CORPORATE CASH HOLDING: AN EMPIRICAL INVESTIGATION OF PUBLIC LISTED COMPANIES FOR TRADING/SERVICE SECTOR IN MALAYSIA

RUBADHARISHINI A/P CHELLIAH

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PREPARED BY:

RUBADHARISHINI A/P CHELLIAH

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ABSTRACT

This study investigates the empirical investigation between corporate cash holdings as the dependent variable and firm size, cash flow volatility, leverage and capital expenditure as independent variable by taking Malaysia trading/service sector of public listed companies as the sample over the period from 2014 to 2016. This study applied tradeoff and pecking order theory in order to show briefly on corporate cash holdings level. Descriptive analysis and hypothesis analysis are employed to analyze the relationship between those variables. The findings of this study reveal that firm size and leverage are negatively correlated to corporate cash holdings while cash flow volatility and capital expenditure highlights positive relationship to corporate cash holdings as for both tradeoff and pecking order theory. The excess cash holdings are a sign that the firm tends to retain the cash rather than pay it via dividends and there is a possibility that the cash is employed for non-pecuniary benefits which is not analogous to the shareholders' interest. The negative relationship shown by firm size might suggest that larger the firm size enables a firm to gather retain earnings where precisely debt is not important. For leverage, the negative relationship might indicate that corporations having ability to issue new debts holds less cash and used to fund new investments. The positive relationship is exhibited by cash flow volatility and capital expenditure. Companies fail to finance all profitable projects and faces larger cost of external financing where company can be short of liquid asset as suggested by both theories. Companies with high capital expenditure will face high amount of cash due to high cost in capital market reflects financial distress.

Keywords: corporate cash holdings, firm size, cash flow volatility, leverage, capital expenditure, tradeoff theory, pecking order theory

ABSTRAK

Kajian ini menyiasat empirikal antara pegangan tunai korporat sebagai pembolehubah bergantung dan saiz firma, turun-naik aliran tunai, leverage dan perbelanjaan modal sebagai pemboleh ubah bebas untuk syarikat-syarikat dari sektor Perdagangan/Perkhidmatan di Malaysia dari tahun 2014 hingga 2016. Kajian ini menggunakan teori perintah dan teori perdagangan untuk menunjukkan secara ringkas tahap pegangan tunai korporat. Analisis deskriptif dan analisis hipotesis digunakan untuk menganalisis hubungan antara pembolehubah yang digunakan dalam kajian ini. Hasil dari dapatan kajian ini mendedahkan bahawa saiz firma dan leverage menunjukkan gambaran korelasi antara pembolehubah. Pegangan tunai lebihan adalah tanda-tanda bahawa firma cenderung untuk mengekalkan tunai dan bukannya membayar melalui dividen dan terdapat kemungkinan bahawa tunai digunakan untuk faedah-faedah bayaran yang tidak serupa kepada kepentingan pemegang-pemegang saham. Hubungan negatif yang ditunjukkan oleh saiz firma mencadangkan bahawa saiz syarikat yang lebih besar membolehkan saiz firma untuk mengekalkan pendapatan di mana hutang adalah tidak penting. Manakala, bagi leverage, hubungan negatif menunjukkan bahawa syarikat-syarikat yang mempunyai keupayaan untuk mengeluarkan hutang baru memegang tunai yang rendah dan digunakan untuk membiayai pelaburan baru. Hubungan positif ditunjukkan oleh turun-naik aliran tunai dan perbelanjaan modal. Syarikat gagal untuk membiayai semua keuntungan projek dan menghadapi kos luaran pembiayaan yang besar di mana syarikat boleh kekurangan aset sebagaimana yang dicadangkan oleh kedua-dua teori ini. Syarikat dengan perbelanjaan modal yang tinggi akan menghadapi jumlah tunai disebabkan oleh kos yang tinggi dalam pasaran modal dan mencerminkan dalam kesulitan kewangan.

Kata kunci: pegangan tunai korporat, saiz firma, turun-naik aliran tunai, leverage, perbelanjaan modal, teori perintah, teori perdagangan

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TOT	Trade-off theory
POT	Pecking order theory
H1	Hypothesis 1
H2	Hypothesis 2
H3	Hypothesis 3
H4	Hypothesis 4
CASH	Corporate cash holding
FSIZE	Firm Size
CFV	Cash flow volatility
LEV	Leverage
CAPEX	Capital expenditure

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter will assist as a preliminary segment of the research. The outline of the determinants of cash holdings for trading/service sector in Malaysia public listed companies are reviewed and observed. Moreover, the objectives of the research are presented in order to framework the enthusiasm of this study.

In addition, elements that will be explained in this chapter are the overview of the importance and determinants of corporate cash holdings, the problem statements, analyzing the research questions, discussion on the objectives of the research to be achieved upon the completion of research paper and explanation on the rationalization of the significance of the study. Finally, review on the structure of research paper is developed.

1.2 Background of the Study

In financial environment without asymmetric information, taxes and agency and transaction costs, firms would not have need to hold cash since there are no benefits or costs of allocating cash. The best clarification for determinants of holding cash was proposed by (Keynes, 1936). Keynesian monetary hypothesis expressed that both the state government and private divisions assumes an imperative part in the soundness of economy. Cash is the liquid of economy where government needs legitimate financial and monetary arrangement and firms need satisfactory cash to support its liquidity. In his distribution, Keynes (1936) illustrated three reasons or thought processes in holding cash.

- Transaction motive – cash is held to pay for goods or services. It is helpful for directing ordinary transactions or purchases.

- Precautionary motive – cash is moderately protected investment. Cash investments once in a while lose esteem (as can stocks or securities) and are subsequently held for protection reasons in an adjusted portfolio.
- Assets or speculative motive – cash investments dispense a return to their holders. For instance, dividend and interest reimbursement.

There can be numerous adaptations on the reasons stated above; however these three reasons are possibly the best general clarification in the matter of why cash plays a vital part in the economy. In addition, Keynes (1936) began the financial literature about cash holdings, suggesting two key benefits from allocating cash that are reduction transaction costs since to make payments firms do not need to liquidate assets and also cash is a precious buffer to meet future uncertainty. Therefore, two main economic theories support the decision of firms to hold cash that are the trade-off theory and the financial hierarchy theory, also known by the pecking order theory.

Firms hold extensive cash to keep up suitable level of liquidity so as to be fundamental towards the smooth operations of firms. As of late, the corporate division winding up noticeably more unique ones where high-tech developments and novelty in plan of action sow the seeds for speedier improvement and more prominent effectiveness and rivalry among the business players. Even though public listed companies can raise their assets through the capital market, the reality remains that the equity financing gives off an impression of being all the more costly when contrasted with internal source of fund, particularly the corporate cash holdings.

In the interim, there are a few reasons why firms hold a lot of cash. In a typical circumstance, there are three thought processes of holding cash which are transaction motive, precautionary motive and speculative motive as mentioned previously. Among the advantages of holding cash by companies is on account of it can decrease the probability of financial distress. Financial distress is where firms can't benefit their present debt. Besides, holding cash likewise permit the compatibility of investment strategy when monetary imperatives are met and limit the cost of raising external fund or liquidating existing resources. Also, firms ordinarily hold bigger cash to adjust when access to finance is easier.

Furthermore, as indicated by this researcher, there are two noteworthy advantages to cash holdings. Initial, a firm can spare transaction costs by utilizing cash to make installments without

liquidating resources. Second, a firm can save cash to fence for the danger of future cash deficiencies where this is the means of precautionary motive in real cash holdings. The advantages of holding cash can also be seen from two thought motives. As per the transaction cost motive rationale, firms regularly hold more cash when the cost of getting it and the opportunity cost of shortages are higher. This is genuine particularly to small firms where it is costlier for them to acquire external reserve. In any case, Myers & Majluf (1984) contend that acquiring high external financing is more exorbitant than utilizing internal generated finances within the sight of asymmetric data and that it might be ideal for companies to hold a specific level of cash to address the issue for investment expenditures.

Likewise, there might be economies of scale in cash management, which additionally propose that small firms hold more cash. Besides, companies with better investment opportunities are relied upon to hold more cash. It is on the grounds that the opportunity cost of lost investment is bigger for these organizations. In the interim, firms with more volatile cash flow are relied upon to hold more cash to secure against the higher probability of cash shortage. Conversely, companies need to hold less cash when cash flows are greater in order to meet forthcoming investment needs.

Opler et al (1999) examine the tradeoff model of cash holdings, wherein company's trade off advantages of liquid assets, for example nominal transactions rising from hovering external funds and least underinvestment, against potential costs, such as overinvestment (Jensen & Meckling, 1976**).** Researchers find that companies hold more cash when they are smaller, have greater investment and R&D expenditure, enhanced investment opportunities, when they require greater and additional volatile cash flows and lower net working capital. These are for the most part qualities that either raise the cost of cash shortfalls or raise the cost of raising assets.

The two transactions costs and precautionary costs because of asymmetric data are imperative elements in this trade off model. The precautionary motive in holding cash depends on the effect of asymmetric data on the capacity to raise fund. In his examination, Opler et al (1999) found that companies tend to hold more liquid resources if their industry's average cash flow volatility is greater. While Mikkelson & Partch (2003) additionally demonstrate that companies that diligently hold substantial cash reserves don't fail to meet expectations when contrasted and their companion companies. These investigations propose that companies utilize internally generated

funds to fence against future cash flow uncertainty and to expand their cash holdings out reaction to increments in cash flow volatility.

Cash holdings normally substitute the needs to access to outside financing either the equity market or the bond market. In this way, liquidity administration in these recorded organizations is essential to guarantee organizations stay dissolvable and ready to extend at a lower cost of financing. As the global monetary recession approaches Malaysia, the greater part of the organizations in Malaysia confronted awesome volatility in their operating cash flow because of firm rivalry among themselves. The difficulties that an organization met are associated with its capacity and proficiency in adjusting to and dealing with these unavoidable changes and in this way keeping up a focused edge over its rivals.

The purpose of this paper is to give an empirical examination of the public listed company for trading/service sectors in Malaysia of choice to hold liquid assets especially cash holdings by seeing through in the prior research that is done in in a foreign country and additionally late review done in Malaysia. This research developed to examine cash holding performance of companies from Malaysia with data for public listed companies. This paper is predominantly concentrating on the determinants of cash holdings in local corporate finance perspective.

1.3 Problem Statement

Why do firms hold a massive amount of cash and cash equivalents in their assets? As indicated by Keynes (1936), there are two noteworthy advantages to cash holdings. First and foremost, a firm can decrease transaction costs by utilizing cash to make payments without liquidating assets where this mentioned as transaction motive. Next, a company can save money to support for the jeopardy of future cash deficiencies and support for operation vulnerability and this is what is called as precautionary motive.

At the point when a firm holds cash in surplus of approximately essential minimum whether it is for transaction motive, precautionary motive or speculative motive, it experiences an opportunity cost. The opportunity cost of excess cash whether it is held in cash or bank deposit is the interest income that may possibly be received if the cash being financed into different places, for

example, shares in marketable securities. The cost of holding cash incorporates the lower rate of profit for these benefits and it perhaps forced to higher tax assessment by government.

In the seasons of financial crisis there is definitely occurs a liquidity critical situation due to higher capital expenditure. Many organizations found that debts straddling and income decreases, dosing up their reserves that are their cash and cash equivalents as some of their market share dry up. Yet, it is additionally amid these circumstances that purchasing chances sprung up at a bargain costs. Organizations with a vast cash position would snatch this unique possibility where leverage is possible to turn the situation of a firm to financial distress. Having sturdy cash stack empowered organizations to forcefully extend their piece of the overall industry, naturally or through mergers and acquisitions by takeover fragile rivals. Despite the fact that there is no assurance that cash rich organizations will beat the market however in any event the odds of them becoming penniless are lower. With this hard liquidity circumstance, significant measure of cash in the organizations is essential for survival. This research will analyze on the reasons of firms holding a lot of cash.

Different determinants have been proposed for the reasons of companies to hold cash. In addition, to grow and stay alive in business world, the importance in understanding cash holdings management in firm is necessary where it shows how well the cash flow is volatile enough to manage the firm. Organizations with development chances are probably going to require better funding needs later on for financing reasons as the size of firms' development increase the chances in the cash increase as well as for corporate . Utmost of the investment wants huge cash flow to account the venture, thus operating income is inadequate for firms to invest the funding reliably. Thus, organizations tend to save substantial cash holdings through retained earnings to come across forthcoming endowing necessities.

Nevertheless, trade-off of holding cash in their treasury turns into an issue of underinvestment. Cash frequently observed as wasteful assets that flag the financial investors the organizations are shortage of investment possibilities and development chances. Contrary with it, low cash held of organizations reflected low liquidity and high credit possibility, the likely of organizations been taken control by others cash rich organizations getting to more prominent. Firms with ideal level of cash holdings will flourish out long run and stayed tough economically.

This can be seen from the supported information where companies holds massive amount of cash that was obtained from (Department of Statistics, 2017):

"Revenue for Services Sector Increased 9.3 per cent or RM387.8 billion in the Third Quarter 2017. This report presents measurements on administrations segment which includes sub-area of Wholesale and Retail Trade; Information and Communication; Transportation and Storage; Food and Beverages; Professional; Private Health; Private Education; Accommodation; Arts, Entertainment and Recreation and Real Estate Agent for the period from first quarter 2012 until second from last quarter 2017."

In addition, revenue of services sector expanded 9.3 per cent to RM387.8 billion in second from last quarter 2017 when contrasted with a similar quarter 2016. The expansion was contributed by Professional and Real Estate Agent section (14.3%) and Wholesale and Retail Trade, Food and Beverages and Accommodation (9.3%). Total revenue on quarterly basis expanded RM5.1 billion or 1.3 per cent. Total number of people occupied with this area was 3.6 million people, an expansion of 84,053 people or 2.4 per cent when contrasted with a similar quarter of the earlier year. Notwithstanding, on quarterly premise, number of people connected engaged recorded a decrease of 0.5 per cent (19,121 people). In the second from last quarter 2017, compensations and wages paid was RM23.4 billion, an expansion of 5.9 per cent when contrasted with the earlier year and 0.7 per cent quarter-on-quarter. This contrarily demonstrates organizations from trading/services sector holds massive amount of cash.

To explain more, this is one of the strong reasons why this research is carried out on trading/service sector. There are increments of cash in trading/service sector as year's passes. Not only that, companies from trading/service sector holds so much cash since there is a lot of investments as well as the companies are holding so much cash in order to retain in market.

Not only that, after the implementation of GST, companies from trading/service sectors have quite disadvantages for holding so much cash since the trade and service for their companies are done internationally and locally. GST is one of the sources that make underinvestment for trading/service sector where there is outflow of cash from the companies although they receive more cash to hold in the company itself. The business transaction done for trading/service sector always keeps rising although financial distress occurs in the economy. In addition, it is believed

that compared to other sectors, trading/service sector holds a massive cash since opportunity cost is not take into consideration by most of the companies.

The study of cash holdings in this research focuses on trade-off theory and pecking order theory. This is because the variables used are closely related to trade-off theory and pecking order theory. In addition, these both theories contribute the most to the reasons of firms to hold so much cash. Based on these theories, identification on why firms hold so much cash can be found out easily as the test and examine is done by selecting the relevant sector. Trading/service sector is the one that is considered appropriate to show clearly and transparent in the reasons for firms holding so much cash compared to other sectors.

In addition, the market dynamism of trading/service industry required companies continuously improves their foundation and research and development investment and to buffer for cash flow volatility in their operations. Hence, cash serve as hedge for operation volatility.

1.4 Research Questions

The most important subject in this study is concerned with why do firms hold a vast proportion of cash and cash equivalents in their assets. Therefore, this study aims to answer the following questions:

i) Do firm size have significant influence towards corporate cash holding of public listed companies for trading/service sector in Malaysia over recent years?
ii) Do cash flow volatility have significant influence towards corporate cash holding of public listed companies for trading/service sector in Malaysia over recent years?
iii) Do leverage have significant influence towards corporate cash holding of public listed companies for trading/service sector in Malaysia over recent years?
iv) Do capital expenditure have significant influence towards corporate cash holding of public listed companies for trading/service sector in Malaysia over recent years?

