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Accounts Receivable and Payable Interrelationships: Evidence from Indian Small Cap Companies

Sangeeta Mittal [1, *] and Monika Monika [2, †]

[1]Guru Jambheshwar University of Science & Technology, Hisar and [2]Guru Jambheshwar University of Science & Technology, Hisar

[*]yashikamittal96@gmail.com
[†]monikamangal209@gmail.com

Abstract

The present study focuses on determining the key component between accounts receivable and accounts payable by estimating the causal relationship between trade credits offered and availed for the period 2011 to 2020 in Indian BSE small-cap manufacturing companies. The analysis is carried out by panel unit root and co-integration test, panel vector error correction model, and pair wise granger causality test. Test results of the paper showed that there is a one-way interaction between accounts receivable to accounts payable in the short term. This interaction indicates that accounts receivable derive accounts payable in terms of amount in the short run. In the long run, (a) in terms of amount, there is a one-way equilibrium connection between accounts receivable and payable, that indicates accounts payable is the dominant component and accounts receivable is the compromising component, and (b) in terms of duration, there is two-way equilibrium relationship between accounts receivable days and accounts payable days, so the researcher is unable to determine dominant component. The pair wise Granger causality result also confirmed the result of the VECM test. The study's findings are relevant to researchers in enhancing knowledge of accounts receivable and payable relationships. It will contribute to company policymakers in setting the trade and working capital policy by balancing the supply and demand for trade credit which helps increase profitability. Investors will get an idea of a company's financial position by getting information about the leading component between accounts receivable and accounts payable.

Keywords: Trade credit, supply chain finance, accounts receivable, accounts payable, panel causality.

1 Introduction

Credit through trade is a form of finance in the supply chain that companies use to allow for delayed payments from their purchasers (Li et al., 2019). In 2007, business credit was responsible for 90 percent of world trade transactions and nearly 80 percent of business-to-business transactions in the United States and the United Kingdom (Williams, 2008; Seifert and Protopappa-Sieke, 2013). London's Association of Chartered Certified Accountants has found that SMEs receive more trade credit globally than working capital from banks. The (International Finance Corporation, 2018) on Financing India's MSMEs showed that MSMEs account for 70 percent of the total credit gap (demand less formal credit), of which 70 percent is working capital. Credit through trade is a significant component of the working capital structure of MSMEs. Many existing studies postulate that trade credit is a major source of finance for manufacturing companies, especially those at risk of being financially constrained and temporarily facing distress, such as SMEs (Wilner, 2000; sman and Love, 2003; Love and Sarria-Allende, 2007; Cunat, 2007; McGuinness et al., 2018). In the early stages of the company, business credit increases market visibility in terms of product quality, turnover, and profitability & prompts banks to finance such firms.

The SME policy framework requires adequate and timely credit flow. Many moderately functioning, surviving, and closed SMEs cannot return to their full potential due to insufficient variable or working capital.

Trade credit consumes a significant part of working capital and is treated as a means of accumulating transactions; capturing customers; retaining control; examining the quality of purchasers; price differentiation; financial support for stock holding costs; security for bank credit; securing commitments for making relationship-specific investments and improve company's profitability (Long and Ravid, 1993; Lee and Stowe, 1993; Pike and Lamminmaki, 2005; Munene and Tibbs). Thus trade credit enhances a company's performance in developing economies (Li and Yang, 2016).

Trade credit is measured by accounts receivable1 and accounts payable2. Trade credit is reported as accounts receivable when shown on the balance sheet assets side and accounts payable when it forms part of the balance sheet liabilities side. Proper maintenance of accounts receivable assists a business in maintaining customer loyalty, track uncollected profits and customer credit (Munene and Tibbs). On the other hand, accounts payable increase the company's assets by postponing the payment of the specified value of goods or services for some time in the future. It increases profitability by reducing financial friction and operational cost (Meltzer, 1960; Mateut, 2005).

