

Mediating Role Working Capital Management in Corporate Governance and Firm's Performance

Kiran Farooq^a, Amir Manzoor^b, Ume sumayyya^c, Adnan Anwar^d, Ubaid Amjad Sheikh^e, ^{a,b}Bahria university, ^cIqra University, ^{d,e}Karachi Institute of Economics and Technology

Effective management of working capital is a key of success of any business, its includes cash, receivables, payables and inventories. It's essential for a business organization to maintain a tradeoff between profitability and liquidity (Baños, García & Martínez 2014). This research examines the mediating role Working Capital Management in Corporate Governance and firm's accounting performance. We focus on the structure equity holder in corporate governance and decompose the ownership into percentage of equity hold by foreigner and directors. This study identified three commonly used measures of financial performance of firm, namely, return on equity, return on asset, and Tobin's Q ratio. The statistical techniques used in the research are correlation, multiple regression analysis with considering homogeneity of the data and panel data regression model. These statistical test have been done on Eviews The empirical finding showed that financial performance positively caused by ownership structure and the existence of foreign owners significantly improve efficiency of working capital policy but the study did not found any impact of director equity on the efficiency of working capital management. The efficiency of working capital management also affects the accounting performance of the firm in case of foreign ownership, but no impact was found in case of director equity. However in relation to ownership type and firm's financial performance, the working capital management has no significant mediating role in case of companies listed in Pakistan stock exchange.

Key words: *Corporate Governance, Ownership structure, Financial performance, foreign ownership, director ownership, return on asset, return on equity, tobin's Q ratio, working capital management, cash conversion cycle.*



1. Introduction

The corporate governance is the cluster of strategies in which investors make assure for generating profit on their invested capital in businesses (Shleifer & Vishny, 1997). The corporate governance determines the moralities and liabilities of the board, directors, shareholders, and stakeholders, it demonstrates the rules and procedure and measures of performance (OECD, 1999) . The effective management of firm's resources is one of the key pay up of corporate governance (Gill, & Biger 2013)

Haq, Sohail, Zaman & Alam (2011) Firm's income is directly affected by operating liquidity, so Working capital management is one of the fundamental policies of corporate governance. Corporate governance persuades working capital management policy, unproductive working capital management policy has a negative impact on shareholder wealth as well as firm's performance (Isshaq, Bokpin. & Onumah, 2009)

Different firms have different working capital requirement according to the sector which they belong, so it has a fundamental role in corporate policy (Ukaegbu, 2014). Strategies about liquidity management, accounts receivable, inventory, current liability formulating by the board of directors, therefore governance are responsible for account receivable, accounts payable; and cash conversion cycle (Gill, & Biger, 2013). Good governance strategies also help in also helps in increasing the firm performance (Latif et al, 2013).

Corporate Governance and Ownership Structure

According to Desender(2009); Shleifer and Vishny (1986) Firm's structure of ownership can be an imperative component of corporate governance. The efficiency of management as a governance system can rely upon the overall combination of the equity holder of the firm (Cho & Kim, 2007). Many researchers suggest that the type of shareholders taking on monitoring role have different dimension and preferences. To address the issue, this paper examining the relationship between ownership types and company performance by analyzing variations in governance mechanisms and their effects on business performance.

Different corporations owned by disperse Shareholders and are controlled by hire researcher classified the ownership structure with their distinct interest in the field. Jensen and Meckling (1976) and Palia (2001) differentiated the ownership structure with the conflict of internal and external owners. Gernd of (1998) make a distinction between majority and minority shareholders. La Porta et al. (1999), Thomsen et al (2000), Mathiesen (2002), Kalmi (2003), Vitols (2003), Heubischl (2006) categorized the ownership into family owned and state owned. Duggal, R. and Millar, J. A. (1998) investigate the impact of institutional ownership on firms' performance. Aitken and Harrison(1999), Javorcik (2004), Girma and Goerg, (2007), Girma, Kneller and Oisu,(2007) disintegrate the ownership structure into foreign. We decompose the



ownership structure into foreign, domestic and director owned shares. Domestic owned shares comprise general public, associated companies and Institutional public.

Most of the earlier researches emphasis on association between the structure of ownership and working capital management, ownership structure and financial performance, and working capital management and performance of the firms. This research effort to address this concern in a way working capital management mediates the impact of ownership structure on performance. According to the Gill, Flaschner, Mann, and Dana (2014) governance controls the firm's working capital. The working capital management has significant impact on firm performance (Deloof, 2003). The impartial of working capital management is to certify that the resources are managed well so as to enhance the firms' performance (Lamptey et al 2017). So, this research empirically postulates in the working capital literature. So this study contributes to the existing knowledge in the ways that, it bridges a gap via providing the evidence of mediating role of WCM between the ownership factors and performance.

Literature Review

Firms need capital for their formation and to perform their daily operations. The short-term funds required for daily operations are called working capital management. This working capital management directly affects the firm profitability (Manika, 2015; N. K, 2004). They further explained that profitability of a firm is a component of effectual use of working capital. Constant supply of working capital is requisite for healthy growth of firms.

