Article

Herding Trend in Working Capital Management Practices: Evidence from the Non-Financial Sector of Pakistan

Umar Farooq [1,*], Mosab I. Tabash [2], Ahmad A. Al-Naimi [3], Linda Nalini Daniel [4] and Mohammad Ahmad Al-Omari [2]

1 School of Economics and Finance, Xi'an Jiaotong University, Xi'an 710049, China
2 College of Business, Al Ain University, Al Ain P.O. Box 64141, United Arab Emirates
3 Department of Finance and Banking Sciences, Faculty of Business, Applied Science Private University, Amman 11931, Jordan
4 Faculty of Business, Higher Colleges of Technology, Abu Dhabi P.O. Box 41012, United Arab Emirates
* Correspondence: umerrana246@gmail.com

Abstract: Working capital management requires careful attention from corporate managers because it plays an important role in corporate stability. The social belongingness of managers induced them to learn from their society, colleagues, and overall industrial movement. They also learn from their peers that have more strategic efficiency. In line with these arguments, the objective of the current study is to explore the peer influence on corporate working capital management practices. For regression analysis, we utilized ten years of data (2009–2018) of non-financial publicly listed firms at PSX (Pakistan Stock Exchange). We used the cash conversion cycle (CCC) as a proxy variable to measure working capital management (WCM). We employed panel fixed effect and system GMM (generalized method of moments) models to estimate regression between the variables of the study. The empirical findings suggest the significant impact of peer WCM on corporate WCM. They also suggest the significant impact of other variables that determine the WCM. This study recommends social learning policy for corporate managers. They can learn from their peers to manage the working capital. Most previous studies discuss peer influence on investment decisions, corporate cash holding, financing policy, etc., but no study explores such a relationship specifically in the case of Pakistan.

Keywords: working capital management; peer influence; cash conversion cycle; macro-economic factors

JEL Classification: G31; G41

1. Introduction

The efficient management of working capital, which indirectly refers to the management of both current assets and current liabilities, determines corporate profitability. Due to the complex business environment and lack of business information, management of working capital may become obscure to some extent. This factor can further put enterprises in a more volatile position, which in turn depletes firm profitability (Ganesan 2007; Louw et al. 2022). Corporate managers try to maximize their working capital efficiency by the utilization of different tools such as good governance (Gill and Biger 2013), precautionary and transaction motives (Kim et al. 2011), holding more cash (Afza and Adnan 2007), and sales growth (Kwenda and Holden 2014). Despite these factors, mimicking behavior paves the way for corporate decision-making (Leary and Roberts 2014) and determines the sectoral-based future business trends. By assessing this trend, the purpose of this study is to explore the impact of peers on corporate working capital management (WCM) practices.

Working capital management is a strategic decision comprising management of receivables, inventory, and payables collectively known as the cash conversion cycle. The whole discussion on corporate finance can be divided into three avenues, i.e., capital structure, capital budgeting, and management of working capital (Farooq and Subhani 2021). The

decisions on capital structure and capital budgeting relate to long-term financing and managing long-term investments, while management of working capital is a short-term decision relating to financing and investment. It includes the management of both short-term financing (payables) and short-term investment (investment in inventory). Therefore, inefficient management of working capital can directly affect the company's liquidity and business transparency, while proper management of inventory, which is a fundamental part of working capital, has a significant impact on a firm's profitability (Farooq 2019). Even if a company has increased profitability, improper management of working capital may lead to bankruptcy due to excessive current assets and current liability, which enhances business volatility (Raheman and Nasir 2007).

Herding or mimicking behavior refers to the attitude of firms or managers in which they imitate their peer firms (Gong and Diao 2023). Corporate managers often interact with their peer firms to organize multiple business strategies. They continuously adhere to their peer's business movements to ensure organizational stability. Corporate herding behavior mitigates substantial business risks in a variety of business decisions, i.e., merger and acquisitions (Bizjak et al. 2011), tax avoidance (Li et al. 2014), financial policy (Leary and Roberts 2014), and investment decisions (Chen and Ma 2017). The growing literature on corporate mimicking behavior intensifies the need to conduct more empirical studies exploring the strategic linkages between corporate and peer firms. A firm cannot perform its business dealings without interacting with its peers, specifically those in the same industry. It must design its business model, which effectively incorporates the sectoral effect and exhibits a significant level of industrial prevalence. Mutual co-operations can turn into financial benefits both for the peer and the corporate firms (Liu and Chen 2012).

The concept of working capital management (WCM) grabbed the attention of corporate managers after the financial depression in 2008. Firms carefully manage their working capital because it affects corporate stability and profitability (Gill et al. 2010; Ukaegbu 2014). Before this event, the area of working capital management was conservative both for researchers and corporate managers due to routine checking of activities, i.e., inventory handling and trade credit decisions, which alternatively connected with working capital management practices. Another factor behind low intentions was the low consideration of WCM for the firm's financial performance (Singh and Kumar 2014). However, some specific circumstances, i.e., financial depression, competitive business environment, globalization, and more, focus on total quality management (TQM) enhanced research focus and push the corporate manager's effort toward WCM.

The link between mimicking behavior and working capital management can be developed from the findings of previous studies. The study of Leary and Roberts (2014) suggested the significant influence of peer firms on corporate financial policies. Working capital management is also an important part of a firm financial policy. Corporate firms may arrange their financing arrangements as per working capital management (Zubairi 2011). Moreover, another argument was built by Anwar and Akhtar (2018) in which they documented the peer effect in terms of corporate investment. They specified the mimicking attitude of Pakistani non-financial sector firms and found a significant relationship between corporate and peer firms. The research also argued that working capital management is a part of a firm's active investment (Kieschnick et al. 2013). Recently, Zhao et al. (2022) advocated the role of peer effect in managing the working capital of corporate firms in China. Their analysis reported that the working capital management (WCM) behavior of peer firms is positively related to the WCM of corporate firms working in the same industry. The current study offers robustness to their study and extends the literature by arranging a similar empirical analysis of Pakistani enterprises. Moreover, literature is scarce (possibly only a single study by Zhao et al. (2022) was found in the literature) on this theme. Thus, the current analysis can be regarded as an early movement toward exploring the role of peer WCM in corporate WCM practices.