1.5 Research Objectives

The aims of this research are as follows:

i) To discover whether firm size and corporate cash holding have significant influence of public listed companies for trading/service sector in Malaysia over recent years.
ii) To examine whether cash flow volatility and corporate cash holding have significant influence of public listed companies for trading/service sector in Malaysia over recent years.
iii) To find out whether leverage and corporate cash holding have significant influence of public listed companies for trading/service sector in Malaysia over recent years.
iv) To determine whether capital expenditure and corporate cash holding have significant influence of public listed companies for trading/service sector in Malaysia over recent years.

1.6 Scope of Study

The scope for this research is taken from annual report collected from public listed company derived from Bursa Malaysia and only trading/service sector firms are used as the sample. Basically, there are quite a number of sectors in Bursa Malaysia for public listed companies under main market. This research explains the reason why firms holding so much cash where corporate cash holding was used as a proxy for this study while firm size, leverage, cash flow volatility and capital expenditure to support on examining on the corporate cash holdings.

1.7 Significance of Study

This study of cash holdings in public listed companies for trading/service sector in Malaysia play important role in break through the breach between developed countries and developing countries such as Malaysia. This research will be a new stepping stone to other researchers and future researchers. Discoveries of this examination will mirror the genuine ramifications of cash holdings among the Malaysian trading/services sector. Subsequently, this significant information will be the pith of future research on comparative issue. Since the research of cash holdings can be said to be still new in nearby research, so, this research paper will fill in as pioneer by giving an early versions of skill and proper research framework to whatever is left of the researchers locally.

In addition, this study will give signs to financial specialists whether trading/services sector companies are skillful and effective in dealing with their cash holdings. This study gives an inside view on how huge of all the possible cash holdings determinants in advocating the efficiency and effectiveness of trading/services sector companies in dealing with their cash. Generally, financial investors want to invest in cash rich organizations with the desire that such organizations will continually issue profits/dividends to their stakeholders. In any case, cash rich organizations which held its operation income throughout the years added to another perspective. Extensive cash holds amid blasting economy showed that companies can't completely exploit its investment opportunities, it risks of losing these opportunities and market share to competitors. Such circumstance is frequently known as underinvestment. Estimation of the shareholders won't be amplified because of improper in the cash management.

From the scale perspective, this study will be fundamental to formulate administrative rules for trading/service sector under public listed companies to guarantee these organizations are meant to stay competitive. Liquidity management in trading/service sector will support the intensity of Malaysia economy. This study embark in the contribution of making the government exertion in changing Malaysia economy into a more focused and esteem based economy. Considerable corporate cash holdings in companies will empower persistent innovative work that fill in as a spine of value way of life and business intensity.

This study will recommend trading/service sectors of public listed companies in Malaysia on optimum cash holdings level in adjusting the enthusiasm of the shareholders and managers and consumers. Excessive cash holdings in trading/services sector in public listed companies will not be well enough in the perspective of boosting of shareholders value as the firms engaged extreme cash to keep the interest of shareholders and managers since they feel anxiety to finance huge principal into new projects as the possibility jeopardy of new and massive projects can be very great as it produce vast depreciation because of the development of technological innovation that affected it to obsolete. Nonetheless, to secure the enthusiasm of shareholders and managers particularly the value financial investors, it is essential for the legislature to guarantee that trading/services sector of public listed companies don't over hold excessive cash that brought on underinvestment in the sector. This can be acknowledged if policy makers set a specific necessity for the sector as far as their exploration and improvements subsidizing in enhancing their business proficiency in term of probability and asset management.

In this research, examination on how corporate cash holdings acts as a backbone to public listed companies for trading/service sector is highlighted clearly. Furthermore, the setting of Malaysia corporate is a lot economical since the financial crisis happen quite often due to the use of cash unnecessarily. Malaysia public listed companies on the trading/service sector irrespective of definite elements, they challenged rigid struggle among themselves that brings them at risk of trailing their market share and in long-run, triggering bad cash flow volatility. Consequently, this research is the principle to examine how cash holdings can diminish the risk of cash flow volatility in such industry.

To add on, the recent news on trading/service sectors embarks that services sector to drive Malaysia economy. To elaborate briefly on this supported news that occurred on Friday,

December 9, 2016, Kuala Lumpur, The National Export Council (NEC) laid out a few systems to increase the execution of priority services sectors particularly in construction, Information, Communication and Technology (ICT), education services and tourism. This took after dialogs at the fourth and last NEC meeting for 2016 held. The systems incorporate expanding the use of Malaysian development services in international projects through strategic partnerships between local Small and Medium Enterprises (SMEs) and Multinational Companies (MNCs); driving the exports of ICT Services, ICT Content and Media; upgrading brand visibility of Malaysian education services abroad and in addition expanding tourist arrivals. The procedures are gone for tending to the shortage enrolled by Malaysian administrations divisions since 2010 and are in accordance with the Services Sector Blueprint propelled a year ago. The proposals concurred by the NEC are likewise steady with the eleventh Malaysia Plan (RMK 11), which focused an expansion in trade income of trading/services area by more than 40 percent from RM135 billion recorded in 2015 to RM195 billion. The administrations segment, which represents around 53.9 percent of Malaysia's Gross Domestic Product (GDP), remains a key driver of development for the Malaysian economy. The commitment of trading/services to GDP is on an expanding pattern and by 2020 the commitment of administrations is focused to reach 58 percent (Department of Statistics, 2017).

1.8 Structure of Research Paper

This undertaking paper has been organized in viewing the purpose for it as helpful keeping in mind the end goal to make valuable reference in future investigations. Chapter One of these study involves introduction with concisely clarify about the quick overview on the reasons why companies hold huge amount of cash and furthermore the possible approaches that encourage the reasons for holding cash. The clarification in part one incorporates the significance of the purpose for companies to hold cash. This chapter however ignites on the problem statement as for what reflects the main point on choosing this study and possibilities on the purposes, research questions, and research objectives, scope of study and significance of study.

Chapter Two of this project paper demonstrates a definite advancement of theories identified with corporate cash holdings in literature review. This investigation is viewed as critical as it illustrates the relevant theories in corporate cash holdings and the idea of how the research is being conducted. Subsequently, these reviews give an evident and compact clarification so as to convey a superior comprehension on the purpose of undertaking this study.

Chapter Three of this project paper comprise of data and methodology which has been consolidate as needs be. The data mentioned for the respective table or figures allude to the data that had been gathered from the 100 companies of public listed companies from trading/service sector in Malaysia. Instantaneously, the methodologies mention the methods and procedure that has been carried out in order to complete the outcomes of the examination study conducted.

Chapter Four of this project paper turned out with the results and findings of this study which will be clarified by the illustration of tables and findings. This section is comprised of the entire and clear results and findings of all tests have been carried out for the purpose of constructing a consistent study.

Chapter Five of this project paper conveys up the conclusion of the study that has been done. This conclusion has been assembled from the principle thought and the discoveries of the research and additionally the importance and its implications. Accordingly, some suggestion has been produced using the evidence that has been resulting from the results of the research study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In a universe of ideal capital markets there would be no transaction costs for raising cash, in this way holding of liquid assets would be unimportant and would not influence a companies' value (Stiglitz J., 1985). The capacity of reserved cash to manage industrious investments or temporary cash deficits could be acquired without issue and at a sensible cost. Additionally, the nonappearance of a premium for liquidity or taxes would imply that holding cash would not have an opportunity cost or monetary disadvantages, correspondingly. In this unique circumstance, choices about investment in liquid assets would not influence investor wealth (Opler et al., 1999).

Cash is just a negative obligation, and there is no optimal amount of cash. The financing shortfall is the key driver of changes in the cash position. In any case, markets are far from perfect and transaction costs are important. When capital market defects are presented, companies are not essentially able to follow all value-increasing investment opportunities. For example, capital market gratings boost the cost of external capital in respect to internally produced reserves (Greenwald et al., 1984). Subsequently, a few companies that have alluring growth opportunities contribute not as much as the main best ideal, prompting lower future growth and decreased operating performance and firm value (Denis & Sibilkov, 2007). Consequently, cash holdings can be important when other sources of funds or assets, including cash flows, are lacking to fulfill companies' interest for capital. As a result, these blemishes do exist and are more applicable to companies with a great deal of opportunities investment.

In recent years the enthusiasm of monetary researchers about raised to companies' cash strategy, cash positions where if more precise they are giving careful consideration for what reason do companies' hold so much cash. These disputes have a long antiquity and are the premise of companies' fund. Undeniably, from the everyday operations to finance long-term investments, personal resources are just the most imperative source of financing.

Specifically, researchers have recently prompted genuine questions about the legitimacy of so much cash. This issue has prompted vigorous research intended for elucidating the complicated characteristics of monetary policy companies. In spite of the fact that the quick advancement of altogether enhanced on the comprehension of the variables that supplies of organizations the assets, the literature has given careful consideration as cash strategy's genuine effect on the day by day activities of companies.

In the consecutive years of 2007 to 2008, recognition crisis industry pioneers and the media have influenced the expression "to cash is autonomous" rear in mode. In spite of the fact that the organizations internal cash flows decreases, the securities exchanges crumbled and the credit showcases almost solidified, the absence of cash has turned into a reality for some organizations. For instance, this example could generate on a brief of companies holding cash where General Motors (GM), situated in the U.S. automaker, reported on 7 November 2008 that he could escape from the liquidity, regardless of the continuous rebuilding process. General Motors (GM) in the long run redesigned through insolvency, yet their destiny was to exhibit the significance of cash holdings. In spite of the fact that the diminishment of money streams, generally speaking, unavoidable in numerous businesses amid the monetary downturn, the indications can be expelled by an adequate measure of cash as a support to the calamity. In any case, for a few reasons investors would prefer dependably not to see the company to spare cash and assemble on it. The investors' point of view toward company's cash holdings and the cost they put on it will be analyzed in this examination.

The contributing factor and results of corporate cash holdings have pulled in expanded enthusiasm of researchers in the course of recent years. One significant concern was that the connection amongst cash and the value of the organization. Comprehensively, two primary factors in the condition of the upsides of liquidity of the organization and the office cost of administrative carefulness. Both these disputes have their supporters. For instance, Myers & Majluf (1984) contend that external financing implies that organizations must keep up an adequate cash hold, which gives liquidity to exploit new activities a positive net present value. Notwithstanding, as indicated by Jensen (1986) the agency costs of managerial consolidation implies that a lot of cash ought to be paid to investors to keep directors overinvesting undesirable net present value ventures. Evidently, there is no particular fact, which will smear to all

organizations without a moment's delay, as the requirements of both the firm and its administrators are not uniform.

In addition, considering the estimation of cash is of premium not only specified for analysts and researchers, this is also meant especially for experts. Equity experts, financiers and corporate CFOs should all be exceptionally fascinating to know which factors influence the cost of cash holdings in the organization and the reasons. Maximum equity examiners just add cash to the highest point of the estimation of the organization, without giving consideration from what could be the motivation behind why cash ought not be assessed at confront esteem.

Notwithstanding, investigates appear, markets, cash related esteems for diverse companies in various ways, and, therefore, investigators might be as well that particularly if the organization has a lot of liquid resources. For corporate lenders circumstance is rather unlike where in light of the fact that they frequently give the conclusion that the estimation of the objective companies is the acquirer, along these lines taking out the impact of the predominant corporate governance and financial policies. On the other hand, it can be important to comprehend the estimation of cash while evaluating the market estimation of the firm. At long last, the cash related bureau of a company should know why their cash can't be acknowledged at confront esteem, and that they could do in the event that they need. Basically, this information clearly acknowledge on a brief clarification for explaining in detail on corporate cash holdings. Hence, this chapter discusses about corporate cash holdings, the underlying theories and previous empirical research on the variables.

2.2 The Underlying Theories

2.2.1 Trade-off Theory (TOT)

The writing about cash particularly connected to organizations is for the most part followed back to Miller & Orr (1966), who build up a tradeoff model. As indicated by these researchers, organizations must decide the ideal level of cash holdings by trading off the marginal cost of holding liquid assets that is lower return with its marginal benefit for example minimization of transaction costs and undertaking investment opportunities in case of market frictions. Accordingly, the tradeoff off theory of cash holdings sets that companies have two motives for holding cash that are transaction cost and precautionary motives. Genuinely, this two motives have been explained by all the researchers that done their research on cash holdings. In connection to the previous, this theory recommends that companies hold cash since raising assets out of capital markets is more expensive than holding existing cash for example in light of the fact that external financing includes fixed and variable costs identified with the measure of capital upraised (Ozkan & Ozkan, 2004). Furthermore, these cost segments infer that there is an ideal measure of cash to be raised and instigates a company to hold cash as a costly safeguard. Subsequently, transaction costs are greater for companies that are less intently observed and have more terrible access to the capital markets (Opler et al., 1999). The precautionary motive underlines data asymmetries and the opportunity costs of inescapable ventures (Kim et al., 1998). On the off chance that the unfavorable choice expenses of external fund or potentially the expenses of financial distress are too much high, firms collect liquidity to meet unexpected cash shortages and fund back their positive net present value ventures (Opler et al., 1999). Since developing firms confront more extreme market blemishes and higher liquidation costs, this investigation contends that trade-off theory can clarify cash holding choices in these companies.

In proportion to the tradeoff theory, companies taken into consideration the marginal benefits and cost of holding cash to maximize the shareholder's wealth (Dittmar et al., 2003). The benefits of cash holding stem from the theory of Keynes (1936), concerning the motive of liquidity assets that are transaction cost motive, precautionary motive, and speculative motive. Consistent with the transaction cost motive, holding cash allow companies to avoid or save transaction expenses to raise funds or to liquidate assets. In relation to the transaction reasons,

companies hold the cash only to overcome the better possibility cost in case of lower cash levels (Tobin, 1956).

Nevertheless, precautionary motive discovered that cash holding allows corporations to finance their investments or project if other financing supply isn't always available. Besides, Ozkan & Ozkan (2004) emphasized that to overcome the possibility of higher cost of external financing companies additionally put money into liquid assets or they will enhance their cash level. Likewise, this argument is also supported through (Opler et al., 1999). Furthermore, speculative motive argued that financial players maintain cash or marketable securities with a purpose to earn profit from future rising of interest rate. This isn't appropriate for companies.

These advantages are weighed against the option expenses of possessions cash, since liquid resources produce low rates of return (Ferreira & Vilela, 2004). In addition, this researcher contended proficient cash management has additionally a noteworthy to diminish the possibility of monetary pain. Regardless of the advantages of cash holding, cash holding has a few disadvantages. As per Jensen (1986), cash holding could build agency cost. Firms with higher cash holding are not required to get to capital market for financing. This circumstance empowers the corporate directors far from the market checking. In this manner, the managers could seek after their own particular advantages as opposed to investors. Furthermore, the rate of return for cash or liquid assets is low a direct result of liquidity premium. Cash can likewise be presented to twofold tax assessment at corporate and singular levels on the off chance that it is dispersed to investors (Chang-Soo et al., 1998).

When cash holding is explained by the trade-off model means that there is an optimal level of cash holding which can be attained by balancing the marginal cost and marginal benefits associated with cash holding. Marginal benefits of cash holding are with cash holding firms can avoid financial distress, it act as tool to formulate a optimal investment policy and firms with large cash holdings can reduce increasing financial cost which is increasing because of external fund raising or by liquidating existing assets. The marginal cost of cash holding is basically the opportunity cost associated with cash holding for example return of current short term investments which u r foregoing for transactional or precautionary motives where named it transactional model because it explains transactional motives of cash holding.

As indicated by the past observational investigations studies different delegations for determinants of cash holding conduct of firm, have been fused to mirror this hypothesis. For example, Wasiuzzaman S. (2014) utilized the dividend payout, leverage, firm size, liquidity and risk, to exactly look at the company's cash holding point of view out line with the trade-off theory. By and by, these examinations give blend comes about. It can be dangerous to sum up in different economies because of the one of a kind full scale condition of the nation.