Trade credit is an extension of payment provided by suppliers to their customers. The receipt of trade credit reduces the profitability of a small company because of its built-in interest mechanism. It is costlier than financial credit because customers do not use discounts for early payments (Petersen and Rajan, 1997). The increased use of trade credit gives rise to short-term debt, which negatively affects the creditworthiness of companies. Hence, companies need to manage trade credit/debit efficiently. The strategies used to manage trade credit influence profitability, financial security, and liquidity. Sustainable growth of SMEs today is not possible without appropriate financial security and profitability, especially during the Covid-19 pandemic (Zimon and Dankiewicz, 2020).

The offer and demand for trade credit influence companies' payment behavior. Companies that receive a substantial portion of payment after the product is delivered to the customer tend to delay payments to their vendors (McMillan and Woodruff, 2002), indicating a high default risk subject (Boissay and Gropp, 2007). Companies finance accounts receivable using accounts payable from suppliers. Firms employ accounts payable and receivable to manage growth and performance and describe company trade policy (Ferrando and Mulier, 2013). However, too much reliance on trade credit acceptance jeopardized the company's long-term performance (Yazdanfar and Ohman, 2016). The net trade credit position of companies is determined by taking both trade credit extended and accepted. The predictive net trade credit exposure model has higher accuracy than gross exposure (Gibilaro and Mattarocci, 2010). Companies facing excessive consumer market power balance their trade credit supply with trade debt by adopting a matching net trade credit position strategy at volume and terms levels (Fabbri and Klapper, 2008). As the position of trade credit changes during a company's life cycle, the examination of net trade credit exposure facilitates the consideration of the unstable usage of trade credit by companies (Huyghebaert, 2006).

Further, it identifies the leader and follower component for trade credit policy decisions using dynamic panel causality analysis that helps determine the net trade credit/debt exposure of companies in developing countries. The obtained results contribute to the trade credit supply/ demand determinant literature. It also contributes to the trade policy decisions of SMEs. The policy revision for-trade credit is the first strategy companies use in a new market situation. After amending the trade credit policy, it takes decisions regarding the trade debt policy to face new market conditions. Banks also consider trade credit agreements and supplier customer relationships when offering credit to companies. The empirical evidence is also relevant as the analysis is conducted after a crisis; using panel causality testing that considers several years and cross-sections. The study is further structured as follows: Section 2 exhibits the study's objective. Section 3 focuses on literature showing the relationship between accounts receivable and payable. Section 4 deals with empirical analysis and discusses sample characteristics, assumptions behind the methodology adopted and the results obtained. The final section, 5, summarizes the main results and discusses the implications and future research scope.

2   OBJECTIVE

The tendency of companies to use accounts receivable and payable simultaneously, the scarcity of research on the interaction between trade credit extension and receipt, and the excessive dependence of SMEs on trade credit, especially during the economic crisis, are the main driving forces behind the current study. Therefore, the study aims to shed light on the above gap and try to achieve the following objective:

The main research objective of this manuscript is to determine the main driver between accounts receivable and payable and to investigate the causal relationship between accounts receivable and accounts payable, taking into account both amount and duration.

3   Literature Review

Debt is the primary source of financing in Indian SMEs, with short-term debt (payable as a significant component) being favored over long-term debt (Altaf and Shah, 2021). Trade credit is an essential component of the short-term liabilities structure of SMEs (Zietek-Kwasniewska, 2017). Financing through accounts receivable has a bright prospect, is eligible for promotion, and plays a pivotal role in resolving SME financing difficulties (Jiaxin, 2021). Kiyotaki and Moore revealed in their study that because of multiple motivations for applying for trade credit, companies simultaneously obtain and

extend trade credit, so the choice of whether to receive or grant trade credit is interdependent. However, Companies with current assets as the main component of assets (they do not use receivables) tend to demand significantly more trade credit (Petersen and Rajan, 1997).

