Impactof Working Capital Management on Profitability: The Case of Selected Private Real Estate Companies in Addis Ababa, Ethiopia.

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APPROVED BY BOARD OF EXAMINERS

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External Examiner	**Signature & Date**

DECLARATION

I hereby declare that this thesis represents my personal work, which has been done after registration for the degree of Master of Science in Accounting and Finance at Addis Ababa University College of business and economics and hasn't been previously included during a thesis submitted to the present or the other institution for any degree.

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Abstract

Working capital management refers to management of current assets and current liabilities. Firms may have an optimal level of working capital that maximizes their value. This study examined the impact of working capital management on a company's performance by using audited financial statements a sample of 15 selected private real estate companies in Addis Ababa Ethiopia for the period of 2015 to 2019 G.C. The performance was measured regarding profitability by return on assets and return equity as dependent variables. The working capital management measured by the average collection period, inventory conversion period, average payment period, cash conversion cycle, and the net trading cycle used as independents variables. Sales growth, debt ratio, current ratio, and company size uses as control variables. The data has been analyzing using STATA version 14.2 software and examined by computing coefficient of correlation regression analysis between profitability ratio and some key working capital management indicator ratios. The result revealed that operating profitability measures as return on asset and return on equity is negatively associated with the measure of working capital management average collection period, inventory conversion cycle, cash conversion cycle, net trade cycle and positively associated with the average payment period. The correlation coefficients for all measures of WCM are significant with the company's profitability measure as return on asset except for the inventory conversion cycle, but the correlation coefficients for all measures of working capital management are not significant with the company's profitability measure as return on equity except for the average payment period. According to the results of the study suggested that companies can increase profitability by maintaining an optimal level of working capital.

Keywords; working capital management, profitability, private real estate companies, Addis Ababa

ACRONYMS

ACP	=	Average Collection Period
APP	=	Average Payment Period
CA	=	Current Assets
CCC	=	Cash Conversion Cycle
CR	=	Current Ratio
DR	=	Debt Ratio
ICP	=	Inventory Conversion Period
Ln SIZE	=	Firm Size (log)
ROA	=	Return on Assets
ROE	=	Return on Equity
STATA	=	Statistics and Data (Software)
VIF	=	Variance Inflation Factor
WC	=	Working Capital
WCM	=	Working Capital Management

Table of Contents

List of Figures and Tables

CHAPTER 1: INTRODUCTION

1.1. Background of the Study

The conception of working capital management addresses corporations dealing with their short-run capital and also the goal of working capital management is to plug satisfying liquidity, profitability, and shareholders' worth.

Working capital management is the facility to manage effectively and with efficiency their current assets and current liabilities in a manner that return the firm the most maximum on its assets and minimizes payments for its liabilities. The short-term capital refers to the capital that companies use in their daily operations and it consists of companies' current assets and current liabilities. A well-managed working capital promotes a company's wellbeing on the market in terms of liquidity and it also acts in favor for the growth of shareholders value (Jeng-Ren, Li & Han-Wen, 2006).

Working capital refers to the capital that corporations utilized in their day-to-day operations, and it consists of the company's current assets and current liabilities. The importance of working capital management efficiency is incontrovertible (Filbeck& Krueger, 2005).

Working capital may even be referenced as a nurturing power for any monetary unit and its administration is mulled over among the first fundamental element of the organization executives. Every association if benefit arranged, paying little heed to estimate and nature of the business, needs an important amount of working capital. Working capital is the most crucial factor for maintaining liquidity, survival, solvency and profitability of business (Mukhopadhyay, 2004).

Working capital management is one of the chief center zones while making liquidity and gain correlations among organizations including the decision of the amount and piece of current resources, thus, the subsidizing of those resources (Eljelly, 2004).

The more prominent extent of fluid resources the lesser threat of running out of money, all various things equivalent. All different components of capital along with cash, attractive protections, account resources, and stock administration play out a significant part in the presentation of any firm.The way to deal with overseeing WC can affirm the board on each the liquidity and benefit of the corporate (Shin & Soenen, 1998).

A definitive objective of any company is to augment benefit. Be that as it may, keeping up the liquidity of the firm gets furthermore a significant goal. The matter is that expanding benefits at the estimation of liquidity can make imperative issues for the firm. As follows, the strategy of the firm should maintain a balance between these two objectives of the companies.

Currently, the Ethiopian real-estate business is more competitive than ever, particularly when after reforms being introduced in every sector of Ethiopian society. These reforms have reignited the necessary real-estate market in Ethiopia because of the increasing demand for homes from every local population, and so, the Diasporas. However, when it's investing one's savings for a home, several factors return to the forefront. As an example, Most Ethiopian private real-estate companies and developers have unhealthy reputations for not deliver on time and for price manipulation (AllaboutETHIO, 2020).

1.2. Statement of the Problem

“Does working capital management have a visible impact on the profitability of private real-estate companies operated in Addis Ababa, Ethiopia?” The firm's management spends most of its resources on working capital management. Due to the disability of financial

managers to properly plan and control current assets and current liabilities of their corporations the failure of the many businesses generally attributed to inefficient active working capital management (Smith, 1973).

As an example, several business failures in the past are because of the disability of financial managers to plan and manage the sufficient working capital of their respective companies. These reported inadequacies among money managers are still practiced today in many companies within the sort of excessive bad debts; high inventory costs, etc., which poorly affect their operating performance (Ben-Caleb, E. 2009).

In Addis Ababa, the capital of Ethiopia and Africa, housing development remains an industry during which many private investors are engaged, and there isnosuch analysis done on private real estate companies in Addis Ababa Ethiopia. Therefore, to fill the knowledge gap need to examine the relationship between measures of working capital management and firm performance in selected private real-estate corporations in Addis Ababa, Ethiopia.

1.3. Objectives of the Study

1.3.1. General Objective

The foremost objective of the paper is to look at the relationship between working capital management and profitability of selected private real-estate firms in Addis Ababa, Ethiopia.

1.3.2. Specific Objectives

To achieve the general objective, subsequent specific objectives were used:

I. To determine whether there's a significant relationship between the average collection period (ACP) and the profitability of the company.

II. To establish whether there's a significant relationship between the inventory conversion period (ICP) and the profitability of the company.

III. To ascertain if there's a significant relationship between the average payment period (APP) and the profitability of the company.

IV. To examine if there's a significant relationship between the cash conversion cycle (CCC) and the profitability of the company.

V. To examine if there's a significant relationship between net trading cycle (NTC) and the profitability of the company.

1.4. Research Hypotheses

II. H_1: There is a significant relationship between the average collection period (ACP) and the profitability of the company.

III. H_2: There is a significant relationship between the inventory conversion period (ICP) and the profitability of the company.

IV. H_3: There is a significant relationship between the average payment period (APP) and the profitability of the company.

V. H_4: There is a significant relationship between the cash conversion cycle (CCC) and the profitability of the company.

VI. H_5: There is a significant relationship between the net trading cycle (NTC) and the profitability of the company.

1.5. Significance of the Study

The study aims to determine the impact of working capital management on the profitability of the selected private real-estate companies in Addis Ababa Ethiopia. The findings of the study will help the finance manager of real estate companies in designing intervention strategies aimed at maximizing profit for their firms. Moreover, the finding of the study

will contribute to local setting a general working capital management framework body of knowledge by identifying how to manage their working capital for policymakers, professionals, and managers were formulated as a guide that reappraises current business practices and provides basic guidelines for new policies in a dynamic business environment.

Finally, the study has an important resource document for academicians and future researchers who may wish to investigate relating about working capital management and profitability of the firms.

1.6. Scope and Limitation of the Study

1.6.1. Scope of the Study

The study focuses on exploring the impact of working capital management on the profitability of private real-estate corporations in Addis Ababa, Ethiopia. To achieve a study, and therefore the scope of the study is restricted to selected private real estate corporations in Addis Ababa, Ethiopia.

1.6.2. Limitation of the Study

The researcher has faced a challenge whereas studied the thesis. Initially, operating for a company doesn't obtain annual reports on their website uploaded. Therefore, it must be requiring bodily contact at their offices at the time of pandemic COVID –19. However, through telephone, the internet and visit some nearest corporations and federal higher taxpayer's office by implement rule and regulations of pandemic (COVID-19) and used informal way decide to collect data. The main limitation of the study was the reluctance of some real estate companies to provide information.

1.7. Organization of the paper

The study consists of five chapters of which chapter one consists with the introduction which includes background of the study, statement of the problem, the objectives, and hypothesis of the study, its scope, limitations and organization of the paper. Chapter two consists with the review literatures of the study. The third chapter is about methodology of the study and the forth chapter dedicates on data analysis and interpretations. The last chapter, chapter five, presents the conclusion and the recommendation of the study.