Many examinations, for example, Faulkender & Wang (2006), underscored that cash is the yield of venture and financing exercises. Firms that produce positive cash flows from their operations back their ventures with internal funds and subject to putting away extensive money holds on their asset reports. Gao (2013) thought about the cash approaches in public and private U.S. firms and distinguish that, private firms have high cash flows and hang on much liquid assets. Be that as it may, these contentions are conflicting with the genuine trade off expectation. Firms with high cash flows should concentrated more on obligation to limit the assessment liabilities. On the opposite side, many investigations, for example Uyar & Kuzey (2014) upheld the exchange off hypothesis and implied the part of ideal level of money.

Many examinations, Faulkender & Wang (2006), stressed that cash is the yield of speculation and financing exercises. Firms that create positive cash flows from their operations back their ventures with interior assets and subject to putting away expansive money saves on their balance sheets. Gao et al., (2013) looked at the trade approaches out open and private U.S. firms and recognize that, private firms have high cash flow and hang on much fluid resources. Be that as it may, these contentions are conflicting with the genuine exchange off forecast. Firms with high cash flows should concentrated more on obligation to limit the assessment liabilities. On the opposite side, many investigations, for example, Uyar & Kuzey (2014) bolstered the tradeoff hypothesis and meant the part of ideal level of cash.

Then again, predictable with the discoveries of past examinations, a generous measure of writing has concentrated on the centrality of exchange off hypothesis focusing on the cash property conduct of firms at the firm level as it were. In any case this cash holding component could be diverse crosswise over division, as they are liable to various level of generosity, elements and industry rivalry level. Hence, it is similarly imperative to approve the tradeoff hypothesis

experimentally later on at area level. Like debt, cash holding generates costs and benefits; and is very important in financing the growth opportunities of the firm.

The principal benefit of holding cash is that it constitutes a safety buffer which allows firms to avoid the costs of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities. In fact, since companies operate in an imperfect market, they either have difficulty accessing the capital markets or bear a very important external financing cost. Moreover, the principal characteristic of their environment is uncertainty. Thus, insufficient amount of cash forces firms to forgo profitable investment projects or to support abnormally high costs of financing.

Two principal costs are associated to cash holdings. These costs depend on whether managers maximize shareholders wealth or not. If managers' decisions are in line with shareholders' interests, the only cost of cash holdings is its lower return relative to other investments of the same risk. If managers don't maximize shareholders' wealth, they increase their cash holdings to increase assets under their control and so to be able to increase their managerial discretion. In this case, the cost of cash holdings will increase and include the agency cost of managerial discretion. Thus, we can apply the idea of trade-off theory to determine the optimal level of cash. In this section, we examine in more details the benefits of cash holdings as well as the principal predictions of the trade-off theory.

In the event that it is exorbitant for an organization to be short of cash or other liquid resources there is consequently an ideal level of cash holdings that amplifies the company's esteem. In ideal, the marginal cost of holding liquid resources measures up to the negligible advantages of holding those benefits. The marginal benefits can likewise be portrayed as the minor cost of liquid resource deficiency. At the same time, financial managers need to address the topic of the reasons it is more helpful to hold an extra unit of liquid resources as opposed to reducing cash holdings (Opler et al., 1999).

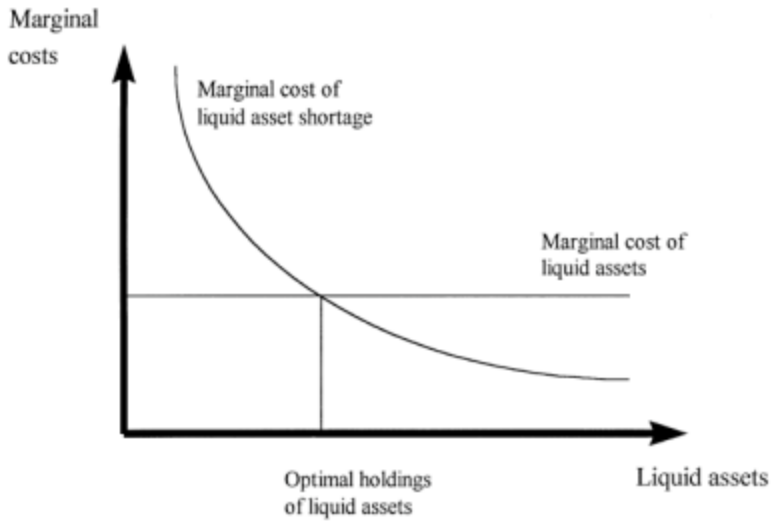

Figure 2.2.1a: Optimum Level of Cash Holdings

Source: Opler et al., (1999) Note: Figure 2.2.1a shows, under assumptions that the amount of liquid assets is given by the intersection of the marginal cost of liquid assets and the marginal cost of liquid asset shortage curves. The marginal cost curve of being short of liquid assets is downward sloping and the marginal cost curve of holding liquid assets is assumed to be horizontal. With the transaction costs model, the cost of liquid assets is their lower pecuniary expected return, because part of the benefit from holding liquid assets is that they can be more easily converted into cash. There is no reason to think that this cost varies with the amount of liquid assets held. If the firm has a shortage of liquid assets, it can cope with the shortage by either decreasing investment or dividends, or by raising outside funds through security issuances or asset sales. A greater shortage has greater costs, because addressing a larger shortage involves decreasing investment more or raising more outside funds (Opler et al., 1999).

At first presented by Keynes (1936), the transaction motive in holding liquid resources starts from the costs identified with changing over non-cash resources into cash. Raising liquid finances by offering resources, issuing new obligation or value, or decreasing profits includes costs that have both fixed and variable parts. In the event that it is additionally expected that exchanging non-cash resources is identified with huge costs higher than raising capital remotely, firms incline toward utilizing capital markets to sell resources tied in operational exercises. Be that as it may, the fixed share of the transaction cost influences the organization to raise external

assets occasionally and holding cash and cash equivalents turns into a shield that is significant to the company (Opler et al., 1999).

Besides, working capital, for example, inventory and accounts receivable, can be viewed as cash substitutes that can be effectively changed into cash when required. Organizations with a bigger measure of working capital can be relied upon to hold less cash since a change is moderately low-cost and simple. This is known as the substitution impact of working capital (Koller & Goedhart, 2005). As needs be, it can be normal to the organizations that face higher transaction costs where for example firms with resources that can't be changed over into liquid resources effectively and therefore have a higher marginal benefit of cash, will hold more noteworthy measures of cash on their financial position statement (Ozkan and Ozkan, 2004).

In addition, according to Pettit (2007):

"Cash gives a vital cradle against operating volatility and unexpected cash flow shortages, to bring down the likelihood of bankruptcy and to guarantee independence and the capacity to put resources into development through troublesome quarters. Abundance cash adjusts might be utilized as a support against uninsurable deficiencies."

It is exactly demonstrated that the likelihood of monetary trouble increases '*ceteris paribus'* with the level of growth opportunities because of the intangible and dubious nature of future development (Shleifer & Vishny, 1997). In addition, cash holdings can likewise be depicted as dry powder, for instance, growth capital for future growth and forecasts (Pettit, 2007). Henceforth, the minimal advantage of cash holdings and the related monetary flexibility, for example the marginal costs of liquidity deficiency and increments close by a company's growth opportunities. In the midst of cash shortfalls, a firm with solid productive venture opportunities would need to relinquish greater esteemed ventures than others. As it were, a problematic capital structure can prompt imperfect venture systems that don't expand firm esteem yet rather just advantage specific partners. Moreover, holding cash for these explanations is normally denoted to as precautionary motives (Han & Qiu, 2007). Altogether, Opler et al., (1999) pinpoint seven company-particular factors that influence marginal costs and advantages of being short of liquid assets as shown in Figure 2.2.1b below:

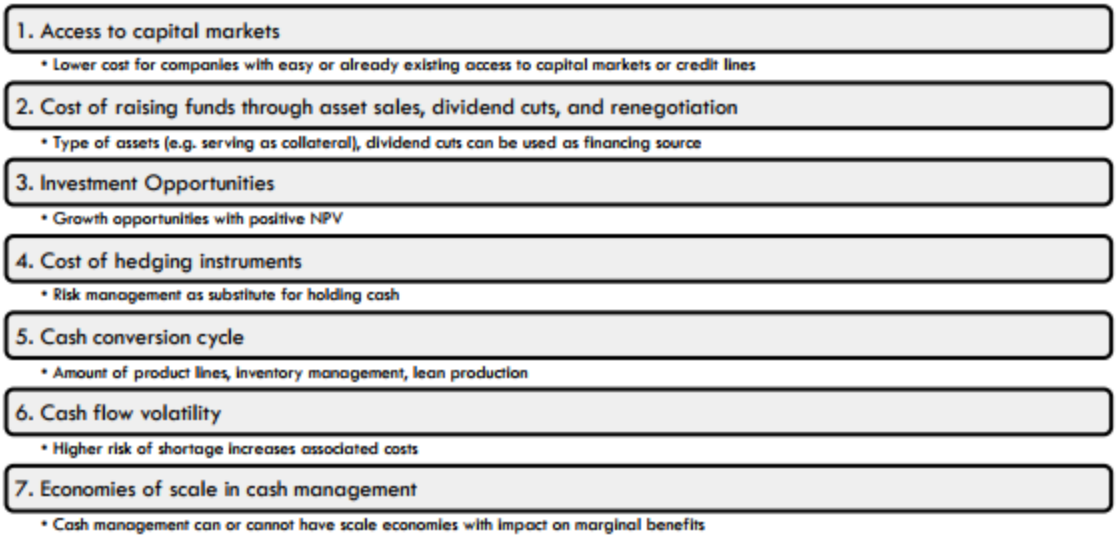

Figure 2.2.1b: Transaction Cost Model Variables

Ferreira & Vilela (2004) propose that the advantages of holding cash incorporate a decrease of the probability of bankruptcy through the statement that cash holdings go about as a support barriers against sudden misfortunes, limit the expenses of raising external assets and limit the risk with the offer of organization's assets in order to retain the speculation strategy in case of monetary distress. Then again, the fundamental cash holding's cost is the opportunity cost related to the low return of liquid resources. Furthermore, agency problems between the administration group and investors might be worsened when the cash levels are great (Opler et al., 1999). As indicated by the tradeoff off theory, companies achieve their own particular ideal level of cash holdings when the marginal benefit of holding cash is equivalent to its marginal cost. Precisely to be based on the trade-off theory, one can develop the expected relationship between some companies' attributes and corporate cash holdings as mentioned below mainly for the independent variables chosen for this study:

i) Firm size – as indicated by Miller & Orr (1966), the models to decide the optimum cash holdings demonstrate that there are economies of scale related with the cash levels, in this way larger companies can keep bring down cash holdings. Moreover, hovering assets is relatively more costly for smaller companies than bigger companies Barclay (1995), henceforth smaller companies tend to hold more money than bigger companies.

ii) Cash flow volatility – cash flow volatility signifies an additional source of liquidity of liquidity for the company, which can be viewed as a cash substitute (Kim et al., 1998).

iii) Leverage – leverage can improve the probability of bankruptcy because of the burden that unbending amortization plans put on the firm treasury administration (Ferreira & Vilela, 2004). In this manner, it ought to expect that organizations with higher leverage will hold more cash as this goes about as a protection, which diminishes the likelihood of future monetary misery. In any case, to the degree that use proportion goes about as an intermediary for the capacity of the organizations to issue debt, it would be normal that organizations with higher leverage that have higher capacity to raise debt to hold less cash (Ferreira & Vilela, 2004).

iv) Capital expenditure – Opler et al (1999) reason that firms having higher capital expenditure will tend to have more liquid assets. This relationship is expected if the static TOT is applied because a firm will need more cash or liquid assets to be able to fulfill its capital expenditure requirements. This is also predicted by Bates & Kahle (2009) when they argue that capital expenditures can be used as a proxy for financial distress costs and/or investment opportunities, leading to a positive relationship. Jani et al (2004) point out that firms with high levels of capital expenditure will try to avoid the extra transaction costs that come with raising external capital as well as the opportunity costs that come with having insufficient resources and so these firms will hold more cash.

2.2.2 Pecking order Theory (POT)

The pecking order theory was first grounded by Myers S. (1984)**.** As per this researcher, firms take after a request when choosing which assets to use in the financing of ventures. In the first place, firms like finance tasks with internal assets. Also, they will change their profit levels, regardless of the possibility that profits have a tendency to take after a tacky strategy. Firms normally from that point offer liquid resources and eventually utilized external capital if all else fails. In the event that external financing is required, firms lean toward debt, than mixture securities, for example, convertibles; lastly the issuance of value (Myers S., 1984). This request of financing originates from the hypothesis of deviated data and the managers' destinations ought

to be to limit the costs identified with these issues. This is on the grounds that managers' have more information on venture needs and the net present value of those speculations. In addition, the managers are likewise expected to act for the companies' present proprietors and will consequently attempt to issue new shares at the most possible price. Equity investors who know about this issue will request a higher risk premium. This premium is subsequently in view of data asymmetry, which expands the expenses of financing ventures with new equity. This is the rationale for organizations that incline toward debt to equity (Myers & Majluf, 1984).

The level of cash holding is a consequence of an association's venture and financing choices. Firms utilize their income to back their speculation openings or tasks, to reimburse obligation when due and after that aggregate unused income as cash balance if conceivable. On the off chance that income can't cover the above expenditure; firms may utilize cash reserves as a support to stay away from outer financing. On the off chance that working income and cash are insufficient to cover all costs, extra financing is required. In this way, the level of cash holding is controlled with cash inflow and outflow, recommending that there is no ideal money holding (Opler et al., 1999).

Despite the fact that organizations' cash holding is clarified by the pecking request, there has been no observational examination until the point when the weighty investigation of (Opler et al., 1999). They test the legitimacy of both the tradeoff theory and the pecking order theory on the objective cash holding conduct by utilizing the model of (Shyam-Sunder & Myers, 1999). Results affirm that the two speculations altogether clarify the difference in real cash holding. In any case, the qualification between tradeoff theory and pecking order theory in real cash holding strategy isn't clear. Furthermore, Opler et al (1999) recommended that the refinement wind up plainly unclear as the cost of outer financing expanded.

Besides, Ferreira & Vilela (2004) contended that organizations may utilize the cash for speculations exercises and furthermore to pay obligation of firms consequently, consequently firms hold higher liquidity. In like manner, Dittmar et al (2003) underlined that organizations having high cash flows disperse the profit easily. Then again, they likewise depend on obligation financing and holding high cash holds.

As per the past exact examinations, diverse financial components have been joined to reflect this theory. Uyar & Kuzey (2014) utilized the organizations gainfulness and use to comprehend the money holding component. In addition, cash flow and firm size was utilized by (Ferreira & Vilela, 2004). Frank & Goyal (2007) contended that pecking order instrument may prompt the agency issues among the investors and the managers or owners.

Critically, with regards to Malaysian firms, Wasiuzzaman S. (2014), while examining cash administration conduct of firms demonstrated that the two hypotheses of pecking order and static tradeoff theories have still been not able clarify the conduct of company's completely. Conversely, at the sector level Kim et al (2011) contended that organizations with high growth opportunities tend to hold high cash levels. In any case, dividend paying firms and firms with high capital expenditures have the lower cash proportion. These outcomes repudiate with the pecking order theory.

To review, in the existing body of literature, none of the examination gives the inclination to any single hypothesis for deciding the trade holding conduct out both firm level and industry level. Subsequently, this examination permits the need, to exactly investigate which hypothesis and financial components depict the cash holding mechanism for developing business sector at sector level.