Considering Finnish listed firms, (Niskanen and Niskanen, 2000) showed that the trade credit offered is an essential determinant of accounts payable policies. When the company receives late payments from its customers, it delays payments to the suppliers (McMillan and Woodruff, 2002). This connection indicates that credit payment and assortment behavior are influenced by each other. The effect of trade credit received on trade credit supply is significant for most countries. Credit through trade as a source of finance is offered and received by companies concurrently because the receivables can be collateralized (Burkart and Ellingsen, 2004). Consistent with the matching hypothesis, the extension of credit by firms through trade is conducive to an increase in trade credit demand (Bastos and Pindado, 2013; Bussoli and Marino, 2018). Companies employ accounts receivable and payable simultaneously, compatible for both duration and amount. Firms supply and demand trade credit concurrently because they have to extend credit to their buyers to be more competitive, strengthen buyer relationships, and for real kind motivation solicit trade credits to finance customers' accounts receivable (Fabbri and Klapper, 2008). As per empirical evidence in finance, access to credit through trade leads to faster growth and large investment (Fisman, 2001; sman and Love, 2003; Huang and Hassan, 2019)

Gibilaro and Mattarocci (2011) provided preliminary evidence on causality between trade credits offered and received in the Italian market from 1999 to 2008 using the Granger causality test, preferring each year separately. (Murfin and Njoroge, 2015) revealed that the buyer's payable policy has a positive and noteworthy relationship with the supplier's receivable investment policy. As per the study by (Boissay et al., 2020) firms develop a credit chain through trade by borrowing from their suppliers and lending to their customers, which run along the supply chain parallel to the flow of goods.

(Musa, 2021) applied the VECM granger framework to investigate the causality between exchange rates, inflation, and domestic oil price in Nigeria. The study showed that the VECM granger is more advantageous than other causality tests because it is derived from the system of equations and provides the long-and-short run direction of causality. The panel causality has the advantage of capturing the effect of feedback between variables, as per the study by (Muye and Muye, 2017). Some researchers, such as (Li, 2001), state that within a temporal causal framework, VECM can account for the dynamics of the relationship. Similarly, various other authors like Bengali (2021); (Manjunath and Rehaman, 2020; Chandio et al., 2020; Osiobe, 2020; Bagchi, 2014; Imamoglu, 2019) implemented the Engle and Granger causality test based on the VECM framework that reveals the reliability of VECM causality test.

Despite the empirical research on concurrent lending and obtaining trade credit by companies, researchers have been unable to locate the primary driver of trade credit influencing trade policy decisions. Furthermore, the direction of causality has also been overlooked between offering and acceptance of trade credit. Except for (Gibilaro and Mattarocci, 2011), who attempted to find the leader and follower for trade credit/debit policy during the period of economic crisis. The current study seeks to bridge those gaps and explore the causal relationship between accounts receivable and payable.

4 EMPIRICAL ANALYSIS

4.1 Sample and variables

The current study is based on a sample of 199 SP BSE small-cap manufacturing companies, with 1,990-panel observations from 2011 to 2020. Small-cap companies being highly volatile, turn into mid-cap or large-cap companies and shut down companies with less endurance. Therefore, small-cap companies require efficient short-term financing to capture daily fund requirements. The present study measured trade credit/debitt by considering both the amount and duration. Trade Credit/debit amount is shown accounts receivable/payable and duration using accounts receivable days/payable days.

**Table 1.** Description of Trade credit and debt

Variables	Description	Acronym	Reference
Accounts receivable	Short term liabilities owed to suppliers for the purchase of goods and services	AR	(Chou and Horng, 2015),(Gustafson, 2005), (Martinez-Sola et al., 2013),(Nthenge, 2013), (Herbst, 1974).
Accounts receivable days	(Trade credit extended / Net sales) *365	ARD	(Sabki and Regupathi, 2019),(Bui, 2020), (Van den Bogaerd and Aerts, 2014), (Hingurala Arachchi et al., 2017)
Accounts payable	Short term assets owed to companies on the sale of goods on credit	AP	Chou et al., (2015),Gustafson , (2005),Ojenike & Olowoniyi (2014), Herbst (1974)
Accounts payable days	(Trade credit received / Cost of sales) *365	APD	(Bui, 2020), (Van den Bogaerd and Aerts, 2014),(Hingurala Arachchi et al., 2017)