Directors put their effort on effective deployment of firm's resources and cash to deal with daily operations. Good working capital management primes to increase in net income (Deloof, 2003). Charitou, Elfani, and Lois (2010) hypothesize Deloof's findings and considering the data of Cyprus Stock Exchange for the duration of 1998-2007. They use "cash conversion cycle as a measure of working capital management", their result indicates that all the implements of working capital management are correlated with firm's income.

Firms accounting performance is largely affected by cash conversion cycle, as investigated by Raheman and Nasr (2007) by using 94 firms of Pakistan and found that firm's income is negatively caused by working capital management, which indicates that higher the investment in inventory the lower the profit, extended the cash conversion cycle affects reduction in profitability.

Silva (2011) measures the working capital management from net trade cycle and profitability and found from return-on-assets and found curve-linear (concave) relationship between efficient working capital management and profitability. He pointed out that only optimum level of net trade cycle can maximize the firm's accounting performance. Baños-Caballero, García-Teruel, and Martínez-Solano, (2012) test the Spanish small medium enterprises and found concave relationship between working capital management and accounting income. They

found curve linear relationship between firm's profitability ratios (Return on Asset, Return on Equity) and investment in working capital, which shows that initially investment in working capital affect positively on profitability but when it moves away from optimum point, profitability comes down.

Abuzayed (2012) provides empirical evidence that working capital management is positively correlated to the firm's market and accounting performance in case of Amman Stock Exchange listed firms . He used "cash conversion cycle as the measure of working capital management".

Ukaegbu (2014) explained that accounts payable policy and inventory turnover are positively associated with profitability, whereas accounts receivable is negatively associated with profitability. He further explained that firms can improve their profitability by reducing the cash conversion cycle.

"Whether the working capital management can enhance firm's financial performance?" Baños-Caballero, García-Teruel, and Martínez-Solano, (2014) explained that investment in working capital is more sensitive, initially it could enhance the firm's performance but there is a level of it, higher investment negatively affects the performance. He supports the idea that if firms tend to increase their sale then working capital manager would prefer to invest in working capital, otherwise he should more focus on cash conversion cycle rather than investing more in working capital.

Enqvist, Graham, & Nikkinen (2014) demonstrates that importance of efficiently managed working capital is more in economic recessions relative to economic booms. They suggest that working management policy should include in corporate financial planning.

Efficient working capital management is highly valuable for firms operating performance in sample of US. Unnecessary investment tied up in working capital inversely impacts its performance because the additional capital is associated with a higher probability of financing costs. The efficient WCM permits the firms to actively utilize their resources. Firms with optimal value of cash conversion cycle either by deploying or drawing the investment in working capital, improve their operating performance (Aktas, Croci, & Petmezas, 2015). Ben-Nasr (2016) examines how does government and foreign-owned equity affect net worth and net working capital management by using multi-national models from 54 countries. Statistics show that increased investment in net working capital compared to government-controlled firms is associated with a lower increase in the value of business in government-controlled companies. In addition, they provided evidence that the additional investment in net working capital is associated with a greater increase in the value of business in foreign companies than in unregulated foreign companies. They have shown that the type of ownership affects the importance of net working capital management.



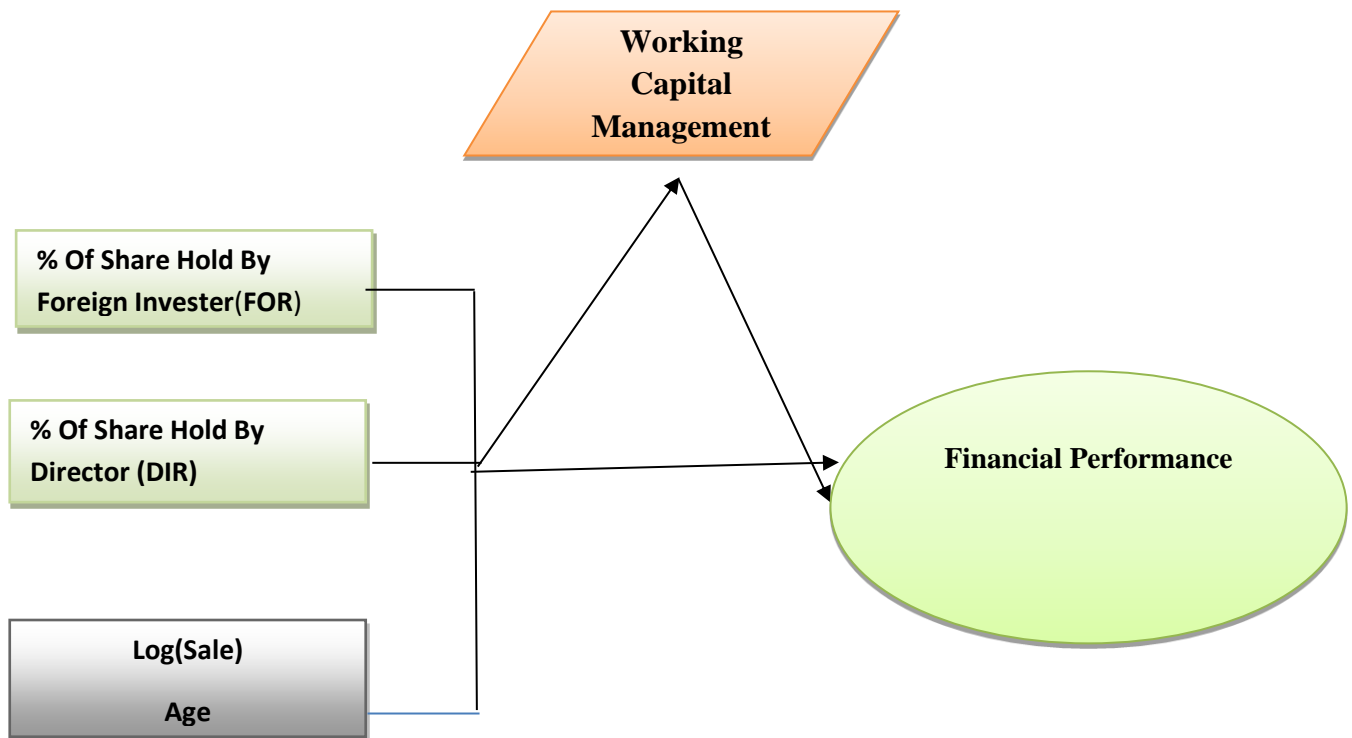
Baños, García and Martínez (2014) found inverted U shape relationship between working capital management and financial performance. They suggest that to increase firm's sales and getting the concessions on early payments from its suppliers, management should invest in working capital but there should be tradeoff between cost and benefit. Higher investment begins to be inverse impact in firm's value because of the more possibility of bankruptcy and credit risk. Chang (2018) used financial data of different companies from different countries as samples for empirical analysis of association between cash conversion cycle (CCC) and financial performance. He found inverse relationship between cash conversion cycle (CCC) and firm profitability, and suggest that rigid working capital policy can improve the firm's profitability.