According to these researchers, in pecking order theory which also known as financial hierarchy theory cash is seen as a buffer between retained earnings and investment needs and there is no optimal cash level. Pecking order theory considers asymmetric information a central issue of financing decision which needed to be address. The first and foremost reason for this central importance is that information asymmetry information makes external fund raising costly and difficult so firms prefer retained earnings than external financing. Secondly when firms becomes bank corrupt then bankers have more rights or on top of the list to get their money back so here again problem of asymmetric information arises because here both parties do not have same level of information. So the purpose of pecking order theory is to minimize asymmetric effect cost and other financial cost. According to the researcher above, this theory is opposite to trade off model because it predicts no optimal level of cash holding rather support high level of cash holdings. In pecking order theory cash is at second to meet financing need because firms use cash when retained earnings are not sufficient to finance new investment and after cash it comes with debt.

Extending pecking order theory to the explanation of the determinants of cash, leads to the conclusion that there is no optimal cash level. It is used as a buffer between retained earnings and investment needs. Under this theory, the cash level would just be the result of the financing and investment decisions. According to this theory, issuing new equities is very costly for firms because of information asymmetries. Thus, firms finance their investments primarily with internal funds, then with debt and finally with equities. When operational cash flow are high, firms use them to finance new profitable projects, to repay debts, to pay dividends and finally to accumulate cash. When retained earnings are insufficient to finance new investments, firms use their cash holdings, and then issue new debt.

Donaldson (1961) is the first researcher who presents the idea of pecking order theory until the point when it is adjusted by (Myers & Majluf, 1984). The theory proposes that companies like to utilize sources of financing as per the cost of financing, which is from the less exorbitant up to the best. Along these lines, in arrangement, internal financing is used to start with, at that point obligation is utilized something like a specific level before the equity financing is issued. This theory likewise clarifies that the cost of financing will influence contrarily to the benefit of the firm. This theory is bolstered by the average reduction in cost when the organizations report to issue new stock, particularly the underestimated shares Asquith & Mullins (1986) on the grounds that habitually, financial specialists are not ready to esteem exactly the new securities issued. At the point when the financial specialist's trust that it is expected to exaggerated resources set up, there would be gigantic stock exchanges from existing investors to new investors. Consequently, asymmetric data supports the ascent of obligation than issuing equity considering that obligation mirrors the board conviction toward the organization business.

Pecking order theory is likewise firmly identified with the execution of corporate governance. Pecking order theory will fizzle and antagonistic choice will be connected if the symmetric data, for example, data about the debt risk, between the directors and the outside investors, exists (Halov & Heider, 2011). For example, when the external investors have same data about the most extreme level of debt financing and the reason of issuing new entity, the directors may issue more stock to get a financing which has less limitations and dodges the credit rating policy, particularly for medium to smaller firms.

The pecking order theory recommends that organizations don't have target cash levels, however cash holdings are utilized as a cradle between retained earnings and investments needs. At the point when current operational cash flows are adequate to fund new ventures, firms reimburse obligation and aggregate money. Conversely the, if operating cash flows are insufficient to fund current speculations, firms utilize the collected cash holdings and, if necessary, issue obligation (Opler et al., 1999). The determinants of cash holdings that are deduced from the pecking order theory are in this way the accompanying as follows:

i) Firm size – bigger companies have a tendency to be more effective, subsequently ought to have more elevated amounts of cash in the wake of controlling for venture (Opler et al., 1999).

ii) Cash flow volatility – companies like to subsidize themselves with interior assets thus firms with bigger measures of the volatility of cash will keep up higher cash levels.

iii) Leverage – debt will develop when speculation surpasses retained earnings and will diminish when investment is not as much as retained earnings. At that point, cash holdings will diminish when investment is greater than retained earnings and will increase when the inverse happens (Ferreira & Vilela, 2004).

iv) Capital expenditure - Alternatively, Opler et al (1999) argue that according to the pecking order theory, firms with higher capital expenditure or investments will use up the cash/liquid assets for this purpose and so will have fewer internal resources and accumulate less cash (Jani et al., 2004). Hence, a negative relationship can be expected. Bates & Kahle (2009) explain that if capital expenditure is used by a firm to create assets that can be used as collateral, then this will allow managers to take up more debt and so increase debt capacity, and this in turn will reduce the demand for cash. Also, they argue that according to Riddick & Whited (2009), when there is a sudden requirement to invest in operations due to increased productivity (or a productivity shock), this will result in higher temporary investment and lower ability to save cash. The arguments by Bates & Kahle (2009) mean that the level of capital expenditure in a firm may either increase or decrease its level of cash. Capital expenditure is calculated as the change in the value of tangible fixed assets from time t-1 to time t plus depreciation (Ross et al., 2008).

2.3 Corporate Cash Holding

Cash holdings have many benefits associated directly to investment activities, particularly in flexibility and capitalizing on opportunities. Companies with excessive cash holdings can take benefit of greater investment possibilities without being too confined by means of capital, ensure satisfactory capital for deliberate or unplanned opportunities for instance enterprise growth, market opportunities throughout the monetary disaster, while sudden new brings a stock rate down, actual property deal, enterprise opportunities and so forth. Precisely, availability of cash holdings permits corporations to take benefit of the instant. Corporations could make worthwhile funding offers which have a massive effect on their continuity whether or not for restructuring functions or for taking benefit of latest opportunities. Alternatively, the cash holdings choice ought to be sound thorough and logical with the intention to keep away from the terrible effect of retaining an excessive amount of cash.

Corporate cash holdings encompass two essential factors that are cash and cash equivalents. The cash account contained all the organization's cash, at the same time as the cash equivalents account represented enormously liquid investments the organization can convert to cash within some days. The cash that is listed as such at the organization's book could be stored in a financial institution account or equivalent monetary organization, wherein the organization can pay its liabilities and expenses. The corporation may additionally preserve a small sum of money in its liabilities and expenses. The organization can also hold a small sum of money in its office for smaller workplace-associated expenses. This is referred to as petty cash and this will be recorded in the cash account at the balance sheet.

The cash equivalents that an organization incorporates on its books are short-term investments that have been tremendously liquid and are taken into consideration to be much like cash due to the fact they may be speedy transformed into cash at a fair fee. Which means that the cash equivalents account comprise all very short-term investments that may be bought at an affordable rate and within a few days. consequently, if an organization desires to use a number of its cash equivalents to pay a number of its payments then it may simply promote a number of its equivalents and use the proceeds to do this for instance cash equivalents encompass cash market accounts and treasury bills.

Cash on hand is an obtainable supply of investment to managers to spend money on capital expenditure, acquisition and R&D with the intention to decorate shareholder cost that is consistent with shareholders' interests. However, cash investment gives a completely low rate of return and is incredibly vulnerable to managerial manipulation that is in opposition to shareholders' interests. Given its precise nature, it's far essential to apprehend the determinants and implications of corporate cash holdings.

Provide some of theoretical models of corporate cash holdings (Opler et al., 1999). Firstly, the trade-off model where in figuring out the optimum degree of cash, managers weigh the marginal expenses and benefits of retaining cash. The primary cost of holding cash is the lower return earned from it, that is known as cost-of-carry (Dittmar et al., 2003). The advantages of conserving cash are pushed by two motives that are transaction costs and precautionary cost. Primarily based on the transaction costs motive, managers are probably to hold extra cash if the cost of external investment and the opportunity cost of foregone investment is excessive. Based totally on the precautionary motive, the value of external investment is likewise taken into consideration to decide the optimal degree however the major purpose is to mitigate economic distress (Opler et al., 1999).

Then, followed by financing hierarchy model where in contrast to the trade-off model, the financing hierarchy model indicates that there may be no optimal degree of cash. Managers are detached to cash or debt, and cash holdings are virtually the residuals of the investment and financing choices made with the aid of them (Dittmar et al., 2003). While corporations have enough cash flows to finance new investment, they pay off money owed and acquire cash. However, whilst corporations lack internal finances to finance new funding, they draw down their collected cash and issue debt (Ferreira & Vilela, 2004).

Moreover, defending that a firm has satisfactory liquid assets for funding their future undertakings is at the core of the act of cash management. Accumulation of cash is ordinarily characterized as cash and marketable securities over that utilized as a part of the ordinary course of the business (Lins et al., 2010). Established on the presumption of immaculate monetary markets, expecting no transaction taxes, asymmetric information and bankruptcy costs, the capital structure does not influence firm esteem. In this manner, there would be no purpose behind an organization to hold liquid resources.

To add on, if there should arise an occurrence of need, asking for an advance from a bank would be sufficient enough; subsequently organizations' monetary choices would not influence their esteem (Modigliani & Miller, 1958). In any case, there are showcase flaws which suggest distinctive motives for corporate cash holdings. The theory of demand for cash by companies by Keynes (1936) and the agency theory by Jensen (1986) explain the exact reason a firm would hold cash.

Not only has that, cash reserves provided companies truly necessary monetary freedom, subsequently empowering them to take after their vital direction with constrained external interference (Boubaker et al., 2015). Moreover, internally generated funds are less expensive than those remotely sourced. In that capacity, companies with adequate cash in hand would make investment in a suitable investment opportunities requiring low cost of financing.

Furthermore, storing cash holdings, in any case, may inadvertently fill up inadequacies aspects including the utilization of corporate assets. Ali & Yousaf (2013) contend that adequate liquid resources bear the cost of directors in the adaptability to utilize these assets even in negative net present value ventures. Late researcher, Faulkender & Wang (2006) have affirmed free cash flow hypothesis that an extra dollar that a firm holds is short of what one dollar.

According to Daher (2010), he places that the causal of these discoveries is the postulation that extreme cash hides the advantages of remotely sourced funds as the checking instrument, and also enabling directors to remove individual focal points. Therefore, cash holding in this manner, have both an upside and a drawback with the goal that organizations need to capitalized on the previous while limiting the diminishing mentioned.

In consummate markets with no data asymmetry, expenses, and agency and transaction costs, organizations have no compelling reason to hold money, as there are no advantages or expenses of dispensing cash. At the point when internal cash possessed by the firm is not adequate to address the issues, the organization can get external financing at reasonable costs that don't conciliation development and venture (Gomes, 2012).

Precisely, in such a remorseless universe, cash holdings would have no impact on the firm esteem or investor wealth (Opler et al., 1999). Markets, be that as it may, blemished and these defects make outside financing be more costly than interior assets. Consequently, regarding

genuine defective markets, corporate cash holdings are a vital part of the business capital structure. Firms with impossible conditions ought to settle on their ideal cash holdings level.

2.4 Previous Empirical Research

2.4.1 Firm Size and Corporate Cash Holding

Size of the firm is being utilized by numerous recent researchers consist of (Deloof, 2003)**.** Similarly, size of the firm has extraordinary effects if the size of the firm is vary from each other. Typically, there are quite a few of dimension to determine the size of the firm that is may be measured by means of assets, sales, employees and value added. Most of the preceding research comes out with various outcomes and conclusion. The impact of the size of the firm is crucial to recognize in this research due to the fact the size of firm will determine if the organization benefit a profit or losses for each transaction of the business specifically after the financial crisis in the 12 months of 2003. In addition, underneath the idea that large corporations are better diversified than small corporations, Bates & Kahle (2009) state that large companies are much more likely with a view to liquidate part of non-core assets to acquire cash, which reduces the opportunity of encountering economic distress. Barcla et al (1995), state that there are scale economies on account of the massive fixed cost of public issuance. Large corporations appear to have lower cost of elevating cash within the capital marketplace than small corporations attributable to these scale economies. Consequently, small companies have a tendency to hold more cash to keep away from those expenses. In a phrase, firm size is negative associated with cash holdings.

According to Bates & Kahle (2009), primarily based on quarterly statistics of public listed company on non-financial U.S. companies between 2001 and 2015, he first observed whether or not agency motive, at the side of different reasons for holding cash, contribute to the growth in cash retaining after 2008 crisis where he observed why companies preserve cash and whether or not cash has turn out to be much less treasured as cash holdings have improved, and if its consequences on company valuation has changed after the financial crisis. His proof indicates that the relation among cash holdings and firm characteristics has changed for the post-crisis period. Particularly, larger corporations hold large amount of cash, debt financing plays a vital

role for corporate cash holdings. In contrast to the pre-crisis duration, investment rate and enterprise sigma are insignificant with respect to their impact at the cash retaining, implying that the precautionary motive much less explains the growth in corporate cash holdings.

Furthermore, according to Titman & Wessels (1988) economies of scale which may be accomplished through corporate cash control makes smaller companies to be greater financially distressed. Besides that, smaller companies are characterized with statistics asymmetry (Ozkan & Ozkan, 2004). This makes growing of external finances greater pricey for those corporations (Ferreira & Vilela, 2004). Larger corporations have the privilege of higher credit score, therefore they have got financial institution credit score line (Opler et al., 1999). These two statistics significantly assist larger companies to achieve external financing easily. Thus large corporations can achieve massive amount of capital, and they're higher positioned to achieve the advantages of economies of scale (D'Mello et al, 2008). Consequently trade-off theory predicts that size has an inverse relationship with corporate cash holdings. This motive of keeping cash corresponds to transaction motive (Bates & Kahle, 2009). But because of effective consequences of size on profit, larger sized corporations are anticipated to be greater successful. Subsequently, these companies will generally tend to accumulate extra cash than smaller companies after controlling for their investment (Jani et al., 2004). This suggests that in evaluation to our preceding debate pecking order theory predicts an instantaneous relationship of size with corporate cash holdings. Moreover larger companies have excessive dispersion of possession which reduces the probabilities of takeovers hence giving managers discretion in their financial decision making (Ferreira & Vilela, 2004).

Primarily based at the prediction of those three theories size can have an effect on corporate cash holding either in positive or negative way. In addition, firm size is another essential element that exerts negative effect on cash holding due to the fact corporations are required to preserve lesser amount of cash because of economies of scale. On the other hand, the pecking order theory predicts positive relationship between the firm size and corporate cash holding due to the fact large organizations normally do better compared to small organizations and because of this, they have to have extra cash (Shabbir et al., 2015).

Despite the fact that pecking order theory stipulates that there's no ideal cash level, a number of its empirical predictions are just like those of the trade-off theory. So, it is hard to differentiate

empirically between these two theories Saddour (2006), there are economies of scale to holding cash. Consistent with Shabbir et al (2015), profitable organizations are predicted to maintain lesser amount of cash due to greater availability of cash flows from operations. In line with the trade-off theory, there is negative correlation between cash holding and profitability due to the fact a profitable company has enough cash flows to keep away from the underinvestment issues. Basheer (2014), firm size is natural log of total asset. Trade off theory of cash flow propose negative relation between cash flow and firm size and other theories where pecking order theory and free cash flow idea predicts a positive relation between cash flow and firm size. He found a negative relation he determined that cash holding and economies of scale have negative relation in which that small company holds more cash.

Magerakis (2015) argued that trade off theory predicts inverse relationship between the company size and the cash holdings. They are expecting that cash holdings and company size have a negative relationship. however, it is confirmed that consistent with (Wasiuzzaman S., 2014), the existence of economies of scale in cash control will result in smaller firms having a higher probability of being financially distressed and due to the fact smaller firms suffer from better information asymmetry they may find it greater expensive to elevate external financing. Therefore, a positive relationship between size and cash holdings is expected by using the pecking order theory.

As indicated by the trade-off off perspective of cash holdings, substantial firms appreciate economies of scale when they issue outer financing as they can convey the fixed cost part of issuing outside assets over an extensive size of assets (Smith et al., 1985). Furthermore, smaller companies are liable to more noteworthy data asymmetry contrasted with extensive companies and, accordingly will probably be fiscally obliged (Fazzari, 1988). Moreover, smaller companies are less broadened and consequently will probably encounter insolvency (Titman & Wessels, 1988). Along these lines, smaller companies will probably collect cash request to maintain a strategic distance from the fixed expenses of external financing, substitute for their lower limit with respect to external financing, and evade liquidation costs. Then again, extensive companies are survivors who had more accomplishment in the business and consequently they appreciate larger internal assets. Hence, extensive companies could gather more cash. The observational confirmation demonstrates that smaller companies aggregate a lot of cash Bigelli et al., 2012)

while different examinations archive negative yet unimportant effect of size on cash holdings (Ozkan & Ozkan, 2004). Following Sufi (2009) estimate is measured as the normal logarithm of net aggregate resources, net aggregate resources is characterized as aggregate resources shortage of cash.