CHAPTER 2: LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. The idea and meaning of working capital

The meaning of working capital shows how much money accessible to fulfill the transient money prerequisites forced by current liabilities.

To finish comprehension of the meaning of working capital, it needs to back up a smidgen and take a gander at the instinct that to support its business exercises, a firm necessity to fund its working speculation. An association's working speculation incorporates the company's inventories (either crude materials or last products), exchange receivables, and a base degree of liquidity so the organization can work ordinarily—that is, the association's present resources. The venture is generally financed to some extent by the association's momentary working liabilities, or the credits gave to the firm from providers, representatives, and the duty authority. The association's overabundance working capital, which is the leftover monetary capital expected to support the activity of the firm in the wake of considering its transient working liabilities, is alluded to as its monetary requirements for activity (FNOs) (Preve and Sarria, 2010).

Working capital management guarantees a firm has the perfect measure of cash and credit lines accessible to the business consistently (Deloof, 2003). Money is the lifesaver of firms. If this lifesaver crumbles, does an organization's capacity to fund activities, reinvest and meet the capital necessities and installment wants? Understanding the association's monetary exhibition wellbeing is vital for settling on speculation choices. An individual organization's interest in WC has been related to such an industry inside which it works and the fundamental WCM each organization receives (Nyakundi, 2003).

Working capital is the capital that puts resources into various things of current asset needed for the business, that is, stock, borrowers, money, and other current resources like advances and advances to outsiders. These current resources are fundamental for stable business activities and legitimate usage of fixed resources (Weston and Brigham, 1977).

2.1.2. Importance of working capital

It meets the transient monetary prerequisites of the organizations. It's an exchanging capital, not kept up inside the business during a specific structure for reached out than a year. The necessity for keeping up sufficient working capital can scarcely be mentioned. Indeed, even as blood course is essential for the human body to look afterlife, the progression of assets is extremely important to keep up business wellbeing. On the off chance that it becomes frail, the business may succeed and endure. The working capital starvation is normally credited as a genuine clarification for a business disappointment in a few non-industrial nations (Rafuse, 1996).

Working capital management includes controlling the transient resources and momentary liabilities. It likewise requires choices concerning how momentary resources ought to be financed. The organizations can fund their present resources through different sources like a transient obligation, long haul obligation, or value. The working capital of the firm expanded when it funds transient resources through simultaneous sources. Interrelated goals of working capital management are liquidity, benefit, hazard decrease, and worth amplification. The motivation behind any business is to broaden market esteem. Is sound management a necessary part of the general organization methodology in making the investors' worth? The chief target of working capital management is to keep an ideal harmony between every one of the working capital segments. Business achievement

profoundly relies upon the monetary chiefs' capacity to adequately oversee working capital parts (Filbeck and Krueger, 2005).

The achievement of firms relies upon their capacity to get money receipts more than a payment. The pay issues of the numerous independent companies are exacerbated by poor monetary administration and especially the deficiency of planning money prerequisites (Jarvis et al, 1996).

The exhibition levels of business have customarily been credited to general administrative components like assembling; advertising, and tasks, capital management includes a resulting way on business endurance and development (Kargar et al, 1994).

So, working capital management is important to the monetary strength of all sizes of firms. Sum put resources into working capital is normally high concerning the whole resources utilized that used productively and successfully.

2.1.3. Working capital management

A few examinations are led on WCM from alternate points of view and a few circumstances and conditions. Working capital management includes the organization of current resources and current liabilities that comprises enhancing the degree of resources during a fractional harmony setting. And it includes the association between a company's momentary resources and liabilities Mawhiraju (1999).

Tulsian (2010) explained that Working capital management also refers to the choices concerning working capital and short-term financing and it involves managing the relationship between a firm’s short-term asset and its short-term liabilities. The goal of working capital management is to form sure that the firm is in a position to continue its operations which it's sufficient income to satisfy both maturing short-term debt and

upcoming operational expenses. Working capital entails short-term decisions generally concerning subsequent one-year periods that are ‘revisable’.

Khan and Jain (2007) also stress that capital management cares with the issues that arise in attempting to manage the present assets, the present liabilities and therefore the interrelationship existing between them. Working capital management also refers to the decisions relating to working capital and short term financing and it involves managing the relationship between a firm’s short term asset and its short term liabilities. The goal of capital management is to make sure that the firm is in a position to continue its operations which it's sufficient income to satisfy both maturing short term debt and upcoming operational expenses. Working capital entails short term decisions generally concerning subsequent one year period which are ‘revisable’. These decisions are therefore, not taken on an equivalent basis as Capital Investment Decisions (CID) rather, they have been based on cash flow and or profitability.

Every running business needs working capital. Even a business which is fully equipped with all kinds of fixed assets required are sure to collapse without (i) adequate supply of raw materials for processing; (ii) cash to pay for wages, power and other costs; (iii) creating a stock of finished goods to feed the market demand regularly; and (iv) the ability to grant credit to its customers. All these require working capital, which is thus, the lifeblood of a business. The business won't be ready to keep it up day to day activities without the supply of adequate capital. Working capital cycle measures being supplied to the buyer and the final receipt cash from the sale of these goods. The firms are advantageous to stay the cycle as short as possible, because it increases the effectiveness of capital (Khan and Jain, 2007).

2.1.4. Working capital components

2.1.4.1. Accounts receivable

At the point when an association sells merchandise or delivers administrations using a loan, it records money due on the record and the asset report. Firms get money inside a given period gives to a client. Organizations deal with their receivables hint of the credit time frame to the client so the client can know once to pay. Organizations typically play out a credit examination to gauge who is paying on schedule and who isn't. It could improve the organization's life-blood that is working capital (Brealey et al., 2006).

A decision to support capital and to encourage money early is to sell and handover the exchange receivables to a calculating organization. The figuring organization limits the exchange receivables to make a benefit and return the rest of the money to the organization. There could be a little danger while getting the calculating office as such organizations would treat the credit clients gratingly once, they don't pay on schedule, along these lines hurting the exchange relations with the corporate to give a Credit (Brealey et al., 2006).

2.1.4.2. Inventory management

An association's stock may take various structures. For example, an assembling association's stock is probably going to comprise of crude materials, which are contributions to the creative interaction; work in progress, which is incomplete merchandise that is currently being delivered at the time the asset reports are shut; and completed products, which are merchandise that the firm has created and is prepared to send retailers commonly have just completed merchandise in their stock, as they don't add esteem through an assembling cycle (Brealey et al., 2006).

Also, administration firms, by and large, have no merchandise to store. Along with interests in real money property and receivables, interest in stock comprises the

fundamental working speculation of numerous organizations. Why is such speculation so essential to a firm? All things considered, stock adjusts can help firms satisfy variety in need, just as varied in the stockpile of crude materials. They can likewise take into account adaptability in the creation timetable, and they can permit a firm to exploit economies identified with buy request size. However, not a wide range of stocks are not difficult to transform into money (Brealey et al., 2006).

Stock administration includes the setting of stock levels to boost the advantages while limiting the expenses of holding stock. Stock administration is essential to most firms, for an assorted arrangement of reasons. For instance, firms that sell merchandise related to high oldness rates (e.g., high-innovation products or products identified with design patterns) need to take care to not set stock levels so high that they could endure huge misfortunes regarding stock out of date quality (Brealey et al., 2006).

Additionally, firms that sell transitory products need to maintain a strategic distance from stock levels that far surpass transient interest to evade misfortunes from dead stock. Then again, firms that sell products that are difficult to get to (e.g., because they set aside a long effort to create, they require imported materials with a long excess time, and so forth) need to oversee stock levels to try not to close deals. These models show that while various firms may have various motivations to seek after stock administration, deciding ideal stock levels is very significant for most firms, particularly for those whose benefits are generally founded on resource pivot instead of the edge on deals, as on account of retailers (Brealey et al., 2006).

2.1.4.3. Accounts payable management

Accounts payable is a risk that an organization bought merchandise and enterprises from a provider or leaser using a loan that should be repaid in a brief timeframe. It shows up

under current liabilities on the asset report. Accounts payables the board alludes to the arrangement of approaches, systems, and practices utilized by an organization concerning dealing with its exchange credit buys. In rundown, they comprise of looking for exchange credit lines, securing ideal terms of procurement, and dealing with the stream and timing of buys to productively control the organization's working capital. The record payables of an organization can be found in the transient liabilities part of its accounting report, and they generally comprise of the momentary financings of stock buys, gathered costs, and other basic transient activities (Brealey et al., 2006).