4.2 Methodology

The flowchart below shows the econometric methods used in the present study. Although regression analysis is concerned with the determination of connection between the variables, it does not capture the direction of the effect. The Granger causality framework serves this purpose (Gujarati and Porter, 2009; Wooldridge) because, according to the literature, it is based on the assumption that the future cannot predict the past. Previous studies have shown developments in the Granger causality method by expanding its functioning from time series to panel data. Further development has shown the need to test data time series properties, such as tests for stationarity & co-integration. Co-integration test results influence panel data's Granger causality model specification and test strategy.Granger (1988) proposed that if the variables are stationary,

there is an integration of the identical order [I(1)] co-integrated; the VECM(Vector error correction model) framework is used to test causality. The VAR (Vector Auto Regression) approach is applied if they are not co-integrated. Panel unit root tests the basic assumption of variable stationarity and integration order. After that, the cross-sectional dependence of the panel data is checked using the Breusch-Pagan and Pesaran cross-sectional residual dependence test. Next, the co-integration between variables is tested using the (Kao, 1999) and (Pedroni, 1999) co-integration test for panel data. The result of panel co-integration indicates whether the considered variables move together to fix short-term annoyances in the long term (i.e., co-integrated) (Engle and Granger, 1987; Stock, 1993).

Figure 1. Methodology Algorithm
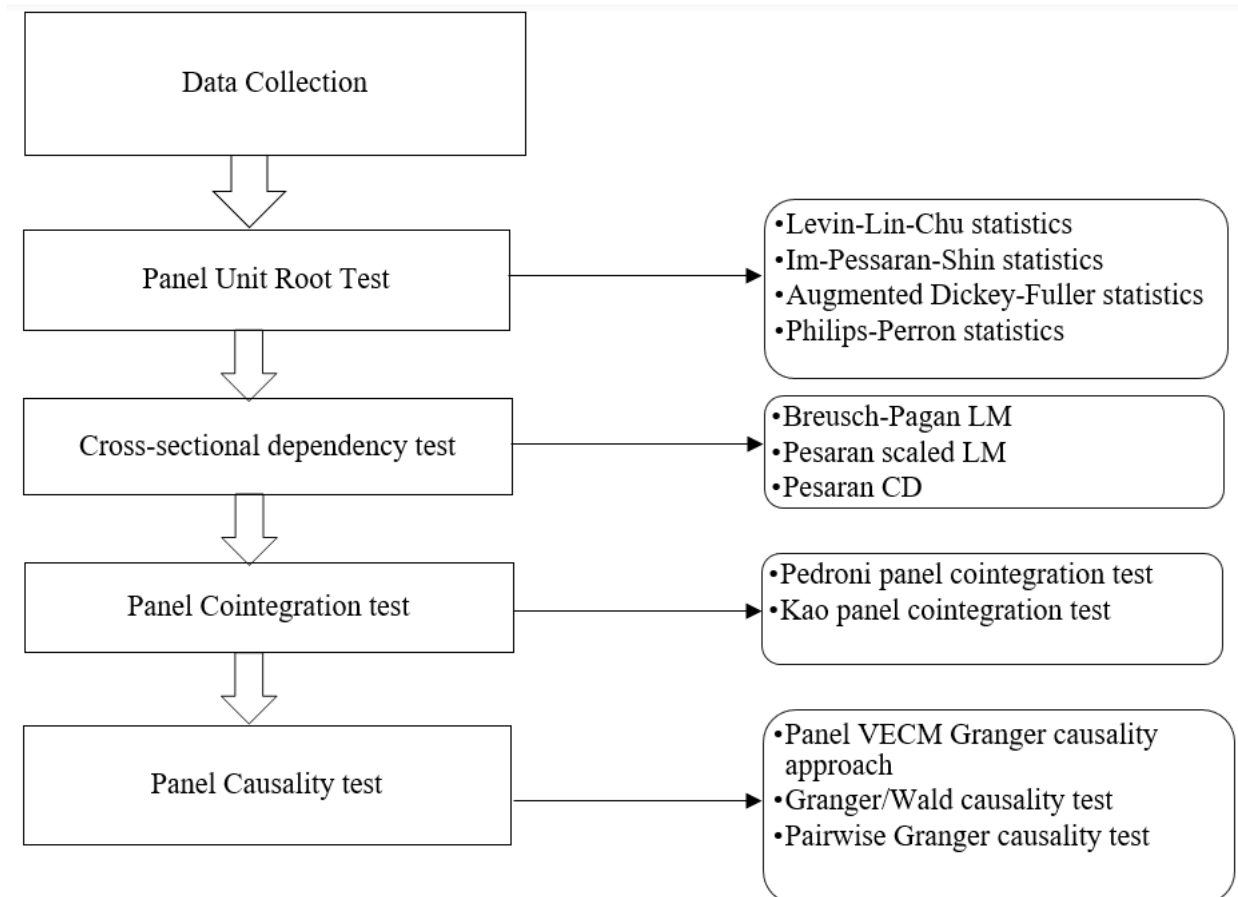
After determining the order of integration and long-run relation, the next move is to examine the direction of causality, which is tested using the panel VECM approach and the pairwise Granger causality test. The panel VECM framework measures short-term causality by checking the statistical significance of (i) t-statistics of regressor and (ii) the Wald test chi-square statistics and its corresponding p-value. At the same time, a long-term causality test is performed when the error correction term coefficient is statistically significant and negative. In addition, the pairwise Granger causality test can also be used for causality.