2.4.2 Cash Flow Volatility and Corporate Cash Holding

According to Wasiuzzaman S. (2014), volatile or uncertain cash flows implies feasible cash short ages in the future and so firms with high cash-flow volatility will hold better degrees of cash in anticipation of future shortages in cash flow. Thus, it's far predicted by way of the trade-off argument that a positive relationship need to exist between cash-flow uncertainty and cash holdings. Shortages in cash flow could have long-term implications on the firm's investment possibilities, and this pertains to the precautionary motive for holding cash. Saddour (2006) also cited that there may be evidence that firms which experience shortages in cash flow do surrender precious growth opportunities and, taking the instance of the study carried out by other researchers in 2004 argue that those firms will alternatively allow cross of the investment possibility than react to cash-flow shortfalls through changing the discretionary investment timing. Moreover, Guney et al (2007) argued that if a firm maintains on experiencing cash-flow shortages, its value of acquiring external funds might be better. So, with greater cash reserves in firms with excessive cash-flow volatility, reliance on costly external debt and equity will be much less. Thus, the trade-off theory postulates that the precautionary motive for cash holdings, in this situation due to cash-flow volatility, will result in a positive relationship between cash holdings and volatility. However, the relationship from the pecking order perspective is also positive.

To add on this researcher from above, Wasiuzzaman S. (2014) also argue that cash-flow volatility is a sign of foreseeable of predicted financial distress costs. Further add that even as financially distressed firms may additionally increase their cash holdings to reduce their avoidance risk, they or those most probably to have thoroughly have much less liquidity. Being financially distressed means no longer being able to meet payment commitments, and so logically, financially distressed firms could not have the potential to accumulate cash. Hence, the

association between cash-flow volatility and the level of cash holdings is unsure, for instance the relationship may be either positive or negative. Shabbir et al (2015) argue that cash-flow volatility, which represents firm risk, is measured as the standard deviation of the annual operating cash flow over a rolling five-year period prior to and which includes every of the sample years. It is also required that each firm has at least 3 observations to calculate the standard deviation for every year.

Besides that, attributable to uncertainty of marketplace and other external monetary factors, companies can rarely make correct prediction on future cash outflows and inflows. The uncertainty of cash go with the flow induces the opportunity of shortage of cash. Consequently, companies with greater cash flow uncertainty are predicted to maintain greater cash. Cash go with the flow uncertainty is positively related to cash holdings. Companies with greater volatile cash flow face liquidity constraints and revel in coins scarcity which leads them to forgo some profitable funding projects. Consequently, one could count on firms with extra cash flow volatility to hold greater cash. This allows them to keep away from liquidity constraints expenses. Corporations with more volatile cash flows are predicted to hold extra cash in a try to mitigate the predicted costs of liquidity constraints. As referred to earlier, it is able to be high-priced to be short of cash and marketable securities if the company has to pass up valuable investment possibilities. There may be proof that firms with cash shortfalls do certainly fail to absorb some of the valuable growth opportunities. For instance, Minton & Schrand (1999) show that companies with better cash flow volatility permanently forgo investment in preference to reacting to cash go with the flow shortfalls by means of changing the discretionary investment timing.

Recently, Bates & Kahle (2009) archived that the expansion of cash holdings out the US in the previous two decades is driven by the expanded volatility related with the posting of new companies. The volatility of cash flows is measured after the approach in (Sufi, 2009). It is calculated as the standard deviation of yearly changes in the level of cash flows where it is based on earnings before interest, taxes and depreciation over a lagged time frame, scaled by average non-cash assets out the slacked period.

2.4.3 Leverage and Corporate Cash Holding

Wasiuzzaman S. (2014) argued that leverage may additionally lead a firm to financial misery or bankruptcy. Holding an increasing number of debts will increase the possibility of financial disaster for a firm and relating to the sooner argument in regards to cash-flow volatility, a especially levered firm will need to maintain greater cash to lessen the possibility of turning into financially distressed. The tradeoff theory hence expects a positive relationship between leverage and cash holdings. however from the point of view of leverage being a proxy for the potential of firms to issue debt, firms with high leverage hold much less cash. The predictions by the 3 theories above propose that the effect of leverage on the extent of cash holdings is unsure. According to Guney et al (2007), it's far identified that leverage performs a substantial role in shaping companies' cash regulations. To the extent that the leverage of a company acts as a proxy for the company's capacity to issue debt one could anticipate a negative relation between leverage and cash holdings. Saddour (2006), argued cash holdings ought to lower with leverage. Certainly, when investment desires are excessive and exceed retained profits, corporations issue new debt. Therefore, leverage will increase while cash holdings fall. But, whilst investment desires are much less than retained earnings, corporations pay off their debt and acquire cash.

Consistent with Ali H. (2015), there may be effect of leverage to cash holdings which is negative effect. Leverage is described as the ratio of total liabilities to total asset in finance literature and empirical investigations of various authors leverage is explained as a proxy of company's debt issuing ability. In their empirical investigations found, a negative relation between cash holding and leverage (Basheer, 2014). Rehman & Wang (2015) additionally argued that financial distress and bankruptcy are two essential attributes related to leverage. In line with Jamil et al (2016), a negative and non-significant association discovered between cash holdings and leverage it means cash holding decreases whilst companies increase leverage. Those outcomes are contrary to the preceding empirical research. Bates & Kahle (2009) measure leverage as lengthy-term debt plus debt in modern-day liabilities divided by book assets. If debt is adequately constraining, companies will use cash to reduce leverage, ensuing in a negative relation between cash holdings and leverage. The hedging argument however, is constant with a positive relation between leverage and cash holdings.

It is regarded that leverage performs a substantial role in shaping corporations' cash guidelines. To the extent that the leverage of a company acts as a proxy for the company's capability to issue debt one might anticipate a negative relation between leverage and cash holdings. That is, companies can use borrowing as an alternative for holding cash (John, 1993). In addition, companies can hold economic flexibility through having huge cash reserves and/or unused debt potential like low leverage suggesting a negative relationship between firms' cash reserves and leverage (Graham & Harvey, 2001). However, the relationship among cash reserves and leverage can be non-monotonic implying that the marginal impact of expanded leverage relies upon on its contemporary level. At excessive degrees of leverage companies are much more likely to experience monetary distress and, consequently, acquire large cash reserves with a purpose to minimize the chance of costly bankruptcy. It is also argued that financially confined corporations have extra incentives to hold massive cash balances (Hovakimian & Titman, 2003). Then, to the extent that companies with excessive leverage are much more likely to be restrained in raising external finance, they might increase their cash balances as a precautionary motive. These arguments propose that the relationship between cash holdings and leverage can emerge as positive at excessive degrees of leverage. To check the hypothesized non-monotonic nature of the relationship between cash holdings and leverage we estimate a quadratic model that suggests one turning point. That is, as leverage will increase, we anticipate by examining first a negative (substitution impact) then a positive (precautionary impact) effect exerted by means of leverage on cash holdings.

Basically, financial distress and bankruptcy are two essential attributes related to leverage. Probabilities of bankruptcy are higher whilst debt degree will increase. Deloof (2003) argues that companies having excessive leverage want to build up extra cash to deal with bankruptcy. This decreased opportunity of financial disaster is according with precautionary motive of company for holding extra cash. Therefore leverage goes to positively have an effect on corporate cash holding, that's according with tradeoff theory. However, D'Mello et al (2008) argue that leverage is a proxy for company's potential to elevate greater debt. As a result exceedingly levered companies are predicted to hoard much less cash. This accounts that corporate cash holding is negatively affected by leverage. Consistent with pecking order theory and arguments recommend by using Jani et al (2004) debt is issued in conditions whilst a company has used up all the retained earnings. Therefore cash level of a company normally falls if its investment desires are

higher than its retained earnings and vice versa. One essential fact on this regard is that company's excessive leverage can be used as a proxy for its access to the debt marketplace (John, 1993).

In the context of agency theory consistent with Ferreira & Vilela (2004) managers tend to hold extra cash because cash is more secure than debt. Moreover Jensen (1986) argues that entrenched control is satisfied to hold greater cash in time of negative investment possibilities in preference to distribute it to shareholders as dividends. Higher level of cash can be utilized by for personal advantages even they could put money into projects having negative NPV, due to the fact those initiatives are immune from scrutiny through financial marketplace individuals.

Leverage will increase the field of capital markets. Hence, much less leveraged companies can acquire massive amounts of cash without being subject to tracking through capital markets. Similarly, debt may be used to finance company's investment possibilities and may be visible as a cash substitute. Consequently, we ought to anticipate a negative relationship between cash holdings and leverage. Moreover, the leverage ratio acts as a proxy for the potential of corporations to issue new debt. Therefore particularly leveraged companies have an simpler access to capital markets and hold much less cash. However, debt will increase the probability of monetary misery and bankruptcy. To lessen this possibility, firms with better leverage are predicted to hold more cash. This however made the expected relationship between cash holdings and leverage isn't always genuinely determined beneath the trade-off model.

Consequently based upon above discussion of these three theories, leverage can affect corporate cash holdings in both positive as well as negative way. This study follows Faulkender & Wang (2006) in measuring leverage. Leverage is measured through dividing company's long term debt which additionally consists of company's short term borrowing on company's long-term debt plus market capitalization. These researchers come with the conclusion that leverage and corporate cash holdings have a positive relationship.

Under the financing chain of command theory, a firm with interior asset surplus uses these assets to reimburse obligation as well as spare money. Nonetheless, when a firm is in shortfall it depletes its money investment funds as well as issue obligation. This infers a negative connection amongst use and money possessions. What's more, Opler (1999) take note of that

organizations confronting low venture openings set have the most minimal negligible advantages of holding money and are additionally firms that have high use. A few exact examinations report a noteworthy negative connection amongst use and money possessions including Chen (2008) record a positive connection. This investigation measures use as the measure of aggregate obligation isolated by book estimation of advantages.

2.4.4 Capital Expenditure and Corporate Cash Holding

Wasiuzzaman (2014), gave a reason that companies with more capital expenditure will have the tendency of having more liquid assets. This relationship is anticipated if the static trade-off theory is carried out due to the fact a firm will want extra cash or liquid assets with the intention to fulfill its capital expenditure requirements. Magerakis (2015) argue that capital expenditures can be used as a proxy for financial distress charges and/or investment possibilities, leading to a positive relationship consistent with trade-off theory. This researcher also point out that firms with great degrees of capital expenditure will try to dodge the additional transaction costs that come with increasing external capital as well as the opportunity costs that complement by having insufficient resources and so these firms will hold more cash.

Rather, in line with the pecking order theory, firms with higher capital expenditure or investments will dissipate the cash or liquid assets for this reason and so could have fewer inner resources and acquire less cash. Hence, a negative relationship can be predicted. Bates & Kahle (2009) provide an explanation for that if capital expenditure is utilized by a firm to create assets that can be used as collateral, then this will allow managers to take in extra debt and so increase debt capacity, and this in turn will reduce the demand for cash. Also, when there is an unexpected requirement to invest in operations due to accelerated productivity or a productivity shock, this could result in higher temporary investment and lower ability to save cash. The arguments also imply that the extent of capital expenditure in a firm may either increase or decrease its degree of cash (Magerakis, 2015).

Furthermore, as indicated by the trade-off theory, capital investment reflects financial distress (Bates & Kahle, 2009). As a result, companies with excessive capital investment will face higher financial distress charges in the capital markets. In their attempt to keep away from these

excessive transaction costs, such agencies regularly hold extra cash (Riddick & Whited, 2009). In evaluation, capital expenditure normally results inside the introduction or the development of recent assets that may be pledged with the aid of companies as collateral, therefore, bolstering companies' borrowing capacity (Kim et al., 2011). Therefore, agencies which have improved access to loans will hold less cash. Despite the fact that empirical evidence is inconclusive concerning the relationship between capital expenditure and cash holdings, this observe hypothesizes a negative correlation, as discovered by (Kim, Kim, & Woods, 2011)**.**

In comparison, the trade-off view predicts a positive relationship between capital expenditures and cash holdings. Corporations with excessive growth opportunities make investments a lot and subsequently they hold on average greater cash to assist their capital expenditures. However, the financing hierarchy view predicts that corporations that spend greater on capital expenditures have fewer inner resources and as a result those corporations could collect much less cash. For the purposes of this examine the variable capital expenditures is measured because the change in net fixed assets between consecutive years divided by using capital at the beginning of the period. Chen (2008) reported a negative relation between capital expenditures and cash holdings while Opler et al (1999) record a positive relation.

2.5 Research Framework

This section provides a comprehensive overview of the research methodology and research framework model explaining on the relationship between dependent variable and independent variables used. There is one dependent variable and four independent variables used in this study. The dependent variable is corporate cash holdings while the independent variables used to evaluate the corporate cash holdings for public listed companies consist of firm size, leverage, cash flow volatility and capital expenditure. Figure 2.5 below shows the research framework identified for this study.

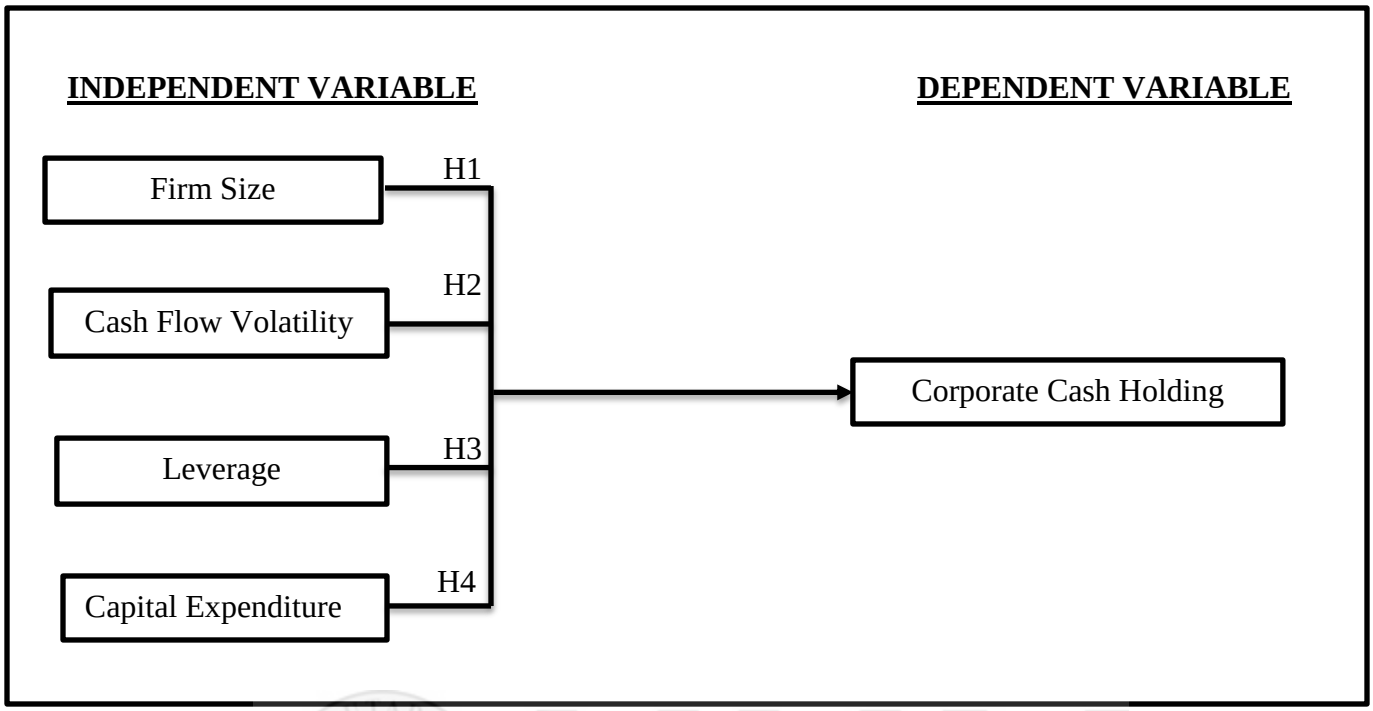

Figure 2.5: Research Framework

2.6 Hypotheses Development

This study is to disclose the relationship between dependent variable that is corporate cash holdings between independent variables such as firm size, leverage, cash flow volatility and capital expenditure. The hypothesis was recommended in order to examine the significant observance of the corporate cash holdings of public listed companies in Malaysia for trading/service sector.