Rico and Rohman. (2018) test the net working capital turnover variable in mediating the relationship of number of firm's share ownership to ROE and didn't find and evidence of mediation of WCM. Based on the result of the research, it can be concluded that the managing net working capital turnover in accordance with the needs of the company and can improve financial performance especially return on equity.

Shahid et al (2020). Working capital management has significant and negative relationship with ROA and ROE. It is also clear that ownership structure have significant relationship with Working capital management; thus WCM mediate the relationship between ownership structure and ROA, ROE. They further suggest that corporate governance maintains a basic role in the performance of the organization. There suggestions are in the framework of pakistan's sugar mills.

These literatures indicate that there should be trade-off in working capital decision. Only the optimal level of working capital can maximize the firm's accounting performance. Higher investment in working capital indicates need for more finance, it involves financial cost as a result it may lead to a negative impact on firm value. The efficient working capital management let the firms actively employ the resources. Most of the above literature suggests that if firms want to increase their sales then management should invest more in working capital otherwise they should more focus on firm's efficiency. The management should ensure for stock availability on time, supposes costs such as warehouse rent, insurance and security expenses, which tend to rise as the level of inventory increases.

Conceptual Framework



Hypothesis

H₁: There is mediating effect of working capital management in relation to Foreign and director ownership on return on assets without time effect.

H₂: There is mediating effect of working capital management in relation to Foreign and director ownership on return on equity without time effect.

H₃: There is mediating effect of working capital management in relation to Foreign and director ownership on Tobin's q ratio without time effect.

H₄: There is mediating effect of working capital management in relation to Foreign and director ownership on return on assets with time effect.

H₅: There is mediating effect of working capital management in relation to Foreign and director ownership on return on equity with time effect.

H₆: There is mediating effect of working capital management in relation to Foreign and director ownership on Tobin's q ratio with time effect.

3. Methodology

3.1 Universe, Target Population and Sampling

The target population of this research is all non-financial companies listed in Pakistan Stock Exchange. Our sample consists of 192 companies, out of which 96 companies have foreign ownership. This research use the financial data provided by companies from the period of 2006 to 2018, so the research is based on secondary data. The sample of this research initially covered all the non-financial companies with foreign equity holding. We begin with the purpose sampling to sorting our population. This research address whether the foreign owned have advantages over domestically owned firm, so we take equal size of totally domestic companies by following random sampling.

3.2. Measurement of variables

Variables	Decription	Construction	Unit
Dependent variables			
ROA (Return on Asset)	Measure of firm's profitability. It shows athe firm's productivity on its assets.	“ROA = Net profit before taxes/ Average of (Non-Current Assets + Current Assets)”	Percentage
ROE (Return on Equity)	measure of firm's profitability. It shows athe firm's productivity from every unit of shareholders' equity	“ROE = Net profit before taxes/ Average of Shareholder's equity”	Percentage
Tobin's Q Ratio	Tobin's Q ratio is one of the company performance indicator. Its shows the market value of company asset in comparison of its book value.	“Tobin Q is equal = (Market value of equity + book value of debts)/ Book value of Assets	Ratio
Mediating variable			
WCM	Cash conversion cycle is used as measure of working capital management	“Cash Conversion Cycle = Stockholding Period + Debtors Collection Period – Creditors Payment Period” “Stockholding Period = Stock/Cost of Sales*365”	Number of days