Accounts payable are one of 3 fundamental parts of working capital, alongside receivables and stock. Seeing how these 3 records collaborate and the impacts on working capital levels, income, and the working cycle can help in overseeing and assessing payables for the executives. A fitting equilibrium should be struck, whereby the benefit of conceding money expenses utilizing exchange credit is weighed against the danger of over-the-top transient credit. It is hence critical to keep up ideal usage of credit lines and timing of installments and make a harmony between the requirement for money, working capital, and liquidity. A few measurements and momentary monetary proportions can be utilized to assess execution payables on the board (Brealey et al., 2006).

2.1.5. Working capital policy

Working capital arrangements, through their impact on the company's normal future returns and the danger related to these profits, at last, affect investor abundance. Powerful working capital arrangements are significant to a company's for some time run development and endurance. A company is unfit to oversee current liabilities through its present resources liquidity disadvantage emerges. This may undermine the since quite a

while ago runs presence of the firm. The Capital arrangement is ordered into three classes. They're defensive strategy, Aggressive strategy, and conservative strategy (Arnold, 2008).

2.1.5.1. Defensive strategy

It is a place where an organization supports fixed resources and outsizes a piece of its present resources from long-haul obligation and value. The monetary bookkeeper can design with exactness, for example, financing a tremendous amount of stock from a debenture advance (1 year). The corporate can have an outsized stock to fulfill client interest as they fall due. Clients probably won't be disillusioned or go to contenders for merchandise during this situation as they will get the items from the organizations with tremendous stock. Stock wanted to be sold for in 60 days may be funded by an exchange bank that offers the corporate to pay he/her in 60 days. A conveyance truck may be financed by taking a debenture advance for a very long time (Arnold, 2008).

The cautious arrangement keeps the corporate during an agreeable zone as they probably won't push for stocks to be made into deals or debt holders to pay sooner than effectively this has been financed by future assets. Consequently, productivity is decreased. Obligation conveys an interest cost and further decreases productivity. Firms who don't have a clue about the interest for their products and product would need to be safeguarded under the cautious approach. Under protective strategy significant degree of stock-in-exchange, indebted individuals would be available (Arnold, 2008).

This arrangement would have an all-inclusive money transformation cycle. In any case, there would scarcely be a situation where stock indebted individuals would be funds by a bank overdraft. The corporate should pay revenue to the moneylender on the amount acquired. By holding colossal stocks, a partnership risks out-of-date quality and bringing about holding costs. This arrangement lessens the need to deal with the WC proactively

the current resources are as of now supported with since a long time ago run financing sources. The drawback to the current arrangement is there are numerous costs included which diminishes benefit (Arnold, 2008).

2.1.5.2. Aggressive strategy

It is the organization's goal to finance its capital through short obligations. This strategy is the' minimal effort because of assets actually like the request for installments could likewise be alluded to as upon once required and subsequently, the premium will be paid just partner overdraft is taken, rather than since a long time ago run obligation any place revenue conjointly should be gained the whole credited amount for the year. The short obligation should be settled within one year accordingly, there's less adaptability for an association. This capital strategy is the whole amount of current resources' zone unit upheld by short obligation (Arnold, 2008).

Aggressive strategy can push the money office to be proactive inside the administration of capital consistently, as they need to sell stocks rapidly and gather resources on schedule, so on settling the momentary obligation on schedule. So this approach is unimaginably hazardous. If the business is at a rich drive, boosting deals partner level of benefit will be intense underneath a forceful approach as a concise obligation will be short to fund the raised stocks and resources. Along these lines, such an approach is hazardous. The forceful arrangement is fit for organizations that work in incredibly stable financial environmental factors. The product should be set up and turns out continuous revenue which is in a situation to make cash articulation simpler and consequently improve capital management (Arnold, 2008).

For the most part, an association that follows partner forceful capital strategy doesn't supply an extended credit sum. It's an average one-month credit sum. Then again, the stock

level will be to a base, which is in a situation to be upheld in the interest made by the customer. Just in time creations are having the chance to be set up for this kind of economy. Notwithstanding, it needs to take note that it's a shaky technique that gives exceptional yields to the organization (Arnold, 2008).

2.1.5.3. Conservative strategy

A few corporations would have to receive a mix of the moderate capital arrangement and the forceful capital approach. On the off chance that they see a nice explanation that debt holders can pay on schedule to settle exchange lenders, and afterward they will endeavor to space in the forceful assortment of stock that has not shown interest in clients, notwithstanding, keep the guarantee inside what's to come. The corporate would strain the traditionalist methodology by taking a since quite a while ago run advance to look for and stock this thing and expectation that the guarantee appears. A few things of current resources and sub-classifications must be concentrated appropriately to watch that strategy can suit that thing and class. By comprehension and dealing with the current resources, the corporate may amplify its productivity and improve the liquidity. This approach can have the climate of the two strategies depicted higher than and thus, can adjust the company's benefit and danger (Arnold, 2008).

For the most part, forceful capital arrangement suits an organization that has high deals or development; this is frequently, thus, they're prepared to deal with the pay issues subsidized by the business development. While a company with flimsy environmental factors and with flighty deals can embrace the moderate arrangement subsequently, it can't be bound in regards to the cash emerging as of now to pay the liabilities. The forceful strategy can cause corporate money-related misery. Henceforth, understanding the current

resources and liabilities can illuminate the firm regarding the best option of capital approach (Arnold, 2008).

2.1.6. Working Capital Management and Profitableness

2.1.6.1. Tradeoff between profitableness and risk

Every day the executives of a company's short resources and liabilities assume an important part inthe accomplishment of the firm. Partnerships with developing since long-run possibilities and solid main concerns don't remain dissolvable while not reasonable liquidity the executives. Productivity is a ton fundamental, because of benefit will regularly be changed into a fluid quality, which liquidity is moreover vital anyway doesn't imply that the company is beneficial (Joese et al. 1996).

Gitman (1999), though, recognizing the overall significance of each, presents that liquidity is a ton vital therefore, it's to attempt to do with the quick endurance of the corporate. Productivity tells whether the business is property, while, liquidity tells whether the business has sufficient cash to pay its commitments. He referred to the examples of 2 PC partnerships, Gateway, and dell. By him, the passageway endures long periods of misfortunes accordingly, it had been horrendously fluid. Despite long periods of misfortunes, it worked accordingly; it had enough, "fluid" to endure. Empty made due; subsequently, it had been productive even though it had billions of greenbacks paying off debtors. Thusly, he presents that every life vital which neither measure alone will give a picture of any organization's capacity to precede. Nonetheless, he expresses that for some reason, if an organization doesn't acquire benefits, it'll fall flat. And also to benefit liquidity the board is significant for current concern.

Joese et al. (1996) counsel ideal liquidity position is the base degree of liquidity necessary to help a given level of the venture. He says that it's instant to convey assets among capital

ventures because the speculation is here and there yet the capital venture. Along these lines, conveying assets on capital the greatest add up to keep up ideal liquidity position is significant. At that point he sets up the connection between the CCC and the least liquidity should have been indicated the cycle extends the least liquidity the required will increment, and the opposite way around.

2.1.6.2. The measure of current assets effects on the profitability-risk tradeoff

Evance William (2015) directed an investigation on the effect of capital administration on the productivity of recorded concrete partnerships in The African country Cement Company. He has found that by limiting the number of assets blessed in current resources, organizations will reduce off excess money costs and beneficially holding to the side assets for capital consumptions very much like the development of creating plants and instrumentality having the chance to support the creation of items and administrations. On account of its significance in regular daily existence, the concrete exchange needs to deal with sufficient capital, though, leading its everyday activities.

Having shown capital adversely influences an association's liquidity position not exclusively that anyway moreover holding abundance capital prompts the decrease of the benefit of those companies. The right assessment of the required WC is significant to surviving concrete partnerships (Evance William, 2015).

2.1.6.3. Increase in current assets to total assets proportion

There was a positive connection between current resources for all-out resources quantitative connection and a resource is encased here to show benefit. In this way, thus, there's a positive connection between current resources for all-out resources quantitative connection to productivity. A superior cost of this quantitative connection accompanies a

lot of benefits. If a firm puts a ton in attached resources, it will create a lot of benefits (Raheman et al., 2007).

2.1.6.4. The current liability effects on the profitability-risk tradeoff

There was a negative connection between the current obligation to add up to resources quantitative connection and productivity. An ascent in CL to add up to resources quantitative connection winds up to less benefit (Raheman et al., 2007).

2.2. Empirical Review

The previous studies has been examined the relationship between working capital management and firms profitability in various ventures. The outcomes are heterogeneous, but a dominant part of studies close a negative relation between WCM and firms profitability.