2.6.1 Firm Size and Corporate Cash Holding

Various researches were performed to prove the relationship between corporate cash holdings and company size. As argued by Rajan & Zingales (1998), due to diversification, large organizations have more balance of cash flow and therefore they've got decrease opportunity of being in financial distress. It might be less difficult for these companies to have access to diverse investment resources that's often not possible for smaller one. In a comparable vein, Al-Najjar &

Belghitar (2011) argue that large companies are taken into consideration to be more diversified than their small counterparts and in turn less susceptible to bankruptcy related costs. Consequently, they'll be a great deal less probably to hold cash reserves. Consistently with those arguments, Bates & Kahle (2009) country that large company is more likely with the intention to liquidate a part of non-core assets to accumulate cash, which reduces the possibility of encountering financial distress. Contradicting the trade-off view, the pecking order theory affirms that cash holdings increase with firm size, due to the fact large companies are anticipated to have been greater profitable historically and for this reason accumulated extra cash. Opler et al (1999) argue that large agencies in all likelihood have been more successful, and ultimately need to have extra cash, after controlling for investment.

Firm size is an essential determinant of cash holding, however the normal relationship is uncertain (Niskanen & Niskanen, 2007). Firm size might be identified with potential agency problems, examiner scope, and checking by the market for corporate control. Since there are significant fixed expenses of gaining external financing and economies of scale in real cash management, both develop and bigger organizations are required to get financing in a simpler and less expensive way (Dittmar et al., 2003). To add on, as stated by Almeida et al (2004) contend that vast firms have less demanding access to capital markets in respect to smaller companies; thus they confront less monetary limitations. Besides, on the grounds that larger organizations have a tendency to be more broadened Rajan & Zingales (1998), raising cash by offering non-center resources in times of budgetary distress ought to be less demanding for these organizations (Lang et al, 1995). Thus, expansive and more enhanced companies are inclined to less liquidation related expenses, and subsequently less inclined to store cash reserves (Al-Najjar & Belghitar, 2011).

Precisely, the pecking order theory predicts that more noteworthy size enables a firm to gather retained earnings, thus less obligation is important. Along these lines, pecking order theory predicts a negative relationship between firm size and corporate cash holding (Lopez-de-Foronda et al., 2007). As indicated by Myers S. (1984), more noteworthy firm size diminishes the issues of data asymmetry between supervisors or proprietors and banks, enabling firms to acquire obligation on more ideal terms. A positive connection amongst size and obligation might be normal in the pecking order approach. As indicated by pecking order theory, the connection

amongst firm size and obligation is predicted negative, thus the accompanying examination speculation is defined. In line with this information, this indicates that debt can be one of the reason why firm size shows relatively insignificant or having inverse relationship with corporate cash holdings.

The connection between corporate cash holdings and firm size has been talked about broadly in many studies. According to Al-Najjar & Belghitar (2011), bigger companies are more broadened than the smaller ones which are less vulnerable to chapter bankruptcy. As transaction costs are predictable for bigger companies than smaller companies, firm size and cash holdings are relied upon to have an inverse relationship. The pecking order theory conceives a positive connection between firm size and corporate cash holdings, as the previous is seen as an intermediary for business achievement. Larger companies accomplish development through benefit and are probably going to hold more cash in the wake of controlling for their venture needs (Ferreira & Vilela, 2004). Moreover, the agency theory sets that bigger companies have scattered investors, enabling more self-governance to the administrators to hold more cash for reserved incentives (Ferreira & Vilela, 2004). Pragmatic indication supports the trade-off theory in clarifying the relationship between firm size and corporate cash holdings. This researcher thus investigates, in this manner, conceives a negative connection between firm size and corporate cash holdings.

Therefore, it is argued that firm size is an important determinant of cash holdings and do not expect the sign of the association between firm size and cash holdings:

H1. There is a no relationship between firm size and corporate cash holding.

2.6.2 Cash Flow Volatility and Corporate Cash Holding

According to the trade-off theory companies with greater volatile cash flows could be concern to a greater number of states wherein the company can be short of liquid assets (Ozkan & Ozkan, 2004). Hence, companies may additionally fail to finance all profitable projects and they face larger costs of external financing (Ozkan & Ozkan, 2004). So, companies with more volatile cash flows are predicted to hold more cash with a purpose to reduce the costs of unexpected liquidity shortages. The evidence documented in Bigelli & Sánchez-Vidal (2012) show that the

cash flow volatility is positively associated with cash holdings. More recently, Bates & Kahle (2009) record that the increase of cash holdings within the US in the past two decades is driven by means of the accelerated volatility associated with the listing of recent companies. The volatility of cash flows is measured following the method in (Sufi, 2009). Moreover, it is computed as the standard deviation of annual adjustments in the degree of cash flows (earnings before interest, taxes and depreciation) over a lagged four-year period, scaled by average non-cash assets inside the lagged period.

In addition, high volatility of cash flows implies vulnerability out future income and, in that capacity, a greater probability of bankruptcy (Ozkan & Ozkan, 2004). Since firms in monetary misery may be compelled to forego practical investment prospects, these organizations will hold more cash consistent with the trade-off theory. The trade-off theory, in this way, visualizes a positive relationship between cash flow volatility and cash holdings. Observational discoveries are predictable with the trade-off theory (Bigelli & Sánchez-Vidal, 2012).

Correspondingly, Opler et al (1999) also supported that based at the trade-off theory; agencies with extra risky cash flows face a higher opportunity of experiencing cash shortage because of sudden cash drift deterioration, which leads them to forgo a few profitable investment projects. Not only that, Opler et al (1999) displays that uncertainty leads to situations in which, at times, the firm has extra outlays than predicted. Bates & Kahle (2009) propose that companies with greater cash go with the flow risk hold extra precautionary cash. Empirically, Saddour (2006) argued approximately a positive link between cash flow uncertainty and cash holdings. Predominantly based at the trade-off theory and the previous empirical findings, we hypothesize that:

H2. There is a relationship between cash flow volatility and corporate cash holding.

2.6.3 Leverage and Corporate Cash Holding

Corporations having ability to issue new debts hold less cash and it is used to fund new investment opportunity. Therefore, both the pecking order and trade-off theories expect negative relation between leverage and cash holding (Diamond, 1991). Numerous researchers have discovered negative relation between leverage and cash holding Ogundipe et al (2012). However, developing organizations hold extra cash amount compared to mature companies. Gill & Mathur (2011) determined the similar outcomes. Furthermore, country-specific characteristics for example shareholder protection, ownership concentration, level of credit protection can also moderate the relation between leverage and cash holding (Guney, Ozkan, & Ozkan, 2007).

There might also exist non-linear relation between them and needs to be explored similarly. However, excessive level of debt also will increase the possibility of bankruptcy risk and organizations may be pressured to hold extra cash to pay off debt. Consequently, the direction of relation is not genuinely determined**.** Therefore, we assume both positive and negative association between leverage and corporate cash holding. However, Wasiuzzaman S. (2014) argued that leverage can also lead a firm to financial distress or bankruptcy. To add on, holding an increasing number of debts will increase the probability of bankruptcy for a firm and referring to the earlier argument in regards to cash-flow volatility, a highly levered firm will need to hold extra cash to reduce the possibility of becoming financially distressed. The trade-off theory thus expects a positive relationship between leverage and cash holdings.

The trade-off theory proposes that high leverage reveals organizations to bankruptcy and financial distress. Vastly levered organizations will, accordingly, have a preparatory thought process to hold more cash to avoid bankruptcy (Al-Najjar & Belghitar, 2011). Interestingly, D'Mello et al (2008) set that leverage shows a company's capacity to get to the capital markets for more debts effectively. Thus, exceptionally levered companies with high capacity to get additional obligation from the business sectors will hold less cash. The trade-off theory is, in this manner, uncertain with respect to the connection amongst leverage and corporate cash holdings. The pecking order theory contends that debts develop when a company's speculation needs outperform its retained earnings (Ferreira & Vilela, 2004). In this way, profoundly levered companies will have less cash as their investment desires exceed their cash producing capacities, demonstrating a negative connection amongst leverage and cash holdings. In contrast, even

though a few specialists found a nonlinear connection amongst leverage and cash holdings Drobetz (2007) latest examinations have discovered that profoundly levered companies tend to hold less cash (Uyar & Kuzey, 2014). In accordance with numerous earlier investigations, this examination conceives a negative relationship between leverage and cash holdings.

H3. There is no relationship between leverage and corporate cash holding.

2.6.4 Capital Expenditure and Corporate Cash Holding

The trade-off view predicts a positive relationship between capital expenditures and cash holdings. Companies with high growth opportunities invest a lot and therefore they hold on average extra cash to assist their capital expenditures. However, the financing hierarchy view predicts that firms that spend greater on capital costs have fewer internal resources and hence those companies could acquire less cash. For the purposes of this examine the variable capital expenditures is measured as the change in net fixed assets between two consecutive years divided by capital at the beginning of the period. Chen (2008) recorded a negative relation between capital expenditures and cash holdings, whilst Opler et al (1999) record a positive relation.

In accordance to trade-off theory, capital speculation reflects financial distress (Bates et al., 2009). In this manner, firms with high capital venture will confront higher cash related trouble costs in the capital markets. In their endeavor to keep away from these high transaction costs, such organizations frequently hold more cash (Riddick & Whited, 2009). Conversely, capital expenditure generally outcomes in the formation or the change of new resources that can be promised by firms as guarantee, in this manner, supporting firms' acquiring limit (Kim et al., 2011). Thus, organizations that have improved contact to advances will hold less cash. Though exact confirmation is uncertain with respect to the connection between capital expenditure and cash holding, this investigation postulates a negative relationship, as found by (Iskandar-Datta & Jia, 2014).

Wasiuzzaman S. (2014) gave a purpose that firms having higher capital expenditure will have a tendency to have greater liquid assets. This relationship is predicted if the static tradeoff theory is carried out due to the fact a firm will need extra cash or liquid assets with the intention to fulfill its capital expenditure necessities. Magerakis (2015) argued that capital expenditures can be used as a proxy for financial distress costs and/or investment opportunities, leading to a positive relationship according to trade-off theory. Opler et al (1999) archive a positive association between capital expenditures and cash holdings where the pecking order view expects that organizations that employ additional on capital expenditures have less internal assets and henceforth these organizations would aggregate less cash. For the reasons for this investigation the adjustable capital expenditures is determined as the adjustment as the change in net fixed assets between two consecutive years divided by capital at the beginning of the period.

H4. There is a relationship between capital expenditure and corporate cash holding.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter discusses the focus on each variable's explanation and its measurement instruments based on the theoretical framework from Chapter 2, further discussion on the data and sample, and analyze on the method or data analysis that are used in this study in order to determine the variables of cash holdings in public listed companies under trading/service sector.

3.2 Operational Definition and Measurement of Variable

Dependent variable and the independent variable are used in this study. The dependent variable defined as a variable whose value is affected by the other variable while the independent variable is a variable that affects the dependent variable. This study uses corporate cash holdings as the dependent variable. According to previous studies, Drobetz (2007) mentioned that the measure of corporate cash holdings is obtained by the total cash and equivalents over total assets minus with total cash and equivalents figured from balance sheet. Moreover as for this study, the ratio of cash and cash equivalent to total assets is used to represent the cash holdings (Mikkelson & Partch, 2003)**.**

Cash holdings provide companies the benefit of undertaking their profitable investments initiatives without confronting excessive transaction cash of external financing. Therefore, accumulating cash could provide an advantage of profitable investment. In this study, firm size, leverage, cash flow volatility and capital expenditure are selected as the independent variables based on literature review. The determinants of corporate cash holdings are taken from the annual report based on the studies carried out through the researchers as stated above.

Firm size is defined as the natural logarithm of the book value of the company's total assets (Afza & Adnan, 2007). Then, leverage is measured as total debt and divided by the book value of total assets (Al-Najjar & Belghitar, 2011). In this study, this researcher measure cash flow

volatility as a standard deviation of company's cash flows divided by total assets over the period of the study**.**

Similar to other studies, capital expenditures of firms is determined by the change in net fixed assets between two consecutive years divided by capital at the beginning of the period (Dittmar et al., 2003).

All the definition and measurement of variables is summarized in Table 3.1 below:

"Table 3.4: Theoretical predictions of the determinants of cash holdings and measurement of variables"

Variable	Variable abbreviation	Measurement method
Corporate cash holding	CASH	Total cash and equivalents/ (Total assets – Total cash and equivalents).
Firm Size	FSIZE	Natural logarithm of net total assets.
Cash Flow Volatility	CFV	Standard deviation of firm cash flow
Leverage	LEV	Total debt/Book value of total assets
Capital Expenditure	CAPEX	Change in net fixed assets between two consecutive years/capital at the beginning of the period.

3.3 Structure of Study

Commonly, there are two types of approaches of quantitative and qualitative research (Sekaran, 2003). This study was quantitative method involving hypothesis testing. Thus, the analysis evaluation was conducted in which companies are representative of a unit of analysis. Descriptive analysis was done to enable researchers understand the attribute found in the variables involved in this study. Moreover, this analysis is to comprehend the attributes found in

the factors associated with this investigation. In addition, this test is to elucidate on the idea of the relationship or the relationship between two factors or more in this investigation.

This study was designed based on review and evaluation approach. In this case, the study aims to determine the empirical investigation of public listed companies for trading/service sector in Malaysia. In addition, this study also attempts to identify the relationship between firm size, leverage, cash flow volatility and capital expenditure is seen on the corporate cash holdings.

3.4 Source of Data

This study used the method of secondary data as the main instrument in gathering data which is annual data collected from the year 2014 to 2016. Data is derived from the annual reports that are balance sheet for each public listed company. Besides that, financial information data are obtained from DataStream for the respective year. Moreover, this study uses the samples of public listed companies from trading/service sector in Malaysia main market (Malaysia, 2017). There are reasons for why only trading/service sector is taken to analyze on this research because Malaysia has conventionally been a net importer of trading/services. In addition, this sector plays a vital role in its linkages with the other sectors of the economy. To add on, this sector is more domestic-oriented compared to other sectors as well as the consumption pattern of the trading/service sector has been greatly diversified as the economy matured.

3.5 Population and Sample

Sampling refers to a process of selecting a sufficient number of elements of the population to population characteristics can be made in general (Sekaran, 2003). This means that sampling is a method of identifying a particular element to be studied to certain number of the total population. Sampling designed to meet the objectives of the study.

The total numbers of trading/service sector companies under public listed companies in Malaysia are overall 214 companies. This research sample size consists of 100 of public listed companies from trading/service sector in Malaysia where according to Sekaran (2010) rule of

thumb, the minimum size of sample should be 30% of the population. This sample is identified from Bursa Malaysia Database on the annual reports and DataStream are given in Table 3.7 below:

Table 3.5: DataStream Sample

N	S
214	100

3.6 Statistical Analysis

Scientific data have been acquired and the examination will have the capacity to give importance and answers to the researchers in their exploration. This procedure starts with data gathering, trailed by the process of organizing data and lastly is the examination of the collected data. At that point, the data gathered will be examined by using the Eviews version 9. It aims to test the empirical evidence on the dependent variable towards independent variable. In this study, statistical analysis methods such as the descriptive analysis and Pearson correlations were analyzed. Furthermore, hypothesis testing was also used to conduct for this study where multiple regression analysis extracted from Eviews 9 was applied to check the significant influence between dependent variable and independent variables as well as Durbin-Watson stat.