		<p>“Debtors Collection Period = Stock/Sales*365”</p> <p>“Creditors Payment Period = Creditors/Cost of Sales*365”</p>	
Independent Variable			
Foreign ownership	percentage of equity hold by foreign investor.		Percentage
Director ownership	percentage of equity hold by director of the company.		Percentage
Control Variable: size	Natural logarithm for the book value of total assets		

3.3 Data Analysis

3.3.1 Multiple Linear regressions (OLS)

Multiple linear regressions is used in this research with assuming homogeneity across the time. This research uses the different measures of financial performance, financial policies and market performance as dependent variable with foreign ownership, director ownership as independent variable. Following regression model is used for pool OLS

3.3.1 Accounting performance

1) Performance = f (ownership variable, control variable)

$$\text{Performance(ROA, ROE, Tobin's Q)} = \beta_0 + \beta_1\text{FOR}_i + \beta_2\text{DIR}_i + \beta_3\text{LOG (sales)} + \beta_4(\text{age}) + \mu$$

2) Working capital management = f (ownership variable, control variable)

$$\text{Working capital management} = \beta_0 + \beta_1\text{FOR}_i + \beta_2\text{DIR}_i + \beta_3\text{LOG (sales)} + \beta_4(\text{age}) + \mu$$

3) Performance = f (ownership variable, working capital management control variable)

$$\text{Performance (ROA, ROE, Tobin's Q)} = \beta_0 + \beta_1\text{FOR}_i + \beta_2\text{DIR}_i + \beta_3\text{LOG (sales)} + \beta_4\text{LOG(age)} + \beta_5\text{WCM} + \mu$$

3.3.2 Panel Specific Regression Model

Panel data comprises variables that vary across the time and cross section. Panel data may have *cross-section effect*, *period effect*, or both, which are analyzed by *fixed effect* and/or *random effect* models. Fix and random effect model cannot always be employed on all panel data format without contemplation of relevance of such models. Panel data may have assumed homogeneity, and do not have cross section and period specific effect, this type of data deal with OLS pool regression (Park, 2011). In this research we assumed to analyze the impact of owners on firm performance and stock valuation with effect of time while the cross section specific effects are ignored, because the sample consist equal number of firms (cross section) with foreign equity and without foreign equity

4. Empirical Analysis

4.1 Financial performance of firms listed in Pakistan Stock Exchange (ROA, ROE, and Tobin's Q) without time effect.

To find the mediating effect of working capital management in relation of ownership structure and firm's accounting performance, first we discover how the change in foreign ownership and director ownership effect firm's financial performance.

It can be observe in table I that the partial slope coefficient of foreign ownership shows that when foreign equity holder increase by one percent the firm's return on asset increase by 6.125 percent, holding director ownership as constant. The p-value of the coefficient shows that the estimate is statistically significant. Whereas the partial slope coefficient of director ownership is -3.62, suggesting that if director ownership increases by one percent then return on asset decrease by 3.62 percent, considering homogeneity across the period. The p-value of the estimate is statistically significant.

When we regress pooled OLS with return on equity, then the partial slope coefficient of foreign ownership suggesting that return on equity rises by 15.736 percent, cause by one percent increase in foreign ownership, holding director ownership as constant. The p-value of the coefficient suggest that **there is** impact of foreign ownership on return on equity (ROE) without time effect. However the slope coefficient of director ownership suggest that firm's return on equity decrease by 22.135 percent reason by director hold one percent more shares, holding the foreign ownership constant. The p-value of the estimate shows that there is negative impact of director ownership on return on equity (ROE) without time effect.”

The beta coefficient of foreign ownership is 1.395. This value explained that the value of the ratio tobin's q increase by 1.395, cause by one percent increase in foreign ownership, holding director ownership as constant. The p-value of the coefficient confirmed that there is impact of foreign ownership on Tobin's Q without time effect. Whereas the slope coefficient of director



ownership is -0.7564, suggesting that firm's tobin's q ratio decrease by 0.7564 percent, reason by director hold one percent more shares, holding the foreign ownership constant. The p-value of the estimate is statically significance. The finding of the estimate carries that there is negative impact of director ownership on return on Tobin's Q without effect specification.

4.2 Mediating Effect Of Working Capital Management without time effect.

To check the mediating effect of working capital management on firm's financial performance, we regress percentage of foreign equity and director equity as independent variable with cash conversion cycle as dependent variable shown in table II. Whereas table III illustrates the finding of the regression with cash conversion cycle, foreign ownership and director ownership as independent variable and return on asset, return on equity and tobin'q ratio as measure of performance are independent variable. Log of sale and age are used as control variables and cash conversion cycle is a measure of working capital management. We assume all the periods of the data in not individual way and constant intercept and slope across the time period.