Strategically, corporate firms engage in herding for two reasons. First, they herd their peers to exclude their competitors from the industry. Corporate firms copy the successful

strategies and promote unfair industrial competition for their colleague firms even within the same industrial group. Likewise, other motives are to create stringent hurdles for companion firms, specifically in financing. It also compels them to acquire more debt, which results in bankruptcy (Chevalier and Scharfstein 1996). In contrast, another reason for mimicking is learning, which is completely different from the previous one. In doing so, corporate managers follow their peer firms to learn about rational decision-making. They learn about financing decisions, investment decisions, cash holding, etc. This motive emphasizes more the collection of useful information for stabilizing business activities instead of rivalry or compression of others (Anwar and Akhtar 2018). In this study, we explore the mimicking behavior in terms of learning the successful strategies from peers to manage the working capital. Corporate firms may learn from their peers to manage their working capital, but sometimes, more focus on mimicking can lead to some non-beneficial effects. The behavioral model advocates that mimicking attitudes driven by irrational forecasting by managers results in biased decisions (Mavruk 2022). For instance, the overconfidence of corporate managers regarding the future forecasting of business movements may lead to biased decisions. Therefore, corporate managers should wisely decide the mimicking decision.

This study explores the relationship between the peer and corporate firms' working capital management practices. It also identifies the other firm-specific and country-specific determinants of WCM, which have a critical role in determining working capital management. We used the cash conversion cycle (CCC) as a proxy variable to measure working capital management. A list of both firm-specific and macro-economic control variables, i.e., leverage, profitability, firm size, gross domestic product (GDP), inflation rate, and financial sector development, was included in the formal analysis. The findings of the study show a statistically significant and positive relationship between corporate and peer firm working capital management practices. The findings are expected to enhance corporate managers' decision-making efficiency and will help in managing working capital specifically in Pakistan. It further strengthens the views of the financial economist who favored the role of the macro-economic condition of a country in the financial decision of corporations.

The rest of the paper follows this format: Section 2 consists of a detailed literature review, Section 3 discusses the data and methodology, Section 4 carries the discussion of the results, and Section 5 concludes the whole discussion of the paper. It also describes the limitation and future directions. The reference detail is given at the end of the paper.

2. Review of Literature

2.1. Working Capital Management

The management of working capital is a managerial-level activity in which managers are involved in managing the size and overall effectiveness of working capital (Kaur 2010; Tarkom 2022). Working capital is categorized into two components, i.e., gross working capital, which employs the current assets, and net working capital, which is the residual amount after deducting the current liabilities from current assets. The main objective of working capital management is to manage current assets and current liabilities (Padachi 2006), which is incorporated in the cash conversion cycle (CCC) (Deloof 2003; Lefebvre 2022). The CCC is a systematic measurement extensively used as a proxy of working capital management in previous studies and directly achieves the goal of management of current assets and current liability (Ganesan 2007; Enqvist et al. 2014; Mazlan and Leng 2018). The CCC expresses the period between investments in inventory to cash inflow from sales. The efficient management of working capital indices and the quick recovery of funds is called short CCC. A short CCC is always preferred because it corroborates the stability and profitability of firms (Enqvist et al. 2014). The whole working capital management discussion can be summed up into a short CCC. In the literature, several studies stress the importance of working capital management and its effect on firm profitability (Deloof 2003; Afza and Nazir 2008; Charitou et al. 2010; Knauer and Wöhrmann 2013; Mazlan and Leng

2018; Aldubhani et al. 2022). The high degree of literature stimulates the analysis of the working capital management practices related to peer influence.

2.2. Peer Effect

The term "peer firms" can be defined as firms that are leading a specific industry and have better strategic efficiency over the other firms in the same industry. Such firms have a better capacity for forecasting, and therefore, the corporate firms try to mimic the decisions made by such firms. Peer effect is deemed to be an influential state when corporate firms are indebted to their peer firms of the same industry in a variety of business decisions. However, this obliging behavior is different from the common or correlated effect. In the peer effect, the corporate firms deliberately indulge in mimicking their peer firm's policies (Grennan 2019). The recent findings of the literature have indicated that managerial-level decision influence is due to their social involvement. Managers learn from their social network, and their decisions are influenced by this network in addition to their experience and innate beliefs (Shue 2013). The study arranged by Graham and Harvey (2001) depicted the worth of available information in different financial decisions specifically in a risky environment. They emphasized that the firms rely more on their peer firms when outcomes are highly uncertain. This view has also been strengthened by other corporate-level studies (Maquieira et al. 2012). Corporate firms deploy their decisions in line with their peer firms due to certain motives, i.e., unity of successful strategies, eradication of ambiguity, and termination of unfavorable market competition (Leary and Roberts 2014). Furthermore, peer influence is necessary due to the undeniable social belongingness of managers with each other. They share their ideas and beliefs with their colleagues, which explains the strong influence on their decision-making (Zaighum and Karim 2019, p. 14). In relevance to these arguments, the same trend can be supposed in terms of working capital management practices.

2.3. Empirical Findings and Hypothesis Development

In the literature, a wide range of studies (both empirical and theoretical) discussed working capital management and mimicking behavior separately (Yenice 2015; Mazlan and Leng 2018; Grennan 2019). The objectives of these studies were to highlight the multiple issues firms face when managing their working capital and to discuss corporate mimicking behavior in a variety of business decisions. Aksoy and Yalçiner (2013, p. 68) vowed that working capital management practices are highly influenced by firm size. They have also found the influence of some exogenous factors such as financial sector development, inflation, tax regulations, etc. on working capital management. Similarly, the study arranged by Mongrut et al. (2014) on Latin American firms indicated that sales growth is an important determinant of working capital management. Another study conducted by Doğan and Elitaş (2014) on Borsa Istanbul companies has suggested the firm-specific determinants of working capital. The findings of their study argued that return on assets (ROA) and leverage have a significant relationship with working capital management. They have also discussed the other determinants of WCM, i.e., cash flow, interest rate, GDP, etc. The results of these studies arranged in different areas confirmed the intended relationship of working capital management with other decisions made at the firm level. Moreover, these studies stimulate further studies on working capital management.