4.3 Results and discussion

4.3.1 Summary statistics and Correlation matrix

Table 1 displays the results of descriptive statistics for selected variables concerning the measure of central tendency, dispersion, and normality. The natural logarithm of the variables chosen is taken to linearize the data. In terms of assessment of normality, AP reflects symmetric distribution (with a skewness between -0.5 and 0.5) and is platykurtic (with kurtosis of less than three). AR is moderately skewed (with a skewness between -0.5 and -0.1) and leptokurtic (with more than three kurtoses). ARD and APD are highly skewed (with a skewness less than -1) and leptokurtic (with more than three kurtosis values). The skewness and kurtosis deviation of the series from the normal distribution is estimated using the statistics of JB (Jarque-Bera). This statistic shows that not all variables are distributed normally, indicating the presence of outliers in the sample data.

The Pearson correlation matrix has shown the positive co-relationship between AR and AP (0.47) & ARD and APD (0.28), indicating that AR and AP & ARD and APD move in the same direction.

Table 2. Descriptive statistics

	AR	AP	ARD	APD
Observations	1990	1989	1990	1989
Mean	7.27	6.93	3.86	3.57
Median	7.3	7.01	4	3.68
Maximum	11.25	10.33	6.42	5.43
Minimum	0	2.85	-2.12	-0.58
Standard deviation	1.31	1.28	0.88	0.75
Skewness	-0.76	-0.22	-1.69	-1.19
Kurtosis	6.23	2.98	9.08	5.73
Jarque-Bera	1060.63	17.03	4026.45	1089.17
Probability	0	0	0	0

All variables are in levels, and the natural log of these variables is taken to linearize the results of the descriptive statistics.

4.3.2   Panel Stationarity test

The basic assumption of the panel VECM framework is that the variables should be stationary because estimation based on non-stationary data leads to spurious regression, which is not helpful for prediction (Gujarati and Porter, 2009; Baltagi, 2013). The literature has shown many tests to examine integration order and unit root in panel data, but LLC (Levin, 2002) and IPS (Im, 2003) are prominent. The study preferred IPS because it considers heterogeneous unit-roots across all cross-sections (Baltagi, 2013), whereas the former takes up homogeneity. Two other tests, Fisher- ADF (ADF) and Fisher-Phillips-Perron (PP), have also been performed to check robustness.

The tests have been conducted on each variable at the level and first difference and considering the specifications of (i) with intercept and trend (WIT), (ii) with intercept only (WIT), and (iii) no intercept and trend (NIT). The null hypothesis indicates the absence of stationarity in the variables (i.e., unit root) for all tests. Table 2 exhibits the unit root result of all tests. The result of the preferred test IPS indicates that AR, AP, ARD, and APD seem to be non-stationary at the level under the "with intercept and trend" specification. In contrast, they all seem stationary under all specifications at the first difference. All variables could be taken as order one integration [i.e., I(1)].