Gul, S., Khan, M. B., Raheman, S. U., Khan, M. T., Khan, M., and Khan, W. (2013) investigated the impact of WCM on the presentation of little medium undertakings (SMEs) in the Islamic Republic of Pakistan. The term of the investigation was a long time from 2006 to 2012 GC. The information used in this investigation was taken from SMEDA, Karachi securities exchange, charge workplaces, the actual organization, and Bloom burgee business week. The variable of the investigation was returned on Assets (ROA) which was utilized as an intermediary for benefit. Autonomous factors were the number of days accounts receivable (ACP), number of days Inventory (INV), cash conversion cycle (CCC), and number of days obligation (APP). Also to those factors, different factors were utilized including Firm (SIZE), Debt proportion (DR), and (GROWTH). The measurable technique was utilized to decide the connection between WCM and the exhibition of SMEs in Pakistan. Results recommended that APP, GROWTH, and SIZE

have a positive relationship with benefit while ACP, INV, CCC, and DR have a converse connection with productivity.

Almazari, A. A. (2014) researched the relationship between WCM and productivity on the Saudi concrete assembling firms. The example included eight Saudi concrete assembling partnerships recorded among the Saudi securities exchange for the time of a long time from 2008-2012. Pearson bivariate connection and measurable strategy were utilized. The investigation shows the Saudi concrete industry's present proportion was the principal significant liquidity measure that influenced productivity. Thusly, the concrete firms should not set a compromise between these two destinations so that, the liquidity nor benefit endures. It had been additionally found, because the size of an association builds, benefit expanded. Additionally, when the obligation financing expanded, productivity declined. Factual relapse tests affirmed a serious level of relation b/n WCM and profitableness.

Solomons, R. (2014) surveyed the effect of working capital management on the profitableness of little and medium enterprises in South Africa. The examinations focus on completely recorded firms of the Johannesburg stock market, for the time frame 2000 to 2013. Cash conversion cycle, average payment period, and stockholding period factors addressed WCM. Profitablenessis measured by return on assets. It had been discovered that APP emphatically affected productivity.

Raheman, A., and Nasr, M. (2007) referenced, working capital management affect liquidity likewise on the productivity of the firm. Their outcomes showed a major negative connection between factors of the working capital management and the productivity of the company. The study found that there's a huge negative r/shipbetween liquidity and profitableness. Furthermore, there is a positive relationship among the components of the

company and its productivity; and a major negative relationship between obligation used by the firm and its profitableness.

Hayajneh, O. S., &Yassine, F. L. A. (2011) decided the effect of capital effectiveness on the productivity of Jordanian assembling firms. It had been indicated that the APP as a variable for working capital had a robust negative relationship with the profitableness of those organizations.

Raheeman, A., Afza, T., Qayyum, A., &Bodla, M. A. (2010), decided the effect of WCM on organizations execution in Pakistan for the time frame 1998 to 2007. The study based on 204 assembling enterprises was utilized which are recorded on the Karachi securities exchange. TheCCC, NTC, and inventory turnover are significantly influencingthe performance of the company. They inferred that assembling enterprises were dealing with issues with their receivable and installment approaches. Additionally, financial leverage,sales growth, and firm size likewise immensely affected the company's productivity. The investigation suggested viable strategies formed for the individual segments of working capital.

Arshad, Z., &Gondal, M. Y. (2013), investigated the effect of WCM on the profitableness of 21 recorded concrete organizations in the Karachi financial exchange from 2004 – 2010. The outcomes featured that there's a negative relationship between WCM on the profitableness of organizations.

Hassan, N. U., Imran, M. M., Amjad, M., &Hussain, M. (2014) Explained that the APP was emphatically identified with gross profit margin and adversely identified with return on assets.

Seyoum, A., Tesfay, T., &Kassahun, T. (2016) Examined the effect of WCM on the profitableness of ten food complex manufacturing organizations working in and around Addis Ababa from 2009 to 2013. The investigation affirmed that the CCC as a variable of WCM contrarily influences the return on assets. The study found that a negative connection between the receivables collection period, the robust negative relationship of ICP, payment period, and profitableness. The examination indicated that organizations can build their productivity by shortening receivables, inventory, and payable periods.

Mengesha, W. (2014) Metal manufacturing organizations in Addis Ababa have a lot of cash put into WC. Consequently, it's regularly expected that the path during which capital is overseen will immensely affect the productivity of those organizations. Results from the measurable technique report CCC, ICP, ACP, and APP influence the WCM in metal assembling organizations. The analysisobtained a strong negative connection between the ICP, ACP, and APPwith profitableness measure as (ROA). The negative relationship exhibits that, the reduction in ICP and ACP estimated by return on assets have an impact on a short length of the CCC,which shows higher powerful WCM.

Research Gap

Varieties of researches are conducted during this field but few sorts of research are available on the real estate industry about working capital management. Especially, there is no such published research has been conducted in Addis Ababa Ethiopia.

It's been found that the majority of the researchers have used ROA as a dependent variable for analyzing profitability. And most researchers are used one dependent variable, four components of WC (ACP, ICP, APP, and CCC), and data analyzed by E-views and SPSS statistics software packages.

This study takes return on equity (ROE) as a further dependent variable and net trading cycle (NTC) as the experimental variable for evaluating the effect of working capital management on the profitability of selected Private real estate companies in Addis Ababa Ethiopia. In this way, the research differs from previous studies.

2.3. Conceptual Framework

Figure 1 below presents a schematic conceptual framework of the relationship between working capital management measures and profitability of companies.

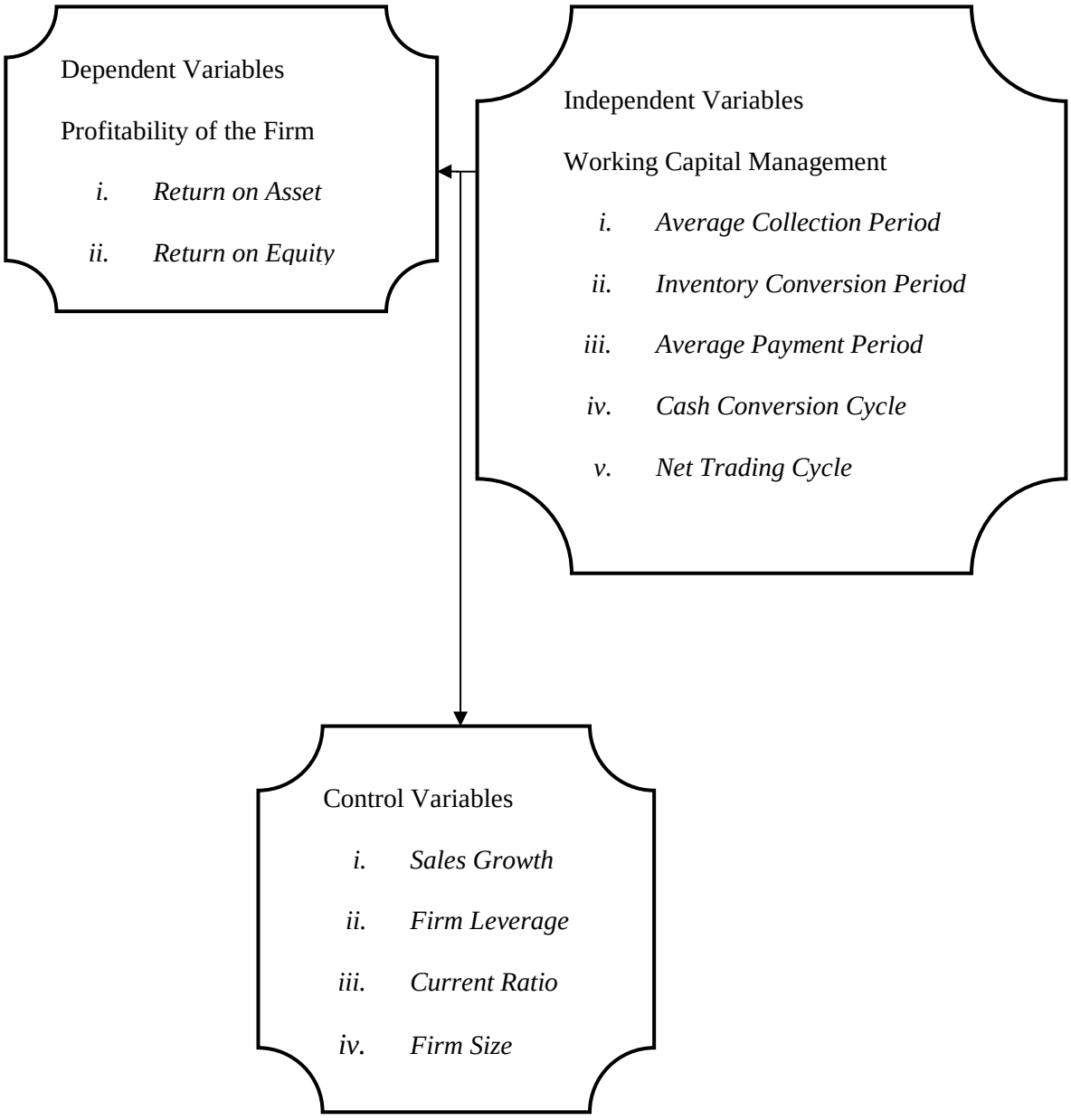

Figure 1: Schematic Conceptual Framework
SOURCE: International Journal of Accounting and Taxation, Vol. 1 No. 1, December 2013

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Introduction

This chapter introduces the method of data collection and analysis. The first part lays out the research hypothesis, which is based on previous studies, but do take into account the sample's uniqueness as it is collected from different companies and countries. The second part presents the data utilized, the variables and the method of analysis. This lays out the continuation of the study on chapter 4.