The cognitive psychology of managers who indulged in decision-making is prone to be biased due to some factors (Malmendier et al. 2011). This bias may be due to overconfidence (Hackbarth 2008), emotions and moods (Kida et al. 2001), self-serving attribution (Li 2010), etc. Another psychological attribution of corporate managers is the mimicking behavior in which they follow their peer firm's policies. Several studies have confirmed mimicking or herding behavior of corporations in a variety of business decisions, i.e., investment (Anwar and Akhtar 2018), financing (Leary and Roberts 2014), cash holding (Chen et al. 2019), and tax avoidance (Li et al. 2014). Furthermore, notions of signaling theory suggested that the decision-making of corporate managers depends upon future business movements of other

colleague firms (Brigham and Houston 2009). Similarly, information-based theory reveals that firms shared various information such as financial statements, future investment policies, the anticipation of business risks, current and future business engagements, and contracts. This sharing behavior has a deep spillover effect on the thinking capacity of corporate managers. All these decisions are financial, which induces further research on working capital management, which is also financial. Recently, Zhao et al. (2022) advocated the significant relationship between peer WCM and corporate WCM in China. To test peer influence, the following hypothesis can be developed:

Hypothesis 1 (H1). *Peer firms have a positive and statistically significant impact on corporate firms' working capital management practices.*

3. Data and Methodology

3.1. Discussion of Data

Data from non-financial sector firms were collected from financial statement analysis of a report published by The State Bank of Pakistan. The study includes the Pakistani non-financial sector due to certain reasons. First, the market uncertainty in Pakistan is quiet, which stimulates researchers to conduct more and more empirical studies to find the significance of herding behavior in various business decisions. Second, due to poor governance and biased managerial personalities in Pakistan (Javaid 2010), it is necessary to give an alternate business model to manage the business operations by using herding behavior. The non-random sampling technique was followed, and the sample size consists of ten years of data (2009–2018) of listed non-financial sector firms. This span was selected to exclude the effect of the financial crisis incurred in the years 2007–2008. During financial crisis, the enterprises may adopt abnormal business strategies regarding the WCM, which can make the entire sample biased. Given that, we started with the sample from the year 2009. To make the sample more results-oriented, the firms missing information for 5 or more years were purged from the analysis. After applying this sampling technique, 132 listed firms were left in the final sample on which the empirical analysis was conducted. We utilized the SIC (standard industrial code) to specify the industrial classification. The firms which have SIC codes from 6000 to 6999 were excluded from the sample because these are financial nature firms, i.e., banks, fund management institutes, and insurance companies.

3.2. Methodology

Concerning methodological discussion, the peer firm calculation was made by excluding firm I from specific industry j for time t and taking the average of the remaining firms. This method of peer firm calculation is in line with Leary, 2014. For regression estimation, an econometric test named fixed effect was applied due to the problem of heterogeneity.

As shown in Table 1, the probability value of chi-square is 0.05, which is equal to benchmark $p \leq 0.05$, which rejects the null hypothesis, i.e., *random effect is appropriate*. These statistics reveal that fixed effect is imperative because it can address the problem of potential endogeneity, which may arise due to heterogeneous sample selection. Moreover, the data were collected from multiple industrial sectors, which may cause the problem of heterogeneity. To make the results unbiased, the implication of cross-section fixed effect is necessary. In addition, the endogeneity issue was checked by employing the Wald test, and we report the analysis in Table A2. The significant value of the chi-square statistics confirms the existence of endogeneity, which further motivated us to employ the system GMM (generalized method of moments) for regression analysis. This model was argued by Arellano and Bover (1995) to treat the issue of endogeneity in data. By utilizing the lag values of explanatory variables, the system GMM model can reduce the likelihood of correlation between the error term and explanatory variables. Heteroscedasticity was checked by employing the Breusch–Pagan–Godfry test, and we report the analysis in Table A2. The insignificant value of F-statistics state that there is no heteroscedasticity.

Table 1. Correlated Random Effect Hausman Test.

Test Summary	Chi-sq. Statistic	Chi-sq. D.F	Probability
Cross-section random	18.0405	10	0.0543

Source: self-estimation.

3.3. Variables Description

In the current analysis, working capital management is a dependent variable that was measured by a well-known proxy named cash conversion cycle (CCC). The CCC splits into three ratios, i.e., the *number of accounts receivable, number of days inventory*, and *number of accounts payable*, which depict the overall operational efficiency of firms from the purchase of raw material to finished goods payment. These are common proxies that have been extensively used in past studies for CCC quantification (Sharma and Kumar 2011; Enqvist et al. 2014). The CCC plays the role of the best-fitted indicator of a firm future cash flow, which stated the working capital management (Kamath 1989). Furthermore, previous studies have also suggested the CCC as an indicator of firm working capital management (Deloof 2003; Ukaegbu 2014). The general formula of CCC is as follows:

$$CCC = (No.\,of\,Days\,Account\,Receivable + No.of\,Days\,Account\,Inventory) - (No.of\,Days\,Account\,Payable)$$

where

$$No.of\,Days\,Account\,Receivable = \left(\frac{Account\,Receivable}{Sales}\right) \times 365$$

$$No.of\,Days\,Account\,Payable = \left(\frac{Account\,Payable}{Cost\,of\,Goods\,Sold}\right) \times 365$$

$$No.of\,Days\,Inventory = \left(\frac{Inventory}{Cost\,of\,Goods\,Sold}\right) \times 365$$

The literature is saturated with numerous determinants, which affect corporate working capital management. Some of the factors are leverage, profitability, firm size at the corporate level and financial sector development, inflation rate, and GDP growth rate at the macro level (Nyeadi et al. 2018). These factors were used as additional variables (control variables) that may affect the working capital management decision. Gearing or leverage is measured as the total debt-to-asset ratio. The study arranged by Abbadi and Abbadi (2012) argued that more leveraged firms try to keep their working capital at a small level. These firms manage their current assets with fewer loans because they are already under stress. It is anticipated that the relationship is negative. Next, firm profitability (ROA) was measured as earnings before interest and tax (EBIT) divided by total assets. The firm profitability has a controversial relationship with working capital management. According to the pecking order theory (Myers 1984), working capital has an inverse relationship because more profitable firms invest more in high-earning projects. In contrast, the study of Onaolapo and Kajola (2015) argued the positive relationship because more profitable firms pay more attention to working capital management and have more current assets. Another firm-specific determinant is firm size, measured by a log of total sales (Batrancea 2021).