3.6.1 Descriptive Analysis

Descriptive analysis is determined by frequency and percentage. For this study, researcher contend that the mean is a decent estimation to decide convergence of descriptive statistics, where it works as a device which denotes the correct adjust that will offence the score of each an appropriation of statistics. Therefore, this analysis is applied to describe the samples used in the study based on firm size, leverage, cash flow volatility and capital expenditure whether this variable have connection to corporate cash holdings.

3.6.2 Pearson Correlation

Pearson correlation is a tool to measure the linear correlation between two variables. This tool is employed to obtain the correlation whether they correlate positively and negatively and how much the impact each other (Mukaka, 2012)**.** Moreover, the value generated by Pearson correlation is at a distance of 1 and -1. 1 means that the variables have a perfect positive correlation, otherwise, - 1 shows perfect negative correlation. In addition, there is a rule of thumb in interpreting the size of correlation between two variables to identify the strength between the variables that was adopted by Sekaran (2003) which is presented in the Table 3.8.2 below.

Table 3.6.2: Size of Correlation and the Interpretation by Sekaran (2003)

r Value	The relationship between independent and dependent variable
0.01-0.09	Very weak relationship between the two variables.
0.10-0.29	Weak relationship between the two variables
0.30-0.49	Moderate relationship between both variables.
0.50-0.69	Strong relationship between the two variables.
0.70 and above	A very strong relationship between the two variables.

3.6.3 Multiple Regression Analysis (OLS)

The model specification in this study was adopted from (Opler et al., 1999). Unlike other studies that are related on the corporate cash holdings, this study depicts to examine the significant relationship of the independent variables that are firm size, leverage, cash flow volatility and capital expenditure with the dependent variable of this study that is corporate cash holdings focusing on trading/service sector from public listed companies in Malaysia. Moreover, the multiple regression analysis was obtained by using Eviews 9 OLS package to examine the model of this study. This research engages regression model to acquire the association between the dependent variable and independent variables. According to Opler et al (1999), the following static model was used and modified:

$$CASH_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 LEV_{it} + \beta_3 CFV_{it} + \beta_4 CAPEX_{it} + e_{it}$$

Where:

Dependent Variable (measure of corporate cash holdings)

$Cash_{it}$ = is investment in cash and marketable securities of firm i at time t

Independent Variables

$Fsize_{it}$ = is the natural log of total assets of firm i at time t scaled by total assets

Lev_{it} = is the market leverage of firm i at time t

CFV_{it} = is the standard deviation of firm cash flow

$CAPEX_{it}$ = is the capital expenditure of firm i at time t scaled by total assets

e_{it} = is the error term

3.6.4 Durbin-Watson Stat

The Durbin Watson measurement is a number that tests for autocorrelation in the residuals from a factual relapse investigation. The Durbin-Watson measurement is dependably in the vicinity of 0 and 4. An estimation of 2 implies that there is no autocorrelation in the specimen. Qualities moving toward 0 demonstrate positive autocorrelation and qualities toward 4 show negative autocorrelation. Accordingly, the test statistic is considered with the following formula below:

$$DW = \frac{\sum_{t=2}^{T}(e_t - e_{t-1})^2}{\sum_{t=1}^{T} e_t^2}$$

Where E_t are residuals from an ordinary least squares regression. The Durbin Watson test reports a test statistic, with a value from 0 to 4, where:

i) 2 is no autocorrelation.

ii) 0 to <2 is positive autocorrelation (common in time series data).

iii) >2 to 4 is negative autocorrelation (less common in time series data).”

The rule of thumb general guideline is that test measurement esteems in the scope of 1.5 to 2.5 are moderately ordinary. Qualities outside of this range could be cause for concern. According to Field (2009) recommends that esteems under at least 1 than 3 are a definite l reason for concern.

The Durbin Watson test is once in a while utilized and is considered by some to be archaic. It requires the utilization of tables, which you can discover here. Here a with the exception of the table at the 5% alpha level that the most widely recognized importance level utilized based on Savin and White (1977) Table 3.6.4 below.

Table 3.6.4: Durbin-Watson stat table

Models with an intercept (from Savin and White)

Durbin-Watson Statistic: 1 Per Cent Significance Points of dL and dU

	k'=1		k'=2		k'=3		k'=4		k'=5		k'=6		k'=7		k'=8		k'=9		k'=10	
n	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU
6	0.390	1.142	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7	0.435	1.036	0.294	1.676	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8	0.497	1.003	0.345	1.489	0.229	2.102	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	0.554	0.998	0.408	1.389	0.279	1.875	0.183	2.433	---	---	---	---	---	---	---	---	---	---	---	---
10	0.604	1.001	0.466	1.333	0.340	1.733	0.230	2.193	0.150	2.690	---	---	---	---	---	---	---	---	---	---
11	0.653	1.010	0.519	1.297	0.396	1.640	0.286	2.080	0.193	2.453	0.124	2.892	---	---	---	---	---	---	---	---
12	0.697	1.023	0.569	1.274	0.449	1.575	0.339	1.913	0.244	2.280	0.164	2.665	0.105	3.053	---	---	---	---	---	---
13	0.738	1.038	0.616	1.261	0.499	1.526	0.391	1.826	0.294	2.150	0.211	2.490	0.140	2.838	0.090	3.182	---	---	---	---
14	0.776	1.054	0.660	1.254	0.547	1.490	0.441	1.757	0.343	2.049	0.257	2.354	0.183	2.667	0.122	2.981	0.078	3.287	---	---
15	0.811	1.070	0.700	1.252	0.591	1.465	0.487	1.705	0.390	1.967	0.303	2.244	0.226	2.530	0.161	2.817	0.107	3.101	0.068	3.374
16	0.844	1.086	0.738	1.253	0.633	1.447	0.532	1.664	0.437	1.901	0.349	2.153	0.269	2.416	0.200	2.681	0.142	2.944	0.094	3.201
17	0.873	1.102	0.773	1.255	0.672	1.432	0.574	1.631	0.481	1.847	0.393	2.078	0.313	2.319	0.241	2.566	0.179	2.811	0.127	3.053
18	0.902	1.118	0.805	1.259	0.708	1.422	0.614	1.604	0.522	1.803	0.435	2.015	0.355	2.238	0.282	2.467	0.216	2.697	0.160	2.925
19	0.928	1.133	0.835	1.264	0.742	1.416	0.650	1.583	0.561	1.767	0.476	1.963	0.396	2.169	0.322	2.381	0.255	2.597	0.196	2.813
20	0.952	1.147	0.862	1.270	0.774	1.410	0.684	1.567	0.598	1.736	0.515	1.918	0.436	2.110	0.362	2.308	0.294	2.510	0.232	2.174
21	0.975	1.161	0.889	1.276	0.803	1.408	0.718	1.554	0.634	1.712	0.552	1.881	0.474	2.059	0.400	2.244	0.331	2.434	0.268	2.625
22	0.997	1.174	0.915	1.284	0.832	1.407	0.748	1.543	0.666	1.691	0.587	1.849	0.510	2.015	0.437	2.188	0.368	2.367	0.304	2.548
23	1.017	1.186	0.938	1.290	0.858	1.407	0.777	1.535	0.699	1.674	0.620	1.821	0.545	1.977	0.473	2.140	0.404	2.308	0.340	2.479
24	1.037	1.199	0.959	1.298	0.881	1.407	0.805	1.527	0.728	1.659	0.652	1.797	0.578	1.944	0.507	2.097	0.439	2.255	0.375	2.417
25	1.055	1.210	0.981	1.305	0.906	1.408	0.832	1.521	0.756	1.645	0.682	1.776	0.610	1.915	0.540	2.059	0.473	2.209	0.409	2.362
26	1.072	1.222	1.000	1.311	0.928	1.410	0.855	1.517	0.782	1.635	0.711	1.759	0.640	1.889	0.572	2.026	0.505	2.168	0.441	2.313
27	1.088	1.232	1.019	1.318	0.948	1.413	0.878	1.514	0.808	1.625	0.738	1.743	0.669	1.867	0.602	1.997	0.536	2.131	0.473	2.269
28	1.104	1.244	1.036	1.325	0.969	1.414	0.901	1.512	0.832	1.618	0.764	1.729	0.696	1.847	0.630	1.970	0.566	2.098	0.504	2.229
29	1.119	1.254	1.053	1.332	0.988	1.418	0.921	1.511	0.855	1.611	0.788	1.718	0.723	1.830	0.658	1.947	0.595	2.068	0.533	2.193
30	1.134	1.264	1.070	1.339	1.006	1.421	0.941	1.510	0.877	1.606	0.812	1.707	0.748	1.814	0.684	1.925	0.622	2.041	0.562	2.160
31	1.147	1.274	1.085	1.345	1.022	1.425	0.960	1.509	0.897	1.601	0.834	1.698	0.772	1.800	0.710	1.906	0.649	2.017	0.589	2.131
32	1.160	1.283	1.100	1.351	1.039	1.428	0.978	1.509	0.917	1.597	0.856	1.690	0.794	1.788	0.734	1.889	0.674	1.995	0.615	2.104
33	1.171	1.291	1.114	1.358	1.055	1.432	0.995	1.510	0.935	1.594	0.876	1.683	0.816	1.776	0.757	1.874	0.698	1.975	0.641	2.080
34	1.184	1.298	1.128	1.364	1.070	1.436	1.012	1.511	0.954	1.591	0.896	1.677	0.837	1.766	0.779	1.860	0.722	1.957	0.665	2.057
35	1.195	1.307	1.141	1.370	1.085	1.439	1.028	1.512	0.971	1.589	0.914	1.671	0.857	1.757	0.800	1.847	0.744	1.940	0.689	2.037
36	1.205	1.315	1.153	1.376	1.098	1.442	1.043	1.513	0.987	1.587	0.932	1.666	0.877	1.749	0.821	1.836	0.766	1.925	0.711	2.018
37	1.217	1.322	1.164	1.383	1.112	1.446	1.058	1.514	1.004	1.585	0.950	1.662	0.895	1.742	0.841	1.825	0.787	1.911	0.733	2.001
38	1.227	1.330	1.176	1.388	1.124	1.449	1.072	1.515	1.019	1.584	0.966	1.658	0.913	1.735	0.860	1.816	0.807	1.899	0.754	1.985
39	1.237	1.337	1.187	1.392	1.137	1.452	1.085	1.517	1.033	1.583	0.982	1.655	0.930	1.729	0.878	1.807	0.826	1.887	0.774	1.970
40	1.246	1.344	1.197	1.398	1.149	1.456	1.098	1.518	1.047	1.583	0.997	1.652	0.946	1.724	0.895	1.799	0.844	1.876	0.749	1.956
45	1.288	1.376	1.245	1.424	1.201	1.474	1.156	1.528	1.111	1.583	1.065	1.643	1.019	1.704	0.974	1.768	0.927	1.834	0.881	1.902
50	1.324	1.403	1.285	1.445	1.245	1.491	1.206	1.537	1.164	1.587	1.123	1.639	1.081	1.692	1.039	1.748	0.997	1.805	0.955	1.864
55	1.356	1.428	1.320	1.466	1.284	1.505	1.246	1.548	1.209	1.592	1.172	1.638	1.134	1.685	1.095	1.734	1.057	1.785	1.018	1.837
60	1.382	1.449	1.351	1.484	1.317	1.520	1.283	1.559	1.248	1.598	1.214	1.639	1.179	1.682	1.144	1.726	1.108	1.771	1.072	1.817
65	1.407	1.467	1.377	1.500	1.346	1.534	1.314	1.568	1.283	1.604	1.251	1.642	1.218	1.680	1.186	1.720	1.153	1.761	1.120	1.802
70	1.429	1.485	1.400	1.514	1.372	1.546	1.343	1.577	1.313	1.611	1.283	1.645	1.253	1.680	1.223	1.716	1.192	1.754	1.162	1.792
75	1.448	1.501	1.422	1.529	1.395	1.557	1.368	1.586	1.340	1.617	1.313	1.649	1.284	1.682	1.256	1.714	1.227	1.748	1.199	1.783
80	1.465	1.514	1.440	1.541	1.416	1.568	1.390	1.595	1.364	1.624	1.338	1.653	1.312	1.683	1.285	1.714	1.259	1.745	1.232	1.777
85	1.481	1.529	1.458	1.553	1.434	1.577	1.411	1.608	1.386	1.630	1.362	1.657	1.337	1.685	1.312	1.714	1.287	1.743	1.262	1.773
90	1.496	1.541	1.474	1.563	1.452	1.587	1.429	1.611	1.406	1.636	1.383	1.661	1.360	1.687	1.336	1.714	1.312	1.741	1.288	1.769
95	1.510	1.552	1.489	1.573	1.468	1.596	1.446	1.618	1.425	1.641	1.403	1.666	1.381	1.690	1.358	1.715	1.336	1.741	1.313	1.767
100	1.522	1.562	1.502	1.582	1.482	1.604	1.461	1.625	1.441	1.647	1.421	1.670	1.400	1.693	1.378	1.717	1.357	1.741	1.335	1.765
150	1.611	1.637	1.598	1.651	1.584	1.665	1.571	1.679	1.557	1.693	1.543	1.708	1.530	1.722	1.515	1.737	1.501	1.752	1.486	1.767
200	1.664	1.684	1.653	1.693	1.643	1.704	1.633	1.715	1.623	1.725	1.613	1.735	1.603	1.746	1.592	1.757	1.582	1.768	1.571	1.779

*'k' is the number of regressors excluding the intercept

CHAPTER 4

EMPIRICAL RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter discusses the analysis and findings from the data collected from Bursa Malaysia on the annual reports of public listed companies for trading/service sector. A total of 100 companies from trading/service sector which contributes on the high market capitalization are chosen to ease the results where this would show clearly on the reasons of companies holding a lot of cash.

This chapter focuses on the descriptive analysis, followed by the correlation between variables and the findings of the study. To enhance more on the understanding of the results and the analysis based on the data collected to identify whether the questions and problems are answered in determining the relationship between variables are done.

4.2 Descriptive Analysis

Table 4.2: Summary of Descriptive Statistics

	CASH	FSIZE	CFV	LEV	CAPEX
Mean	0.352935	6.519483	0.098783	1.370732	1.816861
Median	0.115800	6.358600	0.000000	0.300200	0.349200
Maximum	5.853100	7.849100	5.853100	7.646100	38.43660
Minimum	0.006800	5.032900	0.000000	-15.77820	-89.30590
Std. Dev.	0.475220	0.607552	0.390714	3.002479	11.27129
Skewness	5.568766	0.327046	11.08573	-1.489376	-2.508127
Kurtosis	61.21156	2.938005	158.6183	13.19053	24.06637
Jarque-Bera	43907.88	5.395994	308857.8	1408.999	5861.933
Probability	0.000000	0.067340	0.000000	0.000000	0.000000
Sum	105.8804	1955.845	29.63493	411.2195	545.0582
Sum Sq. Dev.	67.52451	110.3667	45.64465	2695.449	37985.54
Observations	300	300	300	300	300

4.2.1 Corporate Cash Holding

Table 4.2 shows the findings of descriptive analysis of hundred public listed companies from trading/service sector in Malaysia. According to the above table, the dependent and independent variables statistic are shown for the sample of 100 public listed companies for trading/service sector. Minimum, maximum, mean, median, standard deviation is identified as well as skewness and kurtosis. As mentioned in Chapter 3, mean is the decent estimation to identify the convergence between variables for descriptive statistics. Based on the result on Table 1, the dependent variable shows a mean of 0.352935 for corporate cash holdings. Corporate cash holdings play a vital role for all the companies since cash is required for investments purpose and other purpose as well. Corporate cash holding acts as the proxy for this research as

trading/service sector of public listed companies in Malaysia invest or hold excessive cash compared to other sectors.

4.2.2 Independent Variables

The independent variables are firm size, leverage, cash flow volatility and capital expenditure. Table 4.1 shows the statistics for each variable where, as for firm size, the mean is higher compared to other variables that show that large firm gives more impact on corporate cash holdings where a total of 100 public listed companies for trading/service sector were identified from year 2014 to 2016. The companies are chosen based on market capital where it is the market value of a company's outstanding shares.