3.2. Research Design

The research plan to investigate and analyze the relationship between WCM and profitability of private real-estate companies operated in Addis Ababa, Ethiopia. The impact of WC components on the profitability of private real-estate companies operated in Addis Ababa, Ethiopia.

3.3. Sampling

The total target population of private real estate companies in Addis Ababa, Ethiopia is fifteen (15) selected private real estate companies in Addis Ababa (AllaboutETHIO, 2020). To select a Sample of real estate companies used a non-probabilistic sampling, a specifically convenient sampling for collecting information from members of the population who is conveniently available to provide it. Because of most, the private real estate companies are still under a construction. The study consists of fifteen (15) selected private real-estate companies (AllaboutETHIO, 2020).

List of private real estate companies included in the sample was Ayat Real Estate, Tsehay Real Estate, Noah Real Estate Plc, Metropolitan Real Estate Ethiopia, Flintstone Homes, Sunshine Investment Group, Gift Real Estate, Habitat New Flower Homes, Enyi Real

Estate, Legacy Real Estate, Evergrand Real Estate Plc, Yotek Real Estate, Pluto Real Estate, Hassenias Real Estate, and Nova Real Estate (AllaboutETHIO, 2020).

3.4. Data Collection Techniques

To achieve the objectives of the study, secondary data has been used. The secondary data obtained from the selected companies annual reports or audited financial statements consequently begin 2015 – 2019 G.C. the justification limiting to this period the most recent information for examination accessible for these periods. The study used quantitative data to perform quantitative research to examine the phenomena by analyzing the numerical data, used mathematically based methods, particularly statistics. The quantitative data is secondary data collecting from yearly fiscal reports of the organization for a consecutive five years period from 2015 to 2019 G.C.

3.5. Method of Data Analysis

The study used three main data analysis techniques. Firstly, the descriptive statistics technique helps to describe the sample characteristics. Secondly, Correlation analyses technique to define whether working capital management is associate with a company's profitability. Thirdly, the regression analysis technique uses to test the research hypotheses. Finally, the analysis presented by using figures, and tables.

WCM is significant because it may require a brief impact on performance. Consequently, an exertion will make during this paper to review the WC components and impact of WCM on the profitableness of 15 private real-estate organizations in Addis Ababa Ethiopia.

The study based on secondary data gathered from audited financial reports available within the company for the period 2015-2019 G.C. The study used a correlation and a regression analysis in Excel and STATA to obtain working capital measurements and profitability

ratios for generating the significant/an insignificant relationship between the WCM and profitability of the companies.

3.5.1. Dependent Variables

The study used two alternative proxies to measure profitability, namely return on assets (ROA) and return on equity (ROE). While ROA is defined as income (net profit) divided by total assets, ROE defines as net income divided by total equity.

3.5.2. Independent Variables

The impact of working capital components, which are the average collection period (ACP), inventory conversion period (ICP), average payment period (APP), cash conversion cycle (CCC), and net trading cycle (NTC) on the profitability of private real-estate companies operated in Addis Ababa, Ethiopia.

3.5.2.1. Average Collection Period (ACP)

The average collection period is that the number of days which is required to gather the receivables. In other words, it's the average period that receivables are outstanding.

Average collection period (ACP) = Average accounts receivable *365 / net sales

3.5.2.2. Inventory Conversion Period (ICP)

It is an average number of days to convert raw materials into finished products and then selling to customers. The inventory period is determined by dividing average inventory by average sales per day.

Inventory conversion period (ICP) = Average inventory / net sales * 365

3.5.2.3. Average Payment Period (APP)

This is the number of days an organization waiting to pay-off the accounts payable. The beginning and ending balances of accounts payable are used to obtain the average payment period (Deloof, 2003).

Average payment period (APP) = Average accounts payable * 365 / net sales

3.5.2.4. Cash Conversion Cycle (CCC)

Firms buy inventories from providers on credit and afterward sell stock using credit also. In the two cases, cash flows are delayed. CCC refers to the time in days between a firm pays its payables and gets receivables. CCC is the difference between the sum of the inventory period and the receivable period (operating cycle) and the payment period.

Cash conversion cycle (CCC) = Average collection period (ACP) + Inventory conversion period (ICP) - Average payment period (APP)

3.5.2.5. Net Trade Cycle (NTC)

The main idea of the net trade cycle is how briskly it takes for the cash travel from the cash balance through the regular business cycle of the firms. It shows that how long the cash is tied up in the trade cycle before coming back out as cash again.

NTC= (accounts receivable/sales) * 365+ (inventories/sales)*365− (accounts payable/sales)*365

3.5.3. Control Variables

Control variables are included in the regressions to control for firm-specific observable characteristics that are likely to be correlated with firms' performance. There is sales growth (SGRW) measure by the ratio of changes in sales to previous year's sales [(this

year's sales–previous year's sales)/previous year's sales)], the ratio of total debt to total assets (DR), Current ratio (CR) can be calculated by dividing the total current assets by total current liability. Current ratio = current asset / current liability, and finally, firm size (SIZE) measure by the natural logarithm of sales.

3.6. Model specification

The study uses as dependent variable profitability measures as return on asset (ROA) and returns on equity (ROE) with as independent variable the average collection period (ACP), inventory conversion period (ICP), average payment period (APP), cash conversion cycle (CCC) and net trade cycle (NTC) as a measure of working capital.

The effects of working capital management on the firm's profitability are model using the following OLS regression equations to obtain the estimates.

Model 1a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ACP + \varepsilon$

Model 1b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ACP + \varepsilon$

Model 2a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ICP + \varepsilon$

Model 2b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ICP + \varepsilon$

Model 3a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 APP + \varepsilon$

Model 3b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 APP + \varepsilon$

Model 4a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 CCC + \varepsilon$

Model 4b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 CCC + \varepsilon$

Model 5a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 NTC + \varepsilon$

Model 5b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 NTC + \varepsilon$

CHAPTER 4: EMPIRICAL ANALYSIS

4.1. Introduction

This chapter presents the results and analysis of the findings of the various indicators for the impacts of working capital management on profitability of private real-estate companies in Addis Ababa Ethiopia. The study selected return on asset (ROA) and return on equity (ROE) as the measures of the firm's financial performance. On the other hand average collection period (ACP), inventory conversion period (ICP), average payment period (APP), cash conversion cycle (CCC) and net trading cycle (NTC) used as the measure of working capital variables for the study. The approach adopted is first to present the outcomes of the different methods independently in this chapter.

Empirical results from quantitative data analysis using Stata Software as well as presenting results from descriptive statistics, correlation matrix and regression results were used as the study's main statistical tools.

4.2. Descriptive Statistics

Descriptive statistics show the mean, middle, and standard deviation of the various factors utilized in this examination. It likewise presents the base and most extreme estimations of the factors which help in getting an image of the maximum and minimum values a variable has achieved.

Table 1: Descriptive statistics

	N	Mean	Median	Std. Dev.	min	max
ROA	15	.058	.048	.028	.014	.121
ROE	15	.619	.534	.392	.126	1.278
ACP	15	494.666	320.02	492.345	81.951	2001.646
ICP	15	916.503	920.87	84.072	817.45	1082.09
APP	15	323.751	345.43	129.365	164.59	566.05
CCC	15	1087.418	892.83	593.883	382.15	2745.98
NTC	15	889.301	688.83	570.996	252.22	2472.73
SGRW%	15	28.077	17.18	30.969	-2.13	121.41
DR	15	.875	.888	.074	.733	.971
CR	15	2.243	1.801	.823	1.267	3.89
LnSIZE	15	8.22	8.19	.254	7.84	8.66

Source: 2015-2019 Survey Data, STATA Output

Table 1 shows the summary statistics of the variables utilized in the current investigation for 15 selected private real estate companies operating in Addis Ababa, Ethiopia five year observations were used. The mean value of return on assets is 5.8 percent with a standard deviation of 2.8 percent. It means that the value of profitability can deviate from the mean to both sides by 2.8 percent. Its minimum value is 1.4 percent while the maximum is 12.1 percent. The mean value of return on equity is 61.9 percent with a standard deviation of 39.2 percent. It deviates from the mean value to both sides by 39.2 percent. The minimum and maximum values are -12.6 percent and 127.8 percent respectively.