At the macro-economic level, the financial sector development index, inflation rate, and GDP growth rate were used as control variables, and their exogenous effect was analyzed on working capital management. The measurement of the financial sector development index and inflation was extracted from the developed index of the *International Monetary Fund (IMF)*[1]. IMF defined the inflation rate as *the rate of increase in the prices of consumable goods during a specific time*. It is also referred to as a decrease in the value of money. Similarly, the financial sector development index is a systematic measurement of the current condition of the financial sector of any country in which its development status is judged on different parameters, i.e., *depth, success, and efficiency*. According to The World Bank, *GDP is the monetary value of all finished goods and services that are produced by a specific economy during*

a specific time, and the GDP growth rate is the percentage of growth in comparison to the previous year (Batrancea et al. 2022).

3.4. Econometric Models

Baseline model.

$$WCM_{ijt} = \beta_\circ + \beta_1 PWCM_{-ijt} + \beta_2 Corporate\ specific\ factors_{-ijt-1} + \beta_3 Peer\ specific\ factor_{-ijt-1} + \beta_4 FSD_t$$
$$+\beta_5 INF_t + \beta_6 GDP_t + \varepsilon_{ijt} \tag{1}$$

The econometric Equation (1) shows the relationship between corporate working capital (WCM_{ijt}) and peer working capital management ($PWCM_{-ijt}$). The indices *ijt* are vectors that represent the firm *i*, industry *j*, and time *t*. *Corporate specific factors*$_{-ijt-1}$ represents other control variables at year ($t - 1$), which may determine the working capital management decisions. The *Peer specific factor*$_{-ijt-1}$ indicates the peer-specific control variables. The *FSD* stands for financial sector development, INF is the inflation rate, and GDP is the gross domestic product growth rate. The sign of *eijt* is for an error term at the firm level that is assumed to be heteroskedastic. Equation (1) shows the reduced form of the model:

Corporate working capital management model.

$$WCM_{ijt} = \beta_\circ + \beta_1 LVG_{it-1} + \beta_2 ROA_{t-1} + \beta_3 FS_{it-1} + \beta_4 FSD_t + \beta_5 INF_t + \beta_6 GDP_t + \varepsilon_{ijt} \tag{2}$$

Equation (2) represents the corporate working capital and its relevant determinants. The WCM_{ijt} is the working capital of firm *i*, from industry *j*, and at time *t*, LVG_{t-1} is the previous year's leverage, ROA_{t-1} is the last year's profitability, and FS_{t-1} is the last year's firm size. Macro-economic determinants are financial sector development (FSD_t), inflation (INF_t), and gross domestic product growth rate (GDP_t). Vector t represents the fact that these factors only change with specific time but not based on country or cross-section as the analysis consists of only Pakistan.

Peer working capital management model.

$$WCM_{-ijt} = \beta_\circ + \beta_1 LVG_{-ijt-1} + \beta_2 ROA_{-ijt-1} + \beta_3 FS_{-ijt-1} + \beta_4 FSD_t + \beta_5 INF_t + \beta_6 GDP_t + \varepsilon_{ijt} \tag{3}$$

Equation (3) exemplifies the same determinants, which have been shown in Equation (2), but at the peer level. Table 2 presents the measurement of variables.

Table 2. Variable Calculation and Predicted Sign.

Sr No.	Proxy Variable	Calculation	Predicted Sign
1	WCM	Cash conversion cycle (CCC)	Positive/negative
2	LVG	Total debt to total assets ratio	Negative
3	ROA	Earnings before interest and tax to total assets ratio	Positive
4	FS	Log of total assets	Positive
5	FSD	IMF has developed a country-wide index on three parameters, i.e., depth, access, and efficiency. These parameters summarize how the financial sector of a specific country performs on depth (liquidity and size), access (the ability of individuals or companies to approach the financial services), and efficiency (ability to offer the financial services at the lowest cost)	Negative

Table 2. *Cont.*

Sr No.	Proxy Variable	Calculation	Predicted Sign
6	INF	Inflation (INF) is measured as an increment rate in the value of consumable goods.	Negative
7	GDP	An increase in the value of all goods and services produced by an economy during a specific period.	Positive

Note: WCM: working capital management, LVG: leverage, ROA: profitability, FS: firm size, FSD: financial sector development, INF: inflation, GDP: GDP growth rate **Description:** Based on the detailed literature review as mentioned above (in the literature review section), Table 2 presents all variables of the study, their specific calculation, and predicted signs, which have been empirically suggested by previous studies. Most of the predicted signs have been specified in other economies due to which actual findings may or may not deviate from predicted signs in the Pakistani non-financial sector data set.

4. Results and Discussion

Table 3 describes the descriptive statistics of variables used in the analysis. The cash conversion cycle (CCC) expresses the period taken by the company to convert its investment in inventory to cash flow. It has a mean value of 72.317 (in days), which is considerably higher than the CCC of the peer (70.642). It suggests that corporate firms defer their CCC to their peers and have less capacity to hasten their cash flow. Furthermore, the low value of CCC for peer firms depicts the more efficient behavior of peer firms. Next, the median value of CCC is 69.831, which pretends to be the normal trend of a corporate firm's CCC, and standard deviation is 0.122 or 12.2%, which shows the degree of dispersion from the mean value. Skewness and Kurtosis, which indicate the data pattern, are 1.259 and 4.757. These statistics show that data are positively skewed but normally distributed. The mean value of leverage (LVG) for corporate firms is 0.341, but for peer firms, it is 0.396. Peer firms acquired more loans to finance their assets as compared to corporate firms. Similarly, ROA for corporate firms is 0.101, which is less than the ROA of peers (0.197). Peer firms have more capacity to earn more profit by utilizing their assets. Moving forward, the size of corporate firms (FS) is 1.975, but the size of peer firms (PFS) is 2.083. Regarding the macro-economic variables, FSD, INF, and GDP have mean values of 0.243, 9.949, and 3.631, respectively. These statistics depict the macro-economic condition in Pakistan.

Table 3. Descriptive Statistics.

