2020). Trade credit in China: Exploring the link between short term debt and payables. *Pacific-Basin Finance Journal, 59*, 101240.

Wu, W., Firth, M., & Rui, O. M. (2014). Trust and the provision of trade credit. *Journal of Banking & Finance, 39*, 146-159.

Xiu, Z., Liu, R., Feng, P., & Yin, J. (2023). Does social culture matter for firms' access to trade credit? Evidence from China. *Economic Modelling, 119*, 106163.

Zhou, Z., & Li, Z. (2023). Corporate digital transformation and trade credit financing. *Journal of Business Research, 160*, 113793.

Zou, H., Xie, E., & Mei, N. (2023). Political connections and firms' trade credit in emerging economies. *Journal of Business & Industrial Marketing*.