The descriptive statistics for the five measures of the efficiency of working capital management, namely, Average collection period, inventory conversion period, average payment period, cash conversion cycle, and net trade cycle are also presented in the same table.

The average collection period, a measurement for collection policy, is averaged to 494.666 days for the sampled companies. The interpretation for the average collection period is that companies in the sample wait 494.666 days on average to collect cash from credit sales. The average collection period can vary by 492.345 days to both sides of the mean value. The minimum and the maximum average collection period for the sampled

companies are 81.951 and 2001.646 days respectively. The mean accounts collection period is 494.666 days with a standard deviation of 492.345 days.

The mean value of the Average inventory conversion period as a proxy for inventory policy is 916.503 days. This means, companies in the sample needs on average 916.503 days to sell inventory. The standard deviation of the average inventory conversion period is 84.072 days; it means the average inventory conversion period can vary by 84.072 days to both sides of the mean value. To the sampled companies, the average inventory conversion period ranges between 817.45 and 1082.09 days as a minimum and maximum value respectively. The maximum value of 1082.09 days to convert inventory into sales is a very long period. It shows that companies took more time on under construction.

The mean value of the average payment period as a proxy for payment policy is 323.751 days. The standard deviation of the average payment period for the sample companies is 129.365 days. It means the average payment period can vary by 129.365 days to both sides of the mean value. The period ranges between 164.59 days and 566.05 days. The minimum value of the average payment period, 164.59 days, indicates that the company needs 164.59 days to effect payment for creditors.

The mean cash conversion cycle is 1087.418 days and the standard deviation is 593.883 days. It means the cash conversion cycle can vary by 593.883 days to both sides of the mean value. The minimum value of the cash conversion cycle is 382.15 days. It shows that organizations record a low inventory turnover and or cash collections from credit sales before making a single payment for credit purchases. It implies that the average collection period and or the inventory conversion period are very long as well as the accounts payable period of the firm is very short. Then again, the maximum time for a cash conversion period of 2745.98 days is considered a very long period.

The mean net trading cycle is 889.301 days and the standard deviation is 570.996 days. It means the average net trade cycle can vary by 570.996 days to both sides of the mean value. The minimum and the maximum value of the net trade cycle are 252.22 and 2472.73 days respectively. It shows that companies need to funds those days with net income or a line of credit.

The table further shows that companies have seen their annually on an average sales growth by 28.077 percent and median 17.18 percent. The mean debt ratio is 87.5 percent lagged by total assets an average and the median 88.8 percent, it shows that about 88 percent of the selected private real estate companies' assets are financed by debt capital. The companies have a current assets ratio of 2.243 and a median of 1.81. Finally, the selected private real estate companies have their annually on an average size (SIZE) of 8.22 and the median value 8.19 as measured by the natural logarithm of its total sales.

4.3. Correlations Analysis

Pearson’s Correlation matrix is used for data to see the relationship between variables such as those between working capital management and firm performance (profitability measure).

Table 2: Pearson’s Correlation Coefficient Matrix

Table 2: Pearson's Correlation Coefficient Matrix

Pairwise correlations

Variables	(ROA)	(ROE)	(ACP)	(ICP)	(APP)	(CCC)	(NTC)	(SGRW)	(DR)	(CR)	(LnSIZE)
ROA	1.000										
ROE	0.399	1.000									
	(0.141)										
ACP	-0.672*	-0.318	1.000								
	(0.006)	(0.249)									
ICP	-0.305	-0.494	0.259	1.000							
	(0.269)	(0.061)	(0.351)								
APP	0.736*	0.643*	-0.428	-0.481	1.000						
	(0.002)	(0.010)	(0.111)	(0.069)							
CCC	-0.761*	-0.473	0.959*	0.461	-0.641*	1.000					
	(0.001)	(0.075)	(0.000)	(0.084)	(0.010)						
NTC	-0.760*	-0.455	0.956*	0.468	-0.609*	0.992*	1.000				
	(0.001)	(0.089)	(0.000)	(0.079)	(0.016)	(0.000)					
SGRW	-0.291	0.180	0.201	-0.051	-0.329	0.231	0.234	1.000			
	(0.293)	(0.522)	(0.473)	(0.857)	(0.231)	(0.407)	(0.402)				
DR	-0.082	0.728*	0.178	-0.547*	0.401	-0.018	-0.023	0.210	1.000		
	(0.772)	(0.002)	(0.526)	(0.035)	(0.138)	(0.950)	(0.936)	(0.453)			
CR	-0.102	0.065	-0.235	-0.523*	-0.084	-0.251	-0.284	-0.073	0.069	1.000	
	(0.717)	(0.817)	(0.399)	(0.046)	(0.766)	(0.367)	(0.305)	(0.795)	(0.808)		
LnSIZE	0.187	0.366	-0.403	-0.018	0.317	-0.406	-0.413	0.034	0.305	-0.007	1.000
	(0.504)	(0.180)	(0.136)	(0.949)	(0.250)	(0.133)	(0.126)	(0.905)	(0.269)	(0.981)	

Notes: * denotes significance at the 5% level (* p<0.05).

Source: 2015-2019 Survey Data, STATA Output

Table 2: Pearson's Correlation Coefficient Matrix presents the result of the correlation analysis of profitability measures as return on asset (ROA) and returns on equity (ROE)

with the average collection period (ACP), inventory conversion period (ICP), average payment period (APP), cash conversion cycle (CCC) and net trade cycle (NTC) as a measure of working capital.

The methodology part of this study was hypostatized that five components of working capital have a statistically significant relationship with the company's profitability measure as ROA and ROE.

The analysis starts from the average collection period, based on table 2 the correlation analysis result even if there is the negative correlation coefficient between ACP and profitability measure as return on asset and return on equity, there is a statistically significant relationship with the only ROA but there is no statistically significant relation between ACP and ROE at 5% significance level.

The Correlation results show a negative correlation coefficient but not a significant level at 5% between inventory conversion period and profitability measure as ROA and ROE. The average payment period (APP) has a positive statistically significant relationship with both measures of profitability (ROA, ROE) at a 5% significance level.

Cash conversion cycle (CCC) has a negative correlation coefficient with both profitability measures as return on asset and return on equity, there is a statistically significant relation with ROA only, but there is no statistically significant with ROE at a 5% significance level.

Net trading cycle (NTC) has a negative correlation coefficient at the significance level with profitability measure as ROA and negative correlation coefficient but not thesignificance level with profitability measure as ROE at 5% significance level.

Finally, the correlation results show that each controlling variables of sales growth (SGRW), debt ratio (DR), current ratio (CR), and company's size measure as a logarithm of total sales (LnSIZE) have different from zero value. Regarding the Correlation results, the null hypotheses of ROA with ICP and ROE with ACP, ICP, CCC, and NTC tests were accepted, because the significant level of these variables are greater than 5%, and thus they are placed out of the regression equation. Because the firms have a high leverage ratio, so those working capital components are insignificantly affected the selected firm's return on equity.

The final models are as follows:

Model 1a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ACP + \varepsilon$

Model 2a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 APP + \varepsilon$

Model 2b: $ROE = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 APP + \varepsilon$

Model 3a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 CCC + \varepsilon$

Model 4a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 NTC + \varepsilon$

4.4. Diagnostic tests for models

Diagnostic tests have been done to minimize the chances of baseness in the estimated values of the models. Variation inflation factor (VIF) has been calculated for each independent variable to detect the presence of multicollinearity. The VIF for all the independent variables has been found below 1.35. It indicates that the variables do not have any issue of multicollinearity.

Breusch–Pagan test has been conducted to detect the presence of heteroscedasticity. The variances of the errors are constant and the p-value bigger than 0.05. The outcome of the test confirms heteroscedasticity probably not a problem.

4.5. Regression Results

To test the hypotheses, pooled OLS regression analysis has been conducted to determine whether there is a significant relationship between WCM and profitability.

The following tables provide results for the models tested in the current investigation.