4.3.3   Cross-sectional dependency test

Testing dependencies in cross-sections is one of the main issues when implementing Granger causality in panel data. The current study used the Breusch & Pagan test for panel cross-sectional residual dependence (PCSRD) testing. The Pesaran LM and CD tests have been used for robustness checks. Table 3 shows that all PCSRD tests wholly reject the null proposition of no cross-section dependence in the residuals or variables in the data sample. According to resource dependency theory, it is probable that an enterprise relies on other enterprises to meet its resource requirement (Han and Wang, 2013). So, there is a dependency relationship between the enterprises.

4.3.4   Panel co-integration test results

The panel unit root test revealed that the variables are [I(1)] integrated of order one, so the panel test of co-integration is performed to investigate the long-run equilibrium connections between the variables. The literature has shown several tests for co-integration. In the present study, the panel co-integration test by (Pedroni, 1999, 2004), a combination of seven tests, and Kao's (1999) residual-based co-integration test is applied. Pedroni's test assumes a different co-integrating vector or heterogeneity, while the Kao test considers homogeneity. Both tests take the hypothesis of no co-integration between the variables as null. The results in Table 4 show that in all scenarios, i.e., NDT, DIT, and NDIT, four or more than four of the total seven Padroni's statistics are significant and reject the null hypothesis of no co-integration between AR and AP. The outcomes for ARD and APD are also similar. The Kao ADF t-statistics also confirm the result and suggest that AR and AP & ARD and APD have a long-run relationship because they move together in the long run to fix short-term disturbances.

4.3.5   Result of Panel causality test

After determining the long-term equilibrium connection, the next step is to apply a panel dynamic causality test to examine the causality direction. In the co-integration case, the panel VECM approach is used. In panel VECM, the Wald test is applied to lag explanatory variables to reveal short-term causality. Selection of the optimal number of lags is essential before estimating panel VECM. AIC (Akaike Information Criteria) and SIC (Schwarz Information Criteria) are the most common methods to select lag lengths. As per the study by (Winker and Maringer, 2004), the performance of SIC is suitable for the VECM approach. The optimal lag length for accounts receivable and payable is one in terms of both amount and duration.

Table 3. Panel unit root tests

Variables	Tests	Level data I(0)			First difference data I(1)		
		WIT	WI	NIT	WIT	WI	NIT
AR	LLC	-10.719***	0.38	9.36	-24.33***	-23.33***	-28.61***
	IPS	1.15	5.18	-	-3.29***	-12.52***	-
	ADF	479.33***	431.52	176.29	701.37***	977.22***	1431.98***
	PP	474.14***	426.57	157.31	960.70***	974.41***	1450.98***
AP	LLC	-12.42***	-0.98	7.34	-44.63***	-25.40***	-33.93***
	IPS	0.42	4.69	-	-5.18***	-12.82***	-
	ADF	512.24***	406.43	180.12	765.22***	971.81***	1540.76***
	PP	464.70***	374.05	170.41	1001.8***	998.96***	1506.36***
ARD	LLC	-14.97***	-15.61***	-3.12***	-27.18***	-29.25***	-41.56***
	IPS	-0.96	-5.19***	-	-4.04***	-16.58***	-
	ADF	541.04***	624.87***	338.43	753.29***	1116.95***	1905.4***
	PP	690.04***	657.94***	389.81	1250.27***	1380.78***	2062.51***
APD	LLC	-18.80***	-13.31***	-3.33***	-34.51***	-32.83***	-43.13***
	IPS	-1.13	-3.51***	-	-5.79***	-17.46***	-
	ADF	536.17***	570.25***	334.41	834.83***	1131.07***	1982.89***
	PP	712.82***	593.55***	332.42	1393.49***	1436.28***	2091.22***

Significance at 1 % level represented by ***. WIT denotes, with intercept and trend; WI: with intercept; NIT: no intercept and trend.