Table I. Impact of ownership on financial performance without time specification (ROA, ROE, and Tobin's Q)

	Constant			Foreign ownership			Director ownership			Log (sale)			Age			R ²	F stat	Prob	VIF
	β-coeff	t-value	prob	β-coeff	t-value	Prob	β-coeff	t-value	prob	β-coeff	t-value	Prob	β-coeff	t-value	Prob				
ROA	-25.89	-25.13	0.00	6.152	14.24	0.00	-3.62	-7.33	0.000	4.725	31.692	0.00	0.041	6.56	0.00	0.123	539.56	0.00	1.14
ROE	-17.44	-1.355	0.175	15.74	2.92	0.00	-22.14	-3.98	0.000	2.975	3.68	0.00	-0.20	-2.6	0.01	0.01	19.17	0.00	1.01
Tobi	-0.0233	-0.045	0.96	1.396	6.397	0.00	-0.756	-3.34	0.000	0.204	2.708	0.01	0.005	1.46	0.14	0.015	29.35	0.00	1.02

n's Q

The slope coefficient of foreign ownership in table II is -290.32, suggest that firm cash conversion cycle is reduce by 290 days, if firm's one percent more equity hold by foreign, keeping percentage of director's equity as constant. It can be explained that reducing local ownership result in reduction of cash conversion cycle. P-value of coefficient shows that estimate is statistically significant. Whereas the slope coefficient of director ownership in table II is -37.989, illustrate that one percent increase in director ownership effect on firm's cash conversion cycle and it reduce by 37.989 days, The p-value of estimate is not significant.

Table III shows the finding of the regression, when we regress the ownership structure and cash conversion cycle as independent variables with return on asset, return on equity, and tobin's q ratio as dependent variable, neglecting the individuality of time period.

The intercept term in table III is -25.89 explain that when firm's cash conversion cycle is zero day and firm's equity do not hold by foreign investor and director then firm return on asset is -25.89 percent. The p-value of intercept term is less than the standard significant value that shows that estimate is statistically significant.

H₁: There is mediating effect of working capital management in relation to Foreign and director ownership on return on assets without time effect.

The beta coefficient of cash conversion cycle is $-3.5E-06$, which is about to be zero. It suggest that the change in return on asset not cause by cash conversion cycle, keeping all other explanatory variable are constant and neglecting the unobserved heterogeneity and considering constant intercept and slope across the time. In other words we can say that when cash conversion cycle reduces by one day then return on asset is increase by $3.5E-06$ percent, which is neglect able. The p-value of estimate is not significant.

The slope coefficient of foreign ownership is 6.15, explained that if foreign ownership is increased by one percent then return on asset is increase by 6.15 percent per year keeping all other explanatory variable as constant. Increase in foreign owner explained that decrease in percentage of local investor's own shares. P-value of is statistically significant.

The slope coefficient of director ownership is -3.262, demonstrate that if director owned one percent more share the return on asset is decrease by 3.262 percent. P-value of the estimate is 0.00, which is statistically significant.

The beta coefficient of foreign ownership and director ownership in table I and II, when we regress ownership variables on return on assets with and without mediating effect of cash conversion cycle are identical, with same significant finding.

$$\text{ROA} = -25.888 + 6.152 \text{ FOR} - 3.62 \text{ DIR} + 4.725 \log(\text{sale}) + 0.407 \text{ age}$$

$$\text{Sig} = (0.00) \quad (0.00) \quad (0.000) \quad (0.00) \quad (0.00)$$

$$\text{ROA} = -25.89 + -3.5\text{E-}06\text{WCM} + 6.152 \text{ FOR} - 3.262 \text{ DIR} + 4.725 \log(\text{sale}) + 0.407 \text{ age}$$

$$\text{Sig} = (0.00) \quad (0.980) \quad (0.00) \quad (0.00) \quad (0.00) \quad (0.00)$$

The above mentioned regression results and p-value of cash conversion cycle 0.98, help us to conclude that **“There is no mediating effect of working capital management in relation to Foreign and director ownership on return on assets without time effect”**.

The 2nd row of table III shows the regression results same explanatory variables regress with return on equity as dependent variable by neglecting cross section and time series effect. The intercept term is -17.53 suggest that when firm’s cash conversion cycle is zero day and firm’s equity do not hold by foreign investor and director then firm return on equity is -17.53 percent. The p-value of intercept term is 0.54, shows that estimate is not statistically significant.

H2: There is mediating effect of working capital management in relation to Foreign and director ownership o on return on equity without time effect.

The beta coefficient of cash conversion cycle is -0.0002, shows that one day increase in cash conversion cycle effect in decrease of return on equity by 0.0002 percent. It can be explain that if firms reduce their cash conversion cycle by 100 day then return on equity is increase by 0.02 percent. The associated p-value of t-test is not significant.

The slope coefficient of foreign ownership is 15.69, explained that if foreign investor, invested one percent more in firm’s equity then firm’s return on equity is increase by 15.69 percent per year keeping all other explanatory variable as constant. Increase in foreign owner explained that decrease in percentage of local investor’s own shares. P-value of estimate is too less from standard significant value, shows that estimate is statistically significant.

The slope coefficient of director ownership is -22.142, demonstrate that if director owned one percent more share the return on equity is decrease by 22.142 percent. The P-value of the estimate is statistically significant at confirmatory level.