	Mean	Median	Std. Dev.	Skew.	Kurtosis	Max.	Mini.	Jarque.	Prob.
CCC	72.317	69.831	0.1222	1.259	4.757	681.888	−259.387	302.513	0.000
CCCP	70.642	77.331	0.364	−1.020	4.234	175.092	−111.592	182.534	0.000
LVG	0.341	0.331	0.197	0.235	2.381	0.901	−0.369	2150.971	0.000
ROA	0.101	0.094	0.103	1.081	4.897	1.067	0.009	19.401	0.000
FS	1.975	1.890	0.061	0.529	3.321	4.080	0.021	52.737	0.000
PLVG	0.396	0.296	0.085	0.542	4.330	7.644	−0.161	175.000	0.000
PROA	0.197	0.100	0.083	0.862	4.897	7.876	0.044	170.500	0.000
PFS	2.083	1.944	0.895	0.720	3.338	9.486	1.294	104916.5	0.000
FSD	0.243	0.238	0.063	0.922	2.778	5.526	1.606	66.138	0.000
INF	9.949	9.682	0.067	0.495	2.613	20.286	2.529	36.355	0.000
GDP	3.631	3.507	1.320	−0.267	1.667	0.377	0.170	110.708	0.000

Note: CCC: cash conversion cycle, CCCP: cash conversion cycle of peers LVG: leverage, ROA: profitability, FS: firm size, PLVG: peer leverage, PROA: peer profitability, PFS: peer firm size, FSD: financial sector development, INF: inflation, GDP: GDP growth rate.

Table 4 shows the correlation analysis of the variables of the study. In column 2, the correlation values of the corporate cash conversion cycle (CCC) align with other variables of the study. The correlation coefficient of CCCP (cash conversion cycle for peers) is 0.699, which suggests the degree of association or correlation between CCC and CCCP. Corporate firms strongly adhere with their peers to manage their working capital. As for corporate-specific factors, i.e., leverage (LVG), profitability (ROA), and firm size (FS),

they have −0.034, 0.051, and 0.101 correlation coefficient values with CCC. These values show the direction and degree of participation in determining the CCC. Similarly, peer-specific factors prevail over the specific values, which indicate the strength of participation. Their correlation coefficient values are −0.044, −0.036, and −0.044, respectively. The financial sector development (FSD) has a correlation coefficient value of −0.214, which shows that financial development negatively affects corporate working capital management practices. Similarly, inflation (INF) is negatively correlated (−0.097) with CCC, but GDP has a positive correlation coefficient value (0.039). Column 3 specifies the correlation coefficients for peer firms CCC. The cash conversion cycle (CCC) of peer firms has more strong responsive behavior toward leverage (LVG) and profitability (ROA) as compared to corporate firms. The correlation coefficients of LVG and ROA are −0.054 and 0.065, which are greater than corporate CCC. Similarly, FSD and INF have a stronger effect on peer CCC as compared to corporate CCC. However, some determinants have a weaker effect (such as FS and GDP, etc.) on peer CCC. The correlation coefficients of other variables carry the corresponding values and depict the specific nature of the relationship (either positive or negative) with the strength of association. Most of the variables have normal corresponding correlation coefficient values that disagreed with the presence of a multi-collinearity problem. Moreover, we applied the VIF (variance inflation factors) test and report the values at the bottom of Table 4. Most values are less than benchmark 3, implying that there is no multi-collinearity issue.

Table 4. Correlation Analysis.

	CCC	CCCP	LVG	ROA	FS	PLVG	PROA	PFS	FSD	INF	GDP
CCC	1.000										
CCCP	0.699	1.000									
LVG	−0.034	−0.054	1.000								
ROA	0.051	0.065	−0.349	1.000							
FS	0.101	−0.023	−0.148	0.165	1.000						
PLVG	−0.044	0.009	0.004	0.041	−0.041	1.000					
PROA	−0.036	0.028	−0.006	0.040	−0.038	0.997	1.000				
PFS	−0.044	−0.026	−0.042	0.001	0.126	0.928	0.933	1.000			
FSD	−0.214	−0.703	0.089	−0.046	−0.108	0.018	−0.006	−0.051	1.000		
INF	−0.097	−0.224	0.085	−0.024	−0.089	0.020	−0.005	−0.044	0.250	1.000	
GDP	0.039	0.009	−0.059	0.012	0.064	−0.016	0.003	0.035	−0.051	−0.911	1.000
					Multi-collinearity test						
VIF	1.281	1.412	1.389	1.218	1.981	1.091	1.281	1.431	1.271	1.333	1.821

Note: CCC: cash conversion cycle, CCCP: cash conversion cycle of peers LVG: leverage, ROA: profitability, FS: firm size, PLVG: peer leverage, PROA: peer profitability, PFS: peer firm size, FSD: financial sector development, INF: inflation, GDP: GDP growth rate.

Table 5 reveals the overall regression analysis between corporate and peer working capital management practices. It also includes the other variables which may determine the corporate working capital management decision. The t-value of CCCP, which is a proxy of peer working capital management (WCM) practices, is 2.191, which confirms the effect of a peer firm on a corporate firm. The coefficient of the peer firm is 0.313, which is significant at a 1% level and positively associated with corporate CCC. According to social learning theory, corporate firms learn business practices from their peers, and working capital management is one of these practices. These findings of the study are consistent with empirical findings of previous studies in which they have confirmed the adherence of corporate firms to their peer's business decisions (Leary and Roberts 2014; Chen and Ma 2017; Chen et al. 2019). More specifically, the study of Anwar and Akhtar (2018) has empirically documented that Pakistan's non-financial sector firms adhere to their peer investment policy.

Table 5. Relationship Between Peer and Corporate Working Capital Management.

	CCC as a Dependent Variable			
	Fixed Effect Model		System GMM	
Variables	Coefficients	Probability	Coefficients	Probability
CCC (−1)	-	-	0.849 ***	0.000
CCCP	0.313 ***	0.000	0.383 ***	0.000
LVG	−54.935 ***	0.000	−0.159 ***	0.039
ROA	0.725 ***	0.000	0.141 ***	0.000
FS	134.141 ***	0.000	0.935 ***	0.013
PLVG	−188.707 **	0.051	−0.725 ***	0.001
PROA	−265.556	0.000	−0.556 ***	0.018
PFS	−147.965 **	0.057	−0.7070 ***	0.031
FSD	−316.464 ***	0.000	−0.965 **	0.084
INF	−0.184 ***	0.000	−0.030 ***	0.040
GDP	6.030 ***	0.000	−0.184 ***	0.093
Adjusted R-squared	0.661		0.581	
S.E. of regression	0.078		0.081	
Durbin–Watson stat	2.212		0.012	
Prob (J-statistic)	-		0.167	
Prob. of F-statistic		0.000		0.000

Note: CCC: cash conversion cycle, CCCP: cash conversion cycle of peers LVG: leverage, ROA: profitability, FS: firm size, PLVG: peer leverage, PROA: peer profitability, PFS: peer firm size, FSD: financial sector development, INF: inflation, GDP: GDP growth rate. Furthermore: significance at a 10% level (two-tailed test), ** significance at a 5% level (two-tailed test), and *** significance at a 1% level (two-tailed test).