Table 4. Cross-sectional dependence test of panel

Variables	Breusch–Pagan LM	Pesaran scaled LM	Pesaran CD
	Test statistics		
AR	60772.74***	205.9087***	137.1586***
AP	55039.82***	177.0274***	126.2445***
ARD	36246.64***	82.3511***	10.68289***
APD	37334.27***	87.83037***	23.30482***

4.3.5.1 System Equation

$$D(AR) = C(1) * (AR(-1) - 1.21535372481 * AP(-1) - 530.253176409) + C(2) * D(AR(-1)) + C(3) * D(AP(-1)) + C(4) \quad (1)$$

$$D(AP) = C(5) * (AR(-1) - 1.21535372481 * AP(-1) - 530.253176409) + C(6) * D(AR(-1)) + C(7) * D(AP(-1)) + C(8) \quad (2)$$

$$D(ARD) = C(1)*(ARD(-1)+4.61748568006*APD(-1)-269.098068894)+C(2)*D(ARD(-1))+C(3)*D(APD(-1))+C(4) \quad (3)$$

$$D(APD) = C(5)*(ARD(-1)+4.61748568006*APD(-1)-269.098068894)+C(6)*D(ARD(-1))+C(7)*D(APD(-1))+C(8) \quad (4)$$

Equations (1), (2), (3) and (4) is representing the system equation model (OLS estimation) derived from the VECM framework. In Equations (1) and (2) accounts receivable and accounts payable are alternatively playing the dependent and explanatory variable roles and in (3) and (4) equation accounts receivable days and accounts payable days are taking alternatively the dependent and explanatory variable role. reftab:5 illustrated, the result of causality based on the panel

Table 5. Panel Co-integration test

Test		Dependent Variable					
Pedroni's Residual Co-integration		**AR**			**AP**		
		NDT	**DIT**	**NDIT**	**NDT**	**DIT**	**NDIT**
Within dimension	Panel v-Statistics	2.40***	–7.04	4.13***	4.98***	–1.52	5.37***
	Panel rho-Statistics	–3.06***	5.20	–6.91***	–4.83***	3.54	–10.59***
	Panel PP-Statistics	–11.22***	–6.43***	–9.48***	–13.82***	–18.23***	–11.99***
	Panel ADF-Statistics	–11.50***	–7.85***	–9.71***	–18.49***	–21.56***	–14.06***
Between dimension	Group rho-Statistics	4.35	9.92	2.53	3.64	10.36	2.20
	Group PP-Statistics	–8.76***	–18.17***	–9.66***	–11.27***	–17.10***	–10.21***
	Group ADF-Statistics	–11.74***	–19.21***	–11.73***	–14.13***	–20.34***	–13.66***
Kao Residual Co-integration							
ADF t-statistics		–6.69***	–	–	–3.18***	–	–
Pedroni's Residual Co-integration		**ARD**			**APD**		
Within dimension	Panel v-Statistics	0.54	–7.62	–0.67	1.66**	–6.42	4.12***
	Panel rho-Statistics	–3.06***	3.49	–7.54***	–2.33***	4.01	–8.21***
	Panel PP-Statistics	–9.59***	–14.13***	–9.22***	–10.52***	–15.94***	–10.06***
	Panel ADF-Statistics	–13.49***	–16.94***	–9.75***	–13.62***	–18.43***	–12.02***
Between dimension	Group rho-Statistics	3.59	9.22	2.71	3.63	9.18	2.79
	Group PP-Statistics	–10.80***	–21.36***	–11.47***	–11.88***	–22.33***	–10.51***
	Group ADF-Statistics	–13.30***	–20.23***	–13.71***	–14.13***	–20.49***	–13.13***
Kao Residual Co-integration							
ADF t-statistics		–6.85***	–	–	–2.47***	–	–

Significance at the 1% level is represented by *** and 5% by **. NDT: no deterministic trend; DIT: deterministic intercept and trend;

VECM approach. In the short term, the outcome of the Wald test provides the proof of (i) unidirectional causality running from AR to AP i.e. AR ⇔ AP3 because p-value (0.00) of Chi-square statistic is less than 1 percent significance level and (ii) ARD and APD have no short-run causal relationship because probability value is greater than 5 percent significance level. The long-run result showed that the coefficient of ECT is negative and significant at 1 per cent level that reveals (i) in response to changes in AP, AR tends to converge to its long-run equilibrium path i.e. from AP ⇔ AR4 and (ii) ARD and APD also have long-run equilibrium relationship from both side i.e. ARD ⇔ APD5.