It can be noted that in comparison of table III and V, the beta coefficient of foreign ownership and director ownership, when we regress ownership variables on return on equity with and without

mediating effect of cash conversion cycle as the measure of working capital management, are identical with same significant finding.

$$\text{ROE} = -17.44 + 15.736 \text{ FOR} - 22.135 \text{ DIR} + 2.975 \log(\text{sale}) - 0.201 \text{ age}$$

$$\text{Sig} = (0.545) \quad (0.00) \quad (0.075) \quad (0.00) \quad (0.00)$$

$$\text{ROE} = -17.44 - 0.0002 \text{WCM} + 15.736 \text{ FOR} - 22.135 \text{ DIR} + 6.869 \log(\text{sale}) - 0.201 \text{ age}$$

$$\text{Sig} = (0.544) \quad (0.9023) \quad (0.00) \quad (0.000) \quad (0.002) \quad (0.009)$$

The regression finding and p-value of cash conversion cycle help to conclude that “**There is no mediating effect of working capital management in relation to Foreign and director ownership on return on equity without time effect**”.

The regression results of same explanatory variables with tobin's q ratio as dependent variable shown in the last row of the table. The intercept term is -0.033 suggest that when firm's cash conversion cycle is zero day and firm's equity do not hold by foreign investor and director then firm's tobin's q ration is -0.033. The p-value of intercept term is not statistically significant.

H3: There is mediating effect of working capital management in relation to Foreign and director ownership on Tobin's q ratio without time effect.

The beta coefficient of cash conversion cycle is $-1.6E-05$ and its associated p-value of t-test, shows that there is no significant effect in firm's tobin's q ratio caused by change in cash conversion cycle.

The slope coefficient of foreign ownership is 1.391, explained that if foreign investor, invested one percent more in firm's equity then firm's tobin's q ratio is increase by 1.391 percent per year keeping all other explanatory variable as constant. Increase in foreign owner explained that decrease in percentage of local investor's own shares. P-value of estimate is statistically significant at confirmatory level.

The slope coefficient of director ownership is -0.757, demonstrate that if director owned one percent more share the tobin's q ratio is decrease by 0.757 percent per year. P-value of the estimate is well less from its confirmatory level, so it can be explained that it is statistically significant.

It can be noted that in comparison of table I and III, the beta coefficient of foreign ownership and director ownership, when we regress ownership variables on tobin's q ratio with and without mediating effect of cash conversion cycle are identical, with same significant finding.



Mediating Effect Of Working Capital Management

Table II. Impact of ownership structure on working capital management

	Constant			Foreign ownership			Director ownership			Log (sale)			Age			R ²	F stat	Prob	VIF
	B-coeff	t-value	prob	β-coeff	t-value	Prob	β-coeff	t-value	prob	β-coeff	t-value	Prob	β-coeff	t-value	prob				
Cash	-	-6.221	0.000	-290.3	-7.33	0.000	-37.99	-0.93	0.352	118.07	8.63	0.000	-1.92	-3.37	0.007	0.0137	31.96	0.00	1.01
C	587.74																	0	4
C																			



Table III. Impact of ownership structure and working capital management on financial performance without time effect (ROA, ROE, and Tobin's Q)

	Constant			Cash_c_cycle			Foreign ownership			Director ownership			Log (sale)			Age			R ²	F stat	Prob	VIF
	β-coeff	t-value	prob	β-coeff	t-value	prob	β-coeff	t-value	Prob	β-coeff	t-value	Prob	β-coeff	t-value	Prob	β-coeff	t-value	prob				
ROA	-25.9	-19.42	0.00	-3.5E-1	-0.02	0.98	6.151	11	0.00	-3.263	-5.68	0.00	4.73	24.44	0.00	0.04	5.07	0.00	0.12	258.9	0.0	1.14
ROE	-17.5	-1.49	0.14	-0.000	-0.12	0.90	15.69	3.18	0.00	-22.14	-4.36	0.00	6.87	4.024	0.00	-0.20	-2.3	0.00	0.01	18.40	0.01	1.01
Tobin's Q	-0.03	-0.07	0.94	-1.6E-1	-0.3	0.75	1.391	6.96	0.00	-0.757	-3.66	0.00	0.21	2.98	0.00	0.01	1.59	0.11	0.02	28.21	0.0	1.02



Tobin's Q = -0.033 + 1.395 FOR – 0.7564 DIR +0.204log(sale) + 0.0045 age

Sig = (0.96) (0.00) (0.00) (0.00) (0.143)

Tobin's Q = -0.033 + 0.00WCM + 1.395 FOR – 0.7564 DIR +0.206log(sale) + 0.0045 age

Sig = (0.944) (0.746) (0.000) (0.00)(0.00) (0.112)

The p-value of cash conversion cycle 0.746 and regression finding of table I and II support us to suggest that **“There is no mediating effect of working capital management in relation to Foreign and director ownership on tobin's q raio without time effect”**.