This study empirically adds new thought to the relevance of peer effect in the case of WCM in the existing literature. Focusing on corporate-specific factors, leverage (LVG) has a negative impact, but profitability (ROA) has a positive and significant impact on corporate WCM. Their t-values are −1.821 and 2.258, which are significant at 5% and 1%, respectively. Firms that acquire more loans to finance the assets have more attention toward tying up their funds in accounts receivable and inventory, which delayed their CCC (Nazir and Afza 2009). Pecking order theory also suggested the negative impact of leverage (LVG) on working capital management, but more profitable firms pay more attention to WCM and have short CCC (Afza and Nazir 2008). Firm size (FS) is positively and significantly (4.895) related to CCC. Bigger firms follow aggressive financial policies, which alternatively tend toward more efficient working capital management practices (Mahmood et al. 2019).

Now, concerning peer-specific factors, peer leverage (PLVG) has a negative and significant t-value (−1.754). It has the same association with WCM as for corporate firm leverage. Contrary to corporate firm size, the peer firm size (PFS) has a negative and significant (−1.730) impact on CCC. The negative impact means that larger peer firms have more control over their suppliers, which allows them to delay their payables and causes a longer CCC (Abbadi and Abbadi 2012). To inspect the macro-economic effect, this study included the three macro-economic variables, i.e., FSD, INF, and GDP. The t-values of financial sector development (FSD) and inflation rate (INF) show a negative but significant impact on WCM. FSD is significant at 1%, but INF is significant at a 5% level. High financial development attracts corporate managers to invest more in banking securities instead of physical investments in inventory. It reduces the intention of corporate managers on WCM practices, which causes a negative impact. Similarly, during the high inflation period, both suppliers and borrowers experienced a rise in the cost of capital. It discourages the supplier's willingness to supply the inventory and the producer's ability to convert the

inventory into cash. It causes a longer CCC due to the tied-up inventory (Ali et al. 2011; Mathuva 2014).

The gross domestic product (GDP) growth rate has a positive and significant t-stat value of 1.891. A high GDP growth rate promotes business activities in a country because the production capacity of business increases, which in turn speeds up the cash conversion cycle (Mohamad and Elias 2013). The significant impact of macro-economic factors indicates the role of economic conditions and policies in determining business efficiency. Overall results reveal the significant impact of peer WCM practices on corporate firms. It also results in the acceptance of the alternate hypothesis (H_1).

5. Conclusions

The efficient management of working capital is necessary as it determines the higher return for stakeholders. When corporate managers are unable to manage the working capital, it renders long-term adverse effects in the form of low investment, high liquidity position, and high inventory carrying cost. The literature discusses the different factors of working capital management, but discussion on peer effect does not exist specifically for working capital management practices. It is also evident in the literature that peer influences several financial and non-financial decisions. The present study discusses peer influence on corporate working capital management practices by including both macro-economic and firm-specific factors. Firm-specific factors are leverage, ROA, and firm size, while financial development, inflation rate, and GDP growth rate are macro-economic factors. The cash conversion cycle is used as a proxy of working capital management at the corporate and peer level. For empirical analysis, we employed panel fixed effect and checked the robustness by employing the system GMM (generalized method of moments) model. The selection of the GMM model is subject to the existence of an endogeneity issue. The empirical findings suggest a significant relationship between corporate and peer WCM practices. Corporate firms follow their peer firms for managing the working capital because peer firms have strategic efficiency regarding working capital management. The analysis also reveals the effect of other variables on working capital management, which aligns with previous studies' findings.

Policies and Limitations

Findings have important practical implications for a corporate manager to consider the peer effect in WCM practices. They can follow their peers as results suggest the positive influence of peer firms on corporate firms. The current analysis offers new thoughts regarding the role of peer effect in corporate WCM practices. The analysis also reveals the dynamic role of the country's economic condition in firm-level financial decisions. However, the current analysis is limited by not including the individual effect of different industries as Afza and Nazir (2008) have revealed the significant impact of industrial categorization on working capital management. Each industry has a specific set of WCM. In the future, comprehensive studies can be arranged which explore peer influence in different types of industries.

Author Contributions: U.F.: Conceptualization, Data curation, Writing—Original draft preparation; M.I.T.: Methodology, Supervision, Conceptualization; A.A.A.-N.: Data curation, Reviewing and Editing, Methodology; L.N.D.: formal analysis, Conceptualization, Software; M.A.A.-O.: Conceptualization, Editing, funding, software handling. All authors have read and agreed to the published version of the manuscript.

Appendix A

Table A1. Wald Test for Endogeneity.

Test Statistic	Value	D.f.	Probability
	Panel estimation		
F-statistic	6.930 ***	(8, 759)	0.000
Chi-square	55.447 ***	8	0.000
	Individual estimation		
Coefficient Restriction	**Probability**	**Std. Error**	
C (1)	430.874	80.870	
C (2)	−0.554	0.185	
C (3)	−0.082	23.708	
C (4)	13.088	45.984	
C (5)	−44.929	75.538	
C (6)	98.801	77.791	
C (7)	−547.345	104.253	
C (8)	−5.441	2.497	
C (9)	−0.003	0.001	
C (10)	−0.004	0.212	

Note: The significant value of F-statistics of coefficient restrictions indicates the existence of endogeneity. **Source:** self-estimation. Note: *** shows the significance level at 1% level.

Table A2. Heteroscedasticity Test Breusch–Pagan–Godfrey Test.

Test	Value	Probability Value
F-statistics	0.616	0.222
Obs. R-squared	2.515	0.415
Prob. Chi-squared	-	0.188
Scaled explained SS	0.612	-

Note: The insignificant value of chi-square reveals that there is no heteroscedasticity. **Source:** self-estimation.

Note

[1]   https://data.imf.org/?sk=F8032E80-B36C-43B1-AC26-493C5B1CD33B, accessed on 6 June 2018.

References

Abbadi, Suleiman M., and Rasha T. Abbadi. 2012. The Determinants of Working Capital requirements in Palestinian Industrial Corporations. *International Journal of Economics and Finance* 5: 65–75. [CrossRef]

Afza, Talat, and Mian Sajid Nazir. 2008. Working Capital Management Policies of Firms: Empirical Evidence from Pakistan. *Pakistan Journal of Commerce and Social Sciences* 1: 25–36.