Table 6. Panel VECM estimation for Granger causality

Dependent Variable	Explanatory Variables/ Direction of causality				
	Wald short-run Chi-square statistics (P-value)				Long run coefficients (t-statistics)
	△ AR	△AP	△ARD	△APD	ECT
△**AR**	–		–	–	–0.0618*** (–3.15022)
△**AP**	11.90*** (0.00)		–	–	0.027419 (2.847746)
△**ARD**	–	–	–	2.014024 (0.1559)	–0.037*** (–6.798251)
△**APD**	–	–	0.115548 (0.7339)	–	–0.035*** (–10.9675)

***represents significance at 1 percent level.

In addition, the coefficients and t-statistics of the regressor estimated using VECM also confirm the Wald test's short-run causality result. The pair wise Granger causality test, which represents the direction of causality in the short term, is also performed using one lag for robustness and is shown inTable 6. The result suggests that the AR granger causes AP because the p-value (0.0131) is less than the five percent significance level.

Table 7. Granger Causality pairwise test

Sample: 2011 2020				
Lags: 1				
Null Hypothesis:	Obs.	F–Statistic	Prob.	Conclusion
(i) D(AP) does not Granger Cause D(AR)	1592	0.42922	0.5125	Accepted
(ii) D(AR) does not Granger Cause D(AP)		6.16272	0.0131**	Rejected
(iii) D(APD) does not Granger Cause D(ARD)	1592	0.25174	0.6159	Accepted
(iv) D(ARD) does not Granger Cause D(APD)		0.28989	0.5904	Accepted

**indicates significance at the 5

5   CONCLUSIONS AND IMPLICATIONS

The literature on trade credit has shown links between trade credit and debt choices. However, there is a lack of empirical evidence on the major driver between accounts receivable and payable. The current study focused on199 small-cap manufacturing companies and collect relevant data for 2011 to 2020 to determine the key driver and causal relationship between accounts receivable and payable. The test adopted for analysis is the Pedroni residual co-integration test and the Granger VECM tests of panel causality. The relationship between accounts receivable and payable is investigated concerning both amount and duration. The panel, VECM causality test findings, revealed that in the short term, (i) there is unidirectional causality from accounts receivable to accounts payable, and (ii) there is no causality between accounts receivable days and payable days. The study found that in the long run, (i) accounts receivable tend to converge to their long-run equilibrium path in response to accounts payable, and (ii) there is a long-run equilibrium connection from both sides in terms of account receivable days and payable days. Further, when accounts payable are taken as a dependent variable, there is proof of the absence of causality in the long run. At last, the pairwise granger causality result also confirmed the VECM causality result.

The result of short-run causality between accounts receivable and accounts parable suggested that past values of accounts receivable derive accounts payable and act as the primary driver of trade policy decisions in terms of amounts for SMEs and supports the study of (Niskanen and Niskanen, 2000) and (Gibilaro and Mattarocci, 2011). In the long run, the past value of accounts payable derives accounts receivable towards equilibrium in terms of amount. In terms of duration, the researcher cannot identify the leader as the period of trade credit supply and demand is interdependent. The study provides direction toward the relationship between the offering and receipt of trade credit. If a company is using more accounts receivable, it will affect the application of accounts payable by SMEs in the short run. Trade credit agreements and supplier-customer relations also influence credit approval from financial institutions. The investigation will also contribute to determining the behavior of Indian small-cap manufacturing companies towards the utilization of trade credits. The study's findings are relevant to researchers in enhancing knowledge of accounts receivable and payable relationships. The study will contribute to company policymakers in setting the trade and working capital policy by balancing the supply and demand for trade credit, which helps increase profitability. Investors will get an idea of a company's financial position by getting information about the leading component between accounts receivable and accounts payable. If accounts receivable is the dominant component, it indicates that the companies are not in financial distress. The present study ignored the characteristics of companies and features of the economic sector, which would serve as a direction for future research. In addition, comparisons can also be made to examine causality before and after the Covid crisis in the future.

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