4.3 Mediating effect of working capital management on firm's performance with time effect

Panel data comprises variable that vary across the time and cross section. The technique use to analyze this model is pooled regression, fixed effect or random effect. Pooled OLS estimator ignores the panel structure and does not distinguish between industry and also overlooking the data's cross section and time series nature. The fixed-effect model treats heterogeneity or uniqueness between different cross-sections; this individuality does not change across the time and correlated with the independent variable. Random effects models also allow for heterogeneity as well as inconsistencies over time, but individual effects are not related to independent variables

4.3.1 Financial performance of firms listed in Pakistan Stock Exchange (ROA, ROE, and Tobin's Q) with time effect.

Model specification tests propose that the random effect model is more accurate method when we regress the explanatory variables with return on asset. The slope coefficient of foreign ownership in table IV is 6.632 demonstrate that increase in percentage of equity of foreign investor result in increase in firm's return on asset. The p-value of associated t-test is 0.00, which is less than the predictable level of significant. Whereas the coefficient value of director ownership in table VI is -2.85 explain that when firm's director own more equity the firm return on asset decrease by 2.85, across the time. The associated significant value is 0.0408.

Table IV

Dependent Variable: ROA

Method: Panel (Period random effects)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-24.82177	3.219988	-7.708653	0.0000
FOREIGN_OWNERSHIP	6.632446	1.333134	4.975077	0.0000
DIRECTOR_OWNERSHIP	-2.854874	1.394256	-2.047597	0.0408
LOG_SALE	4.790665	0.467875	10.23919	0.0000

When we regress the same explanatory variable of panel data model specification test significantly support that the pool OLS method with return on equity as dependent variable. We can conclude that there is no evidence of heterogeneity across the time. It make clear that impact of foreign ownership and director ownership on return on equity are not specific across the time.

The random effect model is appropriate method suggested by specification test, when we regress the explanatory variables with tobin's Q. The finding of random effect model shown in table VIIThe beta coefficient of foreign ownership is 1.44, shows that when foreign ownership increase by one percent. Then tobin's q ratio is also increase by 1.44. The p-value of associated t-test is less than the conformist level. However the beta coefficient of director ownership -0.76, makes clear that if director owned one percent more shares than tobin's q ratio is decrease by 0.76. The relative p-value of t-test is not less than traditional level.

Table V

Dependent Variable: TOBINQ

Period Random Effects

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.224646	1.151561	0.195080	0.8454
FOREIGN_OWNERSHIP	1.449974	0.479618	3.023185	0.0025
DIRECTOR_OWNERSHIP	-0.756365	0.505330	-1.496773	0.1347
LOG_SALE	0.191585	0.168481	1.137134	0.2557

Impact Of Ownership Structure On Working Capital Management With Time Effect

To test the mediating effect of working capital management, we used cash conversion cycle as measure of working capital management. In this section we assumed panel nature of the data and test the potential unobserved heterogeneity across the time.

Model specification test provide significant evidence in favors of the pool OLS method with cash conversion cycle as measure of working capital management as dependent variable. We can wrap up that there is no evidence of heterogeneity across the time and time specific effect does not exist. It makes clear that impact of foreign ownership and director ownership on return on equity are not specific across the time. Moreover we can say that the effect of foreign ownership and director ownership on working capital management across the time and without effect of time is not significantly different.

Impact of ownership structure and working capital management on financial performance with time effect

All model specification test significantly support the random effect model against pool OLS and fixed effect model for data when we regress with return on asset. Table VIII shows that intercept term is -24.84, explain that if the firm's cash conversion cycle and all other independent variable are zero than firm return on assets is -24.84. It can be observe that increase in cash conversion cycle do not significantly impact on return on asset. It can be notice that the beta coefficient of cash conversion cycle is -2.8E-05, which is about to be zero and its associated-value is too high.

Table VI (ROA)

Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-24.84134	3.230336	-7.690018	0.0000
CASH_C_CYCLE	-2.80E-05	0.000357	-0.078644	0.9373
FOREIGN_OWNERSHIP	6.623540	1.338296	4.949234	0.0000
DIRECTOR_OWNERSHIP	-2.854489	1.394822	-2.046490	0.0409
LOG_SALE	4.794266	0.469920	10.20229	0.0000

H4: There is mediating effect of working capital management in relation to Foreign and director ownership on return on assets with time effect.

The slope coefficient of foreign ownership is 6.623, which explain that one percent increase in foreign ownership result in increase of return on asset. The associated p-value is less than the predictable level of significant. The slope coefficient of director ownership is -2.8, explain that increase in one percent director ownership negatively impact on return on asset and it decline by 2.8 percent. The p-value of director ownership is less than the significant level.

It can be notice that the slope coefficient of foreign ownership and director ownership with associated p-value are similar, when we regress return on equity without cash conversion cycle. So, it can be concluded that **“There is no mediating effect of working capital management in relation to Foreign and director ownership on return on assets with time effect”**.

$$ROA = -24.82177 + 6.632446 FOR - 2.854874 DIR + 4.791 \log(\text{sale})$$

sig	(0.00)	(0.00)	(0.041)	(0.00)
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$$ROA = -24.84134 - 2.80EWCM + 6.623540 FOR - 2.854489DIR + 4.794 \log(\text{sale})$$

sig	(0.00)	(0.9373)	(0.00)	(0.041)	(0.00)
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H5: There is mediating effect of working capital management in relation to Foreign and director ownership on return on equity with time effect.