Model 1a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 ACP + \varepsilon$

Table 3: Linear regression Model 1a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ACP	-.000046	.000015	-3.11	.012475	-.00008	-.000013	**
SGRW	-.000162	.000199	-0.81	.436829	-.000613	.000289	
DR	.069616	.092528	0.75	.471044	-.139696	.278927	
CR	-.010899	.007594	-1.44	.185056	-.028078	.00628	
LnSIZE	-.021591	.028605	-0.75	.469651	-.0863	.043117	
Constant	.226384	.219482	1.03	.329252	-.270119	.722886	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.587743	Number of obs	15
Adj R-squared	0.3587		
F-test	2.566211	Prob > F	0.103869
Akaike crit. (AIC)	-67.338906	Bayesian crit. (BIC)	-63.090605

*** p<.01, ** p<.05
, * p<.1

Source: 2015-2019 Survey Data, STATA Output

Model 1a tests the hypothesis; there is a significant relationship between the Average Collection Period and profitability measure as ROA. The regression results indicate that the coefficient of ACP is negative with -.000046, it is significant (p-value =.012475). Accordingly, the H_1a hypothesis is accepted and is concluded that ACP is statistically significant at a 5% significance level ($p<0.05$). It means an increase of one day in ACP may, on average, decrease ROA by .000046, assuming all other control variables remain unchanged.

The finding of this research is the negative impact of ACP on firm performance measure as ROA. This suggests that, though short ACP is good for explaining the financial success of selected private real estate companies in Addis Ababa, Ethiopia. The model adjusted R^2

implies that 35.87% of the variation in the profitability measure as ROA of the companies can be explained by the model.

Model 2a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 APP + \varepsilon$

Table 4: Linear regression Model 2a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
APP	.000211	.000048	4.39	.001747	.000102	.000319	***
SGRW	.000128	.000183	0.70	.501968	-.000285	.000541	
DR	-.194529	.07988	-2.44	.037657	-.375231	-.013827	**
CR	.000887	.006001	0.15	.88574	-.012687	.014461	
LnSIZE	.003119	.020527	0.15	.882573	-.043316	.049555	
Constant	.128602	.165341	0.78	.456649	-.245427	.50263	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.727479	Number of obs	15
Adj R-squared	0.5761		
F-test	4.804999	Prob > F	0.020429
Akaike crit. (AIC)	-73.547875	Bayesian crit. (BIC)	-69.299574

*** $p<.01$, ** $p<.05$, * $p<.1$

Source: 2015-2019 Survey Data, STATA Output

Model 2a tests the hypothesis; there is a significant relationship between the Average Payment Period and profitability ROA. The regression result shows a significant positive relation between ROA and APP with .000211, (p-value = .001747). Accordingly, the H_2a hypothesis is accepted and is concluded that APP is statistically significant at ($p<0.05$). It means an increase of one day in the average payment period may on average, increase ROA by .000211, assuming all other control variables remain unchanged.

The finding of this research is the positive impact of APP on firm performance measure as ROA. The model adjusted R^2 is 57.61% of the variation in the profitability measure as ROA of the companies can be explained by the model. This implies that they withhold their payment to suppliers to take advantage of the cash available for their working capital needs.

Model 2b: ROE= β_0+ β_1GRW + β_2DR+ β_3CR+ β_4SIZE+ β_5APP+ ε

Table 5: Linear regression Model 2b

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
APP	.001695	.000661	2.57	.030417	.0002	.00319	**
SGRW	.003563	.002515	1.42	.190211	-.002126	.009253	
DR	2.245195	1.099706	2.04	.071576	-.242513	4.732903	*
CR	.049725	.08261	0.60	.562084	-.137153	.236602	
LnSIZE	.079562	.282596	0.28	.784663	-.559715	.718838	
Constant	-2.759439	2.276241	-1.21	.256268	-7.908653	2.389775	

Mean dependent var	0.619183	SD dependent var	0.392421
R-squared	0.742491	Number of obs	15
Adj R-squared	0.5994		
F-test	5.190040	Prob > F	0.016206
Akaike crit. (AIC)	5.120178	Bayesian crit. (BIC)	9.368479

*** *p<.01, ** p<.05, * p<.1*

Source: 2015-2019 Survey Data, STATA Output

Model 2b tests the hypothesis; there is a significant relationship between the Average Payment Period and profitability measure as ROE. The regression result shows a significant positive relation between ROE and APP with .001695, (p-value = .030417). Accordingly, the H_2b hypothesis is accepted and is concluded that APP is statistically significant at ($p<0.05$). The model's adjusted R^2 is 59.94% of the variation in the profitability of the companies can be explained by the model.

It suggests that an increase in the number of day's accounts payable (APP) by 1 day is associated with an increase in profitability measure as ROE by .001695, assuming all other control variables remain unchanged. This suggests they retain their installment of providers to exploit the money accessible for their working capital requirements.

Model 3a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 CCC + \varepsilon$

Table 6: Linear regression Model 3a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CCC	-.000042	.00001	-4.19	.002355	-.000064	-.000019	***
SGRW	-.000093	.00017	-0.55	.59823	-.000477	.000292	
DR	-.000026	.073204	-0.00	.999724	-.165626	.165574	
CR	-.011263	.006338	-1.78	.109264	-.0256	.003074	
LnSIZE	-.018895	.023025	-0.82	.433067	-.070981	.033192	
Constant	.286253	.186314	1.54	.158816	-.135219	.707724	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.709553	Number of obs	15
Adj R-squared	0.5482		
F-test	4.397345	Prob > F	0.026449
Akaike crit. (AIC)	-72.592288	Bayesian crit. (BIC)	-68.343987

**** p<.01, ** p<.05, * p<.1*

Source: 2015-2019 Survey Data, STATA Output

Model 3a tests the hypothesis; there is a significant relationship between Cash Conversion Cycle and profitability ROA. The regression coefficient indicates a significant negative relation between CCC and ROA with -.000042, (p-value = .002355). Thus, the H_3a hypothesis is accepted and is concluded that CCC is statistically significant at ($p<0.05$). This supports the notion that the cash conversion cycle is negatively related to profitability measure as ROA.

It suggests that Cash Conversion Cycle an increase by 1 day decreases profitability measure as ROA by .000042, assuming all other control variables remain unchanged. The model adjusted R^2 is 54.82% of the variation in the profitability measure as ROA of the companies can be explained by the model. Shorter CCC can be bargaining power by the providers and additionally the clients just as a more significant benefit because of market predominance.

Model 4a: $ROA = \beta_0 + \beta_1 GRW + \beta_2 DR + \beta_3 CR + \beta_4 SIZE + \beta_5 NTC + \varepsilon$

Table 7: Linear regression Model 4a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NTC	-.000045	.00001	-4.43	.001642	-.000068	-.000022	***
SGRW	-.000086	.000164	-0.53	.611008	-.000456	.000284	
DR	.00087	.070446	0.01	.99042	-.158491	.16023	
CR	-.01257	.006176	-2.04	.072323	-.026542	.001402	*
LnSIZE	-.021246	.022312	-0.95	.36587	-.07172	.029229	
Constant	.302203	.18025	1.68	.127942	-.105552	.709957	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.731085	Number of obs	15
Adj R-squared	0.5817		
F-test	4.893560	Prob > F	0.019350
Akaike crit. (AIC)	-73.747661	Bayesian crit. (BIC)	-69.499360

*** *p<.01, ** p<.05, * p<.1*

Source: 2015-2019 Survey Data, STATA Output

Model 4a tests the hypothesis; there is a significant relationship between net trading cycle and profitability measure as ROA. The regression coefficient indicates a significant negative relation between NTC and ROA with -.000045, (p-value = .001642). Thus, the H_4a hypothesis is accepted and is concluded that NTC is statistically significant at ($p<0.01$). It means an increase of one day in NTC may, on average, decrease ROA by .000045, assuming all other control variables remain unchanged.

The finding of this research is the negative impact of NTC on selected private real estate company's performance measures as ROA. The model adjusted R^2 is 58.17 % of the variation in the profitability measure as ROA of the companies can be explained by the model.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATION

5.1. Conclusion

This research has examined the impact of working capital management including the average collection period, inventory conversion cycle, average payment period, cash conversion cycle, and net trade cycle on the profitability of 15 selected private real-estate companies operated in Addis Ababa, Ethiopia from 2015 to 2019 G.C.

The study shows that profitability of the selected private real-estate companies operated in Addis Ababa, Ethiopia measure as return on assets and return on equity is negatively associated with a measure of working capital management (average collection period, inventory conversion cycle, cash conversion cycle, net trade cycle) and positively associated with the average payment period.

The correlation coefficients for all measures of working capital management are significant with the company's profitability measure as return on assets except for the inventory conversion cycle. But the correlation coefficients for all preventive measures of working capital management are not significant with the company's profitability measure as return on equity except for the average payment period.

The results provided, there is a significant relationship between all measures of working capital management, and the company's profitability measure as return on assets except for the inventory conversion cycle. But there is no significant relationship between all measures of working capital management, and the selected private real estate company's profitability measure as return on equity except for the average payment period.

5.2. Recommendation

This study recommends that average collection period, cash conversion cycle and net trading cycle increases and average payment period decrease, it will prompt diminishing profitability of the organizations, so managers can create a positive value for the organizations by reducing the average collection period, cash conversion cycle and net trading cycle to a possible minimum level and increasing average payment period to a possible maximum level.