Afza, Talat, and Sh Muhammad Adnan. 2007. *Determinants of Corporate Cash Holdings: A Case Study of Pakistan*. Singapore: Mandarin Orchard Hotel, pp. 589–609.

Aksoy, Emine Ebru, and Kürşat Yalçiner. 2013. *Working Capital Management*. Ankara: Detay Yayıncılık.

Aldubhani, Maad A. Q., Jitian Wang, Tingting Gong, and Ramzi Ali Maudhah. 2022. Impact of working capital management on profitability: Evidence from listed companies in Qatar. *Journal of Money and Business* 2: 70–81. [CrossRef]

Ali, Shahid, Muhammad Ramzan, and Muhammad Ramzan Akhtar Khan. 2011. Searching for Internal and External factors that determine Working Capital Management for Manufacturing Firms in Pakistan. *African Journal of Business Management* 5: 2942–49.

Anwar, Muhammad Mudassar, and Muhammad Ramazan Akhtar. 2018. Do Peer Firms Impact Corporate Investment Policies? *Pakistan Journal of Commerce and Social Sciences* 12: 363–78.

Arellano, Manuel, and Olympia Bover. 1995. Another Look at the Instrumental Variable Estimation of Error-components Models. *Journal of Econometrics* 68: 29–51. [CrossRef]

Batrancea, Larissa. 2021. An Econometric Approach on Performance, Assets, and Liabilities in a Sample of Banks from Europe, Israel, The United States of America, and Canada. *Mathematics* 9: 3178. [CrossRef]

Batrancea, Larissa, Malar Kumaran Rathnaswamy, and Ioan Batrancea. 2022. A Panel Data Analysis on Determinants of Economic Growth in Seven Non-BCBS Countries. *Journal of the Knowledge Economy* 13: 1651–65. [CrossRef]

Brigham, Eugene F., and Joel F. Houston. 2009. *Fundamentals of Financial Management*. Mason: Cengage Learning.

Bizjak, John, Michael Lemmon, and Thanh Nguyen. 2011. Are all CEOs above average? An empirical analysis of compensation peer groups and pay design. *Journal of Financial Economics* 100: 538–55.

Charitou, Melita Stephanou, Maria Elfani, and Petros Lois. 2010. The Effect of Working Capital Management on Firms Profitability: Empirical Evidence from an Emerging Market. *Journal of Business & Economics Research* 8: 63–68.

Chen, Shenglan, and Hui Ma. 2017. Peer Effect in decision-making: Evidence from Corporate Investment. *China Journal of Accounting Research* 10: 167–88. [CrossRef]

Chen, Yi-Wen, Konan Chan, and Yuanchen Chang. 2019. Peer Effects on Corporate Cash Holdings. *International Review of Economics & Finance* 61: 213–27.

Chevalier, Judith A., and David S. Scharfstein. 1996. Capital-market imperfections and countercyclical markups: Theory and evidence. *The American Economic Review* 86: 703–25.

Deloof, Marc. 2003. Does Working Capital Management Affect Profitability of Belgian Firms? *Journal of Business Finance and Accounting* 30: 573–88. [CrossRef]

Doğan, Mesut, and Cemal Elitaş. 2014. The Determinants of Working Capital requirement: An examination on Borsa Istanbul Food Sector. *World of Accounting Science* 16: 1–15.

Enqvist, Julius, Michael Graham, and Jussi Nikkinen. 2014. The Impact of Working Capital Management on Firm Profitability in Different Business Cycles: Evidence from Finland. *Research in International Business and Finance* 32: 36–49. [CrossRef]

Farooq, Umar. 2019. Impact of Inventory Turnover on Profitability of Non-Financial Sector Firms in Pakistan. *Journal of Finance and Accounting Research* 1: 34–51. [CrossRef]

Farooq, Umar, and Bilal Haider Subhani. 2021. Three Corporate Finance Practices in Pakistan: A Review of Previous Studies and Way Forward. *Journal of Finance and Accounting Research* 3: 61–84. [CrossRef]

Ganesan, Vedavinayagam. 2007. An Analysis of Working Capital Management Efficiency in Telecommunication Equipment Industry. *River Academic Journal* 3: 1–10.

Gill, Amarjit, Nahum Bigger, and Neil Arun Mathur. 2010. The Relationship between Working Capital Management and Profitability: Evidence from the United States. *Economics and Finance Journal* 2: 1–9.

Gill, Amarjit S., and Nahum Biger. 2013. The Impact of Corporate Governance on Working Capital Management Efficiency of American Manufacturing Frms. *Managerial Finance* 39: 116–32. [CrossRef]

Gong, Qingbin, and Xundi Diao. 2023. The impacts of investor network and herd behavior on market stability: Social learning, network structure, and heterogeneity. *European Journal of Operational Research* 306: 1388–98. [CrossRef]

Graham, John R, and Campbell R Harvey. 2001. The Theory and Practice of Corporate Finance: Evidence from the Field. *Journal of Financial Economics* 60: 187–243. [CrossRef]

Grennan, Jillian. 2019. Dividend Payments as a Response to Peer Influence. *Journal of Financial Economics* 131: 549–70. [CrossRef]

Hackbarth, Dirk. 2008. Managerial Traits and Capital Structure Decisions. *Journal of Financial and Quantitative Analysis* 43: 843–82. [CrossRef]

Javaid, Umbreen. 2010. Corruption and its Deep Impact on Good Governance in Pakistan. *Pakistan Economic and Social Review* 48: 123–34.

Kamath, Raveendran. 1989. How useful are Common Liquidity Measures? *Journal of Cash Management* 9: 24–28.

Kaur, J. 2010. Working Capital Management in Indian tyre Industry. *International Research Journal of Finance and Economics* 46: 7–31.