When we regress same explanatory variable with return on equity model specification test suggest that the pool OLS method is more appropriate when examine the mediating effect of working capital management. We can wrap up that there is no evidence of heterogeneity across the time. It makes clear that mediating effect of working capital management in relation of foreign ownership and director ownership on return on equity is not specific across the time. Moreover we can say that mediating effect of working capital management in relation of foreign ownership and director ownership on return on equity across the time and without effect of time is not significantly different. It has been found from pool OLS that there is no mediating effect of working capital management in relation of foreign ownership and director ownership on return on equity.

All model specification test significantly shore up the random effect model against pool OLS and fixed effect model for data with working capital management as mediating variable and tobin's q as dependent variable. Table IX shows that intercept term is 0.211, explain that if the firm's cash

conversion cycle and all other independent variable are zero than firm's tobin's q ratio is 0.211. the p-value of intercept term is not significant at 5%.

It can be observe that increase in cash conversion cycle do not significantly impact on tobin's q ratio. It can be notice that the slope coefficient of cash conversion cycle is -1.60E-05, which is about to be zero and its associated-value is too high. It make clear that cash conversion cycle do not have significantly impact on tobin's q ratio.

Table VII (Tobin's Q)

Random effect model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.211465	1.154473	0.183170	0.8547
CASH_C_CYCLE	-1.60E-05	0.000127	-0.125511	0.9001
FOREIGN_OWNERSHIP	1.444815	0.481494	3.000690	0.0027
DIRECTOR_OWNERSHIP	-0.756698	0.505520	-1.496871	0.1346
LOG_SALE	0.193886	0.169212	1.145819	0.2521

H₆: There is mediating effect of working capital management in relation to Foreign and director ownership on Tobin's q with time effect.

The slope coefficient of foreign ownership is 1.44, explain that if foreign investor one percent more invested in firm's equity than tobin's q ratio is increased by 1.44. The associated p-value is less than the standard value of significant. Whereas the slope coefficient of director ownership is - 0.757, shows that if director own one percent more share then tobin's q ratio is fall by 0.756. The p-value of director ownership is higher than the standard level of significant.

It can be notice that the slope coefficient of foreign ownership and director ownership with associated p-value are similar, when we regress tobin's q ratio without cash conversion cycle. So, it can be concluded that **“There is no mediating effect of working capital management in relation to Foreign and director ownership on tobin's q ratio with time effect”**.



$$\text{Tobin's } Q = 0.224646 + 1.449974\text{FOR} - 0.756365\text{DIR} + 0.191585\log(\text{sale})$$

(0.8454) (0.0027) (0.1347) (0.2557)

$$\text{Tobin's } Q = 0.224646 - 1.60\text{E-}05\text{WCM} + 1.449974\text{FOR} - 0.756365\text{DIR} + 0.191585\log(\text{sale})$$

(0.854) (0.900) (0.0025) (0.1346) (0.2557)

5. Discussion

The management strategy required to focusing on availability of cash for its daily operation. An efficiently manage working capital is expected to add the firm's accounting value. In this research we also analyze the mediating effect of cash conversion cycle as measure of working capital management. First we test the impact of ownership on cash conversion cycle, it has founded that increasing in foreign equity significantly reduce the firm's cash conversion cycle. However managerial ownership could not significant cause of reduction in cash conversion cycle. There is no evidence of heterogeneity when we regress ownership variable with cash conversion cycle.

Further we test cash conversion cycle and same explanatory variable with accounting performance variable for analyzing the mediating role of working capital management. When we assumed homogeneity across the period and cross section, cash conversion cycle could not significantly enhance firm's accounting performance measures.

The heterogeneity found across the period with intercept is not correlated regressor, when return on asset and Tobin's Q are used as dependent variables, but it is not found any evidence of heterogeneity when we regress with return on equity. It is not found the significant impact of cash conversion cycle on accounting measures in case of heterogeneity.

It has observed that the regression finding, when we regress ownership variable with and without cash conversion cycle on accounting performance, is same. So, this research suggests that there is no mediating effect of working capital management in relation of ownership and firm's accounting performance.

A well designed working capital management is expected to affect positively in a firm's value (Deloof, 2003; Charitou, Elfani, and Lois 2010; Ben-Nasr (2016); Altaf & Shah 2017), but this research fail to provide the evidence of mediating effect in relation of ownership and firm's accounting performance.



5. Conclusion and Future recommendation

The working capital management policy which is typically formulated by directors/managers and owners, the type of ownership can play a critical role in the working capital policy and planning. The working capital management in turn affects liquidity and financial performance of the firm (Deloof 2003).

The study tested the relationship and impact of ownership on working capital management and results indicate that the existence of foreign owners significantly is likely to improve efficiency of working capital policy. But the study did not found any impact of director equity on the efficiency of working capital management. Further the tests presented in previous chapter also indicate that efficiency of working capital management also affects the accounting performance of the firm in case of foreign ownership, but no impact was found in case of direct equity on the mediating role of working capital management on financial performance. Furthermore, this study also concludes that in relation to ownership type the working capital management has no significant mediating role on financial performance of firms in Pakistan.

The study consider only non-financial sector with specific structure of ownership that provides important directions for future research. Other variables could be used to mediate the relationship between governance and performance. The study uses ROA, ROE and Tobin's Q as performance measures. Numerous other performance variables, for instance earning per share (EPS), Net income and EVA, can be used.



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