The study results indicated more cash conversion cycle and net trading cycle, so companies need to fund to invest in working capital. But the companies leverage ratio is very high, so companies use various sources of the fund. For example; sale of unproductive fixed assets, issue of securities or stocks, etc.

In general, the study suggested successful approaches should be formulated for the individual components of working capital. Also, the study uses selected real estate companies and five years of observation, subsequent researchers should have studied broadly. Because Ethiopia will establish the stock market, various financial data is simply present.

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Raw Data

Selected private real-estate companies operated in Addis Ababa, Ethiopia.

Consecutive 5 years from 2015 – 2019 GC

ID	ROA	ROE	ACP	ICP	APP	CCC	NTC	SGRW	DR	CR	LnSIZE
A	0.014462	0.208328	2001.646	924.36	180.03	2,745.98	2,472.73	54.43	0.930579	1.267002	7.84
B	0.035405	1.24043	601.8549	949.17	251.08	1,299.95	1,107.87	121.41	0.971457	1.663471	8.54
C	0.082836	0.534264	81.95103	929.52	257.73	753.74	395.68	17.18	0.844953	1.790046	8.16
D	0.031723	0.126436	626.8912	1,082.09	164.59	1,544.39	1,334.61	11	0.749097	1.632966	8.15
E	0.038602	0.200751	273.9484	819.24	200.35	892.83	688.83	60.5	0.807712	3.889571	8.1
F	0.053309	0.19951	670.7102	1,060.46	197.01	1,534.15	1,413.03	23.71	0.732801	2.048456	7.87
G	0.047978	0.298352	154.9186	910.74	199.35	866.31	644.28	26.69	0.83919	2.72697	8.19
H	0.121364	0.714911	98.46756	828.5	544.82	382.15	252.22	28.23	0.83024	1.568647	8.19
I	0.035242	0.806091	909.7199	835.31	345.43	1,399.60	1,087.95	4.77	0.95628	3.828552	8.2
J	0.078711	1.277767	320.02	817.45	387.23	750.24	610.7	16.32	0.938399	2.990719	8.02
K	0.048082	0.533262	595.0032	939.76	408.05	1,126.72	969.67	9.46	0.909835	1.675848	8.01
L	0.082147	1.215827	118.2018	859.77	566.05	411.92	314.7	16.6	0.932436	1.801302	8.26
M	0.048147	0.710813	185.9896	859.67	368.09	677.57	587.25	6.54	0.932266	2.269159	8.6
N	0.064367	0.456762	613.5286	1,010.64	369.87	1,254.30	1,039.38	-2.13	0.85908	1.700884	8.66
O	0.085494	0.764246	167.141	920.87	416.59	671.42	420.61	26.45	0.888133	2.785327	8.51

APPENDIX 2 Diagnostic tests for models

Model 1a

. reg ROA ACP SGRW DR CR LnSIZE

Table 3: Linear regression Model 1a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ACP	-.000046	.000015	-3.11	.012475	-.00008	-.000013	**
SGRW	-.000162	.000199	-0.81	.436829	-.000613	.000289	
DR	.069616	.092528	0.75	.471044	-.139696	.278927	
CR	-.010899	.007594	-1.44	.185056	-.028078	.00628	
LnSIZE	-.021591	.028605	-0.75	.469651	-.0863	.043117	
Constant	.226384	.219482	1.03	.329252	-.270119	.722886	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.587743	Number of obs	15
Adj R-squared	0.3587		
F-test	2.566211	Prob > F	0.103869
Akaike crit. (AIC)	-67.338906	Bayesian crit. (BIC)	-63.090605

**** p<.01, ** p<.05*

*, * p<.1*

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2 (1) = 2.17

Prob > chi2 = 0.1407

. estat vif

Variable	VIF	1/VIF
ACP	1.53	0.652663
LnSIZE	1.50	0.666950
DR	1.32	0.756451
CR	1.11	0.900345
SGRW	1.08	0.923713
Mean VIF	1.31	

Model 2a

. reg ROA APP SGRW DR CR LnSIZE

Table 4: Linear regression Model 2a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
APP	.000211	.000048	4.39	.001747	.000102	.000319	***
SGRW	.000128	.000183	0.70	.501968	-.000285	.000541	
DR	-.194529	.07988	-2.44	.037657	-.375231	-.013827	**
CR	.000887	.006001	0.15	.88574	-.012687	.014461	
LnSIZE	.003119	.020527	0.15	.882573	-.043316	.049555	
Constant	.128602	.165341	0.78	.456649	-.245427	.50263	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.727479	Number of obs	15
Adj R-squared	0.5761		
F-test	4.804999	Prob > F	0.020429
Akaike crit. (AIC)	-73.547875	Bayesian crit. (BIC)	-69.299574

**** p<.01, ** p<.05, * p<.1*

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2 (1) = 0.03

Prob > chi2 = 0.8708

. estat vif

Variable	VIF	1/VIF
APP	1.66	0.602796
DR	1.49	0.670927
SGRW	1.38	0.726270
LnSIZE	1.17	0.856147
CR	1.05	0.953241
Mean VIF	1.35	

Model 2b

. reg ROE APP SGRW DR CR LnSIZE

Table 5: Linear regression Model 2b

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
APP	.001695	.000661	2.57	.030417	.0002	.00319	**
SGRW	.003563	.002515	1.42	.190211	-.002126	.009253	
DR	2.245195	1.099706	2.04	.071576	-.242513	4.732903	*
CR	.049725	.08261	0.60	.562084	-.137153	.236602	
LnSIZE	.079562	.282596	0.28	.784663	-.559715	.718838	
Constant	-2.759439	2.276241	-1.21	.256268	-7.908653	2.389775	

Mean dependent var	0.619183	SD dependent var	0.392421
R-squared	0.742491	Number of obs	15
Adj R-squared	0.5994		
F-test	5.190040	Prob > F	0.016206
Akaike crit. (AIC)	5.120178	Bayesian crit. (BIC)	9.368479

**** p<.01, ** p<.05, * p<.1*

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROE

chi2 (1) = 0.07

Prob > chi2 = 0.7951

. estat vif

Variable	VIF	1/VIF
APP	1.66	0.602796
DR	1.49	0.670927
SGRW	1.38	0.726270
LnSIZE	1.17	0.856147
CR	1.05	0.953241
Mean VIF	1.35	

Model 3a

. reg ROA CCC SGRW DR CR LnSIZE

Table 6: Linear regression Model 3a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CCC	-.000042	.00001	-4.19	.002355	-.000064	-.000019	***
SGRW	-.000093	.00017	-0.55	.59823	-.000477	.000292	
DR	-.000026	.073204	-0.00	.999724	-.165626	.165574	
CR	-.011263	.006338	-1.78	.109264	-.0256	.003074	
LnSIZE	-.018895	.023025	-0.82	.433067	-.070981	.033192	
Constant	.286253	.186314	1.54	.158816	-.135219	.707724	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.709553	Number of obs	15
Adj R-squared	0.5482		
F-test	4.397345	Prob > F	0.026449
Akaike crit. (AIC)	-72.592288	Bayesian crit. (BIC)	-68.343987

**** p<.01, ** p<.05, * p<.1*

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2 (1) = 1.51

Prob > chi2 = 0.2188

. estat vif

Variable	VIF	1/VIF
CCC	1.40	0.712623
LnSIZE	1.38	0.725215
DR	1.17	0.851425
SGRW	1.12	0.895047
CR	1.10	0.910757
Mean VIF	1.23	

Model 4a

. reg ROA NTC SGRW DR CR LnSIZE

Table 7: Linear regression Model 4a

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NTC	-.000045	.00001	-4.43	.001642	-.000068	-.000022	***
SGRW	-.000086	.000164	-0.53	.611008	-.000456	.000284	
DR	.00087	.070446	0.01	.99042	-.158491	.16023	
CR	-.01257	.006176	-2.04	.072323	-.026542	.001402	*
LnSIZE	-.021246	.022312	-0.95	.36587	-.07172	.029229	
Constant	.302203	.18025	1.68	.127942	-.105552	.709957	

Mean dependent var	0.057858	SD dependent var	0.027708
R-squared	0.731085	Number of obs	15
Adj R-squared	0.5817		
F-test	4.893560	Prob > F	0.019350
Akaike crit. (AIC)	-73.747661	Bayesian crit. (BIC)	-69.499360

**** p<.01, ** p<.05, * p<.1*

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2 (1) = 1.34

Prob > chi2 = 0.2473

. estat vif

Variable	VIF	1/VIF
NTC	1.45	0.688233
LnSIZE	1.40	0.715036
DR	1.17	0.851249
CR	1.13	0.887865
SGRW	1.12	0.893053
Mean VIF	1.25	