Kida, Thomas E., Kimberly K. Moreno, and James F. Smith. 2001. The Influence of effect on Managers'Capital-Budgeting Decisions. *Contemporary Accounting Research* 18: 477–94. [CrossRef]

Kieschnick, Robert, Mark Laplante, and Rabih Moussawi. 2013. Working Capital Management and Shareholders' Wealth. *Review of Finance* 17: 1827–52. [CrossRef]

Kim, Jiyoung, Hyunjoon Kim, and David Woods. 2011. Determinants of Corporate cash-holding levels: An Empirical Examination of the Restaurant Industry. *International Journal of Hospitality Management* 30: 568–74. [CrossRef]

Knauer, Thorsten, and Arnt Wöhrmann. 2013. Working Capital Management and Firm Profitability. *Journal of Management Control* 24: 77–87. [CrossRef]

Kwenda, F. Farai Kwenda, and M. Holden. 2014. Determinants of Working Capital Investment in South Africa: Evidence from selected JSE-listed Firms. *Journal of Economics and Behavioral Studies* 6: 569–80. [CrossRef]

Leary, Mark T., and Michael R. Roberts. 2014. Do Peer Firms Affect Corporate Financial Policy? *The Journal of Finance* 69: 139–77. [CrossRef]

Lefebvre, Vivien. 2022. Performance, working capital management, and the liability of smallness: A question of opportunity costs? *Journal of Small Business Management* 60: 704–33. [CrossRef]

Li, Feng. 2010. Managers' Self-Serving Attribution Bias and Corporate Financial Policies. Available online: https://ssrn.com/abstract=1639005 (accessed on 1 January 2020).

Li, Lingxiang, Kenneth A. Winkelman, and Jeffrey R. D'Amico. 2014. Peer Pressure on Tax Avoidance: A Special Perspective from Firms' Fiscal Year-Ends. *Journal of Accounting & Finance* 14: 171–88.

Liu, Xia, and Jianjun Chen. 2012. The Effect of Inter-Organizational Learning on the Growth of Industry Cluster. *Science Research Management* 33: 28–35.

Louw, E., John H. Hall, and Rudra P. Pradhan. 2022. The Relationship Between Working Capital Management and Profitability: Evidence from South African Retail and Construction Firms. *Global Business Review* 23: 313–33. [CrossRef]

Mahmood, Faisal, Dongping Han, Nazakat Ali, Riaqa Mubeen, and Umeair Shahzad. 2019. Moderating Effects of Firm Size and Leverage on the Working Capital Finance–Profitability Relationship: Evidence from China. *Sustainability* 11: 2029. [CrossRef]

Malmendier, Ulrike, Geoffrey Tate, and Jon Yan. 2011. Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies. *The Journal of Finance* 66: 1687–733. [CrossRef]

Maquieira, Carlos P., Lorenzo A. Preve, and Virginia Sarria-Allende. 2012. Theory and Practice of Corporate Finance: Evidence and Distinctive Features in Latin America. *Emerging Markets Review* 13: 118–48. [CrossRef]

Mathuva, David Mutua. 2014. An empirical analysis of the determinants of the cash conversion cycle in Kenyan listed non-financial firms. *Journal of Accounting in Emerging Economies* 4: 175–96. [CrossRef]

Mavruk, Taylan. 2022. Analysis of herding behavior in individual investor portfolios using machine learning algorithms. *Research in International Business and Finance* 62: 101740. [CrossRef]

Mazlan, Ahmad Rizal, and Choong Yuen Leng. 2018. The Moderating Effect of Working Capital Management on the Relationship between Working Capital Determinants and Firm Performance. *Indian-Pacific Journal of Accounting and Finance* 2: 38–48. [CrossRef]

Mohamad, Nor Edi Azhar Binti, and Siti Balqis Elias. 2013. An Assessment on Determinants of Working Capital Management from Malaysian Public Listed Companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences* 3: 224–28.

Mongrut, Samuel, Darcy Fuenzalida O'Shee, Claudio Cubillas Zavaleta, and Johan Cubillas Zavaleta. 2014. Determinants of Working Capital Management in Latin American Companies. *Innovar* 24: 5–18. [CrossRef]

Myers, Majluf. 1984. The Corporate Financing and Investment Decision, When Firms have Information that Investors do not have. *Journal of Finance and Economics* 13: 187–221. [CrossRef]

Nazir, Mian Sajid, and Talat Afza. 2009. Working Capital Requirements and the Determining Factors in Pakistan. *The Icfai Journal of Applied Finance* 15: 28–37.

Nyeadi, Joseph Dery, Yakubu Awudu Sare, and Godfred Aawaar. 2018. Determinants of Working Capital Requirement in listed Firms: Empirical evidence Using a Dynamic System GMM. *Cogent Economics & Finance* 6: 1–14.

Onaolapo, Adekunle A., and Sunday O. Kajola. 2015. What are the Determinants of Working Capital Requirements of Nigerian firms? *Research Journal of Finance and Accounting* 6: 1–18.

Padachi, Kesseven. 2006. Trends in Working Capital Management and its Impact on Firm's Performance: An analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research Papers* 2: 45–58.

Raheman, Abdul, and Mohamed Nasir. 2007. Working capital management and profitability-case of Pakistani firms. *International Review of Business Research Papers* 3: 279–300.

Sharma, Amait K., and Satish Kumar. 2011. Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India. *Global Business Review* 12: 159–73. [CrossRef]

Shue, Kelly. 2013. Executive Networks and Firm Policies: Evidence from the Random Assignment of MBA Peers. *The Review of Financial Studies* 26: 1401–42. [CrossRef]

Singh, Harsh Pratap, and Satish Kumar. 2014. Working Capital Management: A Literature Review and Research Agenda. *Qualitative Research in Financial Markets* 6: 173–97. [CrossRef]

Tarkom, Augustine. 2022. Impact of COVID-19 exposure on working capital management: The moderating effect of investment opportunities and government incentives. *Finance Research Letters* 47: 102666. [CrossRef]

Ukaegbu, Ben. 2014. The Significance of Working Capital Management in Determining the Firm Profitability: Evidence from the Developing Economies in Africa. *Research in International Business and Finance* 31: 1–16. [CrossRef]

Yenice, Sedat. 2015. Determining the Influences of Macro-economic Variables on Working Capital through Artificial Neural Network Modeling: The Case of Turkey. *International Business Research* 8: 14–26. [CrossRef]

Zaighum, Isma, and Mohd Zaini Abd Karim. 2019. Peer Effects, Financial Decisions, and Industry Concentration: A Review. *SEISENSE Journal of Management* 2: 13–21. [CrossRef]

Zhao, Mingyuan, Bingxin Ming, Yingqing Li, and Junran Shi. 2022. Peer effects of working capital management: Considering the moderating effect of knowledge flow. *Frontiers in Psychology* 13: 1054349. [CrossRef]

Zubairi, Hamid. 2011. *Impact of Working Capital Management and Capital Structure on the Profitability of Auto-Mobile Firms in Pakistan*. Bundoora: La Trobe University Bundoora.