Then, followed by leverage, trading/service sector is known as the largest sector that holds massive cash since the companies are linked internationally and also the use of borrowed capital for investments while expecting the profits made to be greater than the interest payable. So, there is profit and loss earned by the investments where the mean for 100 public listed companies only shows 1.370732. Compared to other variables, leverage is considered one of the important variables to be acknowledged since the cash are mostly earned and holds for investments.

In addition, cash flow volatility measures the risk of a security where it is to measure on the variabilities in the returns of the underlying assets. As specified in Table 1, the mean is lower compared to other independent variables where this can be indicated that there is a fluctuation in the prices for the 100 public listed companies form year 2014 to 2016. This can be taken as the companies made investments and the probability of profit and loss is not balanced.

Lastly, capital expenditure is one of the important independent variable where it is the cash disbursed by a company on holding or retaining fixed assets such as land, buildings and equipment. The statistics in Table 1 shows that capital expenditure has a quite high mean of all since the cash spent by the companies from the year 2014 to 2016 on holding the fixed assets are remarkable.

4.3 Pearson Correlation

Correlation is generally in view of samples of data, it is common to incorporate the statistical significance of the correlation. Statistical significance is an announcement of the probability of getting a specific relationship coefficient for a sample of data if there is no connection in the population from which the sample was drawn. This analysis is based on secondary data obtained fully from annual report extracted from Bursa Malaysia of 100 public listed companies for trading/service sector. Basically, Pearson correlation is to measure and identify the relationship between independent variables. According to Cohen (1988) that was illustrated in Table 3.8.2, the r value resulted from the collected data are based on these researchers and that was retrieved from Eview9 is shown below:

Table 4.3: Summary of Pearson Correlation

	CASH	FSIZE	CFV	LEV	CAPEX
CASH	1.000000	-0.096350	0.023376	-0.049643	0.060936
FSIZE	-0.096350	1.000000	-0.014530	0.032996	0.058227
CFV	0.023376	-0.014530	1.000000	-0.005248	0.111821
LEV	-0.049643	0.032996	-0.005248	1.000000	0.031378
CAPEX	0.060936	0.058227	0.111821	0.031378	1.000000

Correlation 1: *There is a very weak, negative correlation between firm size and corporate cash holding.*

A Pearson correlation was computed to assess the correlation between firm size and corporate cash holdings. According to the result shown in Table 4.3, there was a very weak relationship and negative correlation between the two variables exists, $r = -0.096350$, $n = 100$, $p < 0.09$.

Correlation 2: *There is a very weak, positive correlation between cash flow volatility and corporate cash holding.*

A Pearson correlation was computed to assess the correlation between cash flow volatility and corporate cash holdings. According to the result shown in Table 4.3, there was a very weak relationship and positive correlation between the two variables exists, r = 0.023376, n = 100, p < 0.09.

Correlation 3: *There is a very weak, negative correlation between leverage and corporate cash holding.*

A Pearson correlation was computed to assess the correlation between leverage and corporate cash holdings. According to the result shown in Table 4.3, there was a very weak relationship and negative correlation between the two variables exists, r = -0.049643, n = 100, p < 0.09.

Correlation 4: *There is a very weak, positive correlation between capital expenditure and corporate cash holding.*

A Pearson correlation was computed to assess the correlation between capital expenditure and corporate cash holdings. According to the result shown in Table 4.3, there was a very weak relationship and negative correlation between the two variables exists, r = 0.060936, n = 100, p < 0.09.

4.4 Multiple Regressions

Table 4.4: Summary of Multiple Regressions

Dependent Variable: CASH HOLDINGS
Method: Least Squares
Date: 11/22/17 Time: 23:08
Sample: 1 300
Included observations: 300

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FSIZE	-0.076985	0.045277	-1.700304	0.0901
CFV	0.017326	0.070698	0.245076	0.8066
LEV	-0.007662	0.009149	-0.837469	0.4030
CAPEX	0.002808	0.002456	1.143360	0.2538
CASH	0.858530	0.296315	2.897358	0.0040

R-squared	0.016277	Mean dependent var	0.352935
Adjusted R-squared	0.002939	S.D. dependent var	0.475220
S.E. of regression	0.474522	Akaike info criterion	1.363507
Sum squared resid	66.42540	Schwarz criterion	1.425237
Log likelihood	-199.5261	Hannan-Quinn criter.	1.388212
F-statistic	1.220303	Durbin-Watson stat	1.385624
Prob(F-statistic)	0.302220		

HI: Firm Size has no significant influence on Corporate Cash Holding.

Multiple regression has been clarified to determine whether Firm Size has a significant influence on Corporate Cash Holdings. From the identification from Table 4.4 above, shows that, Firm Size have low Standardized Coefficient Beta with estimated gradient of ($B = -0.076985$, $p < 0.0901$) in which p value is greater than 0.001. It is measured that if beta is negative then there is

inverse relationship between Firm Size and Corporate Cash Holdings where tradeoff theory and pecking order theory implies that there is negative influence for these two variables. This indicates that the H1 is rejected and explains, there is no significant influence between the Firm Size and Corporate Cash Holdings since Firm Size does not make any influence to the prediction of dependent variable, Corporate Cash Holdings for trading/service sector in Malaysia.

This is supported by Bigelli & Sánchez-Vidal (2012), the trade-off theory, the relationship between firm size and cash holdings predicted a negative influence. In addition, this researcher proposed that bigger companies adore the economies of scale, which, thus, empowers these organizations to secure outer fund generally rapidly and efficiently. Besides that, more significant organizations use their economies of scale to bring down transaction costs, which are fixed costs acquired in peripheral borrowing (Kim et al., 2011). As for the observed on pecking order theory, predicts that more prominent size enables a firm to collect retained earnings, thus less debt is essential. Hence, Pecking Order Theory predicts a negative relationship between firm size and corporate cash holdings (López-Gracia & Sogorb-Mira, 2008).

H2: Cash Flow Volatility has significant influence on Corporate Cash Holding.

Multiple regression has been applied to determine whether Cash Flow Volatility has a significant influence on Corporate Cash Holdings. From the observation from Table 4.4 above, shows that, Cash Flow Volatility have a great Standardized Coefficient Beta with estimated slope of ($B = 0.017326$, $p < 0.001$) compared to other independent variables. The value of beta indicates that this independent factor have the most reliable influence towards the dependent variable, Corporate Cash Holdings. Hence, this shows a positive in the beta value and considered there is significant relationship between Cash Flow Volatility and Corporate Cash Holdings for both tradeoff theory and pecking order theory. This implies that the H2 is accepted and explains, there is a significant influence between the Cash Flow Volatility and Corporate Cash Holdings for trading/service sector in Malaysia since Cash Flow Volatility supports to the estimation of dependent variable, Corporate Cash Holdings.

This is supported by these researchers where as indicated by trade-off theory, companies with more volatile cash flows will be liable to a more noteworthy number of conditions in which the company will be have distinctive level of liquid resources (Ozkan & Ozkan, 2004). Hence, companies may neglect to finance all gainful venture and they confront bigger expenses of outside financing (Ozkan & Ozkan, 2004). In this way, companies with more volatile cash flows are relied upon to hold more cash appropriately request to lessen the expenses of sudden liquidity deficiencies.

The confirmation archived in Bigelli & Sánchez-Vidal (2012) demonstrate that the cash flow volatility is emphatically identified with cash holdings while Guney et al (2007) contended that if a company keeps up on encountering cash flow deficiencies, its benefit of gaining outer assets may be better. In this way, with more noteworthy cash reserves in companies with too much of cash flow volatility, dependence on expensive external obligation and value will be considerably less. Along these lines, the trade-off theory proposes that the precautionary motive for cash holdings, in this circumstance because of cash flow volatility, depicts a positive relationship between corporate cash holdings and cash flow volatility. Consequently, the relationship from the pecking order theory point of view is viewed as positive.

H3: Leverage has no significant influence on Corporate Cash Holding.

Multiple regression has been analyzed to identify whether Leverage has a significant influence on Corporate Cash Holdings. Table 4.4 above observation indicates that Leverage have low Standardized Coefficient Beta with predictable gradient of ($B = -0.007662$, $p < 0.4030$) in which p value is greater than 0.001. It is measured that if beta is negative then there is inverse relationship between Leverage and Corporate Cash Holdings where tradeoff theory and pecking order theory supports that there is negative influence for these two variables. This specifies that the H3 is rejected and clarifies there is no significant influence between the Leverage and Corporate Cash Holdings since Leverage does not postulates impact on the trading/service sector in Malaysia to the expectation of dependent variable, Corporate Cash Holdings.

From the supported research for the hypothesis, Ali H. (2015) supports there might be impact of use to leverage to cash holdings which is negative effect. Leverage is depicted as the proportion of aggregate liabilities to add up to resource in the literature view and experimental examinations of different researchers leverage is clarified as an intermediary of organization's debt issuing capacity. Basically, from their experimental examinations initiated a negative relationship between corporate cash holdings and leverage (Basheer, 2014).

According to Rehman & Wang (2015) furthermore contended that financial distress and liquidation are two critical traits identified with leverage. In accordance with Jamil et al (2016), a negative and non-critical affiliation found between cash holdings and leverage where it implies cash holding diminishes while organizations keep up on increasing the level of leverage. Naturally, those results are in opposition to the previous experimental research. To add on, Bates & Kahle (2009) measured the leverage as an extended period debt in addition to liabilities divided by book assets. On the off chance that debt is satisfactorily compelling; organizations will utilize money to decrease leverage, resulting in a negative relationship between cash holdings and leverage.

As for the pecking order theory, additionally, cash holdings should decline with leverage, in light of the fact that if internally generated funds are not adequate, firms will utilize its liquid reserves previously before issuing liability, yet in the event that the firm has inward surplus it will pay down its liquid. Furthermore, Jensen (1986) free cash flow proposes that, payouts, as premium installments, decrease the assets under the administration, along these lines reducing directors' energy and improving the probability of observing by the capital markets. Be that as it may, low leverage firms are less subject to checking, taking into consideration superior managerial discretion. A developing number of studies have discovered that the level of financial leverage negatively impacts corporate cash holdings (Al-Najjar & Belghitar, 2011).

H4: Capital Expenditure has significant influence on Corporate Cash Holding.

Multiple regressions have been discovered to reflect whether Capital Expenditure has a significant influence on Corporate Cash Holdings. From Table 4.4 result above, shows that, Capital Expenditure have a great Standardized Coefficient Beta with estimated slope of ($B = 0.002808$, $p < 0.001$) in comparison to other independent variables. The value of beta designates that this independent variable have dependable influence towards the dependent variable, Corporate Cash Holdings. Therefore, this demonstrates a positive in the beta value and measured there is a significant relationship between Capital Expenditure and Corporate Cash Holdings for both tradeoff theory and pecking order theory. This implies that the H4 is accepted and further explains, there is a significant influence between the Capital Expenditure and Corporate Cash Holdings since Capital Expenditure ropes to the approximation of dependent variable, Corporate Cash Holdings in influencing trading/service sector in Malaysia.

To clarify on this, the trade-off view predicts a positive relationship between capital expenditures and cash holdings. Firms with high development opportunities contribute a lot and subsequently hold on average large cash to help their capital expenditures. At that point, the pecking order theory predicts that companies that occupy more on capital expenditures have less internal assets and henceforth these companies would collect less cash. For the reasons for this investigation the variable capital expenditures is measured as the change in net fixed assets between two consecutive years divided by capital at the beginning of the period. Opler et al (1999) archive a positive relationship that has significant influence between capital expenditures and cash holdings.

4.5 Durbin-Watson Stat

Durbin-Watson tests for autocorrelation in residuals from a relapse investigation. The test measurement runs in the middle of 0 to 4. An estimation of 2 shows that there is no autocorrelation. Esteem nearing 0 where underneath 2 demonstrates positive autocorrelation and incentive towards 4 where more than 2 show negative autocorrelation. It would appear that you have a negative autocorrelation case. Savin and White (1977) table those rundowns basic esteems for test estimate as well as number of regressors. It would test whether the esteem of 1.385624 is fundamentally unique in relation to 2.00 given in the estimate or potentially the quantity of regressors. So, the autocorrelation depicts a positive relationship for n = 100, k = 2. This indicates that the results shows positive and there is intercept relationship between variables where 0 to <2 is positive autocorrelation.

CHAPTER 5

CONCLUSION

5.1 Introduction

In the earlier chapter of findings for this research study, it briefly explains, summarized, presented briefly about the response of this research. This chapter discusses the overall of the study and recommendations for research in the future. For purposes of discussion, this chapter will be divided into three parts consisting of, conclusion, suggestions for future research, and finally the limitation of the study.

5.2 Conclusion

This research study was conducted to determine empirical investigation on corporate cash holdings of public listed companies for trading/service sector in Malaysia. Moreover, this research also has been conducted to identify the significant relationship among independent and dependent variables for the purpose of clarifying the reason for companies hold so much cash. There is 100 companies chosen based on high market capital in this research from the year 2014 to 2016 and the annual report was extracted from Bursa Malaysia under main market.

In addition, this study was related to compliance with the corporate cash holding for trading/service sector companies. The objective of this study was to determine the empirical investigation by evaluating the relationship between cash holdings with firm size, leverage, cash flow volatility and capital expenditure of trading/service sector public listed companies in Malaysia.

This study shows the four independent variables of firm size, leverage, cash flow volatility and capital expenditure which play a very important role in influencing the reasons corporate cash holdings in holding large cash.

Table 5.2 below illustrates an outline of findings in Chapter 4 and the hypothesis which were obtained earlier. Hence, the conclusion was constructed on the findings of this research.

Table 5.2: Summary of Findings

Independent variable	Hypothesis	Result
Firm Size	There is a negative and insignificant relationship between firm size and corporate cash holdings.	Rejected
Cash flow volatility	There is a positive and significant relationship between cash flow volatility and corporate cash holdings.	Accepted
Leverage	There is a negative and insignificant relationship between leverage and corporate cash holdings.	Rejected
Capital expenditure	There is a positive and significant relationship between capital expenditure and corporate cash holdings.	Accepted

The table above shows that the result obtained from the annual report that been extracted into Eview9, the certain test carried out showed that, there is a significant relationship between the firm size, leverage, cash flow volatility and capital expenditure towards corporate cash holdings of public listed companies from trading/service sector in Malaysia.

5.3 Contributions of the Study

5.3.1 Theoretical Contribution

This study will provide better insight and understanding regarding corporate cash holding especially in trading/service sector since this sector is the dominant sector in economic. In addition, this study had provided confirmation and clarity on evidence by eliminating the contradiction in term of research finding between the existing studies in refining the determinants of corporate cash holdings.

5.3.2 Practical Contribution

This study overall will provide corporate a better insight and understanding on prominent factors which have significant or insignificance influence on trading/service sector for public listed companies in Malaysia. In addition, this contribution may lead corporate to have a better recognition in identifying on how to manage their corporate cash holding in an effective and efficient way. This sector will show enhancement to the companies to maintain the flow of their corporate cash.

5.4 Limitation of Study

This study focused on the reasons why companies hold so much cash in trading/service sector for public listed companies in Malaysia. Therefore, as mentioned previously, this study was limited to trading/service sector companies that were identified based on high market capital. The number of samples used for this research is not so big and it causes the accuracy of the result is being affected slightly.

In addition to it, other problem faced throughout this research is that is the second limitation mainly because lack of research article and information regarding the corporate cash holdings done in Malaysia for the public listed companies as well as focusing on specific sector. Moreover, the corporate cash holding for public listed companies done in Malaysia was very few

and also on the trading/service sector which limits the scope of this study. Besides that, this research is being identified based on annual reports pulled from Bursa Malaysia from the year 2014 to 2016. The reason for choosing three consecutive years is because of the introduction of GST tax of 6% in Malaysia effective on 1st April 2015 where according to Malaysian Prime Minister; this GST implementation will replace the sales and service tax

In a nutshell, the limitation of this research is also because of duration of time taken to determine data required from the financial statement report.

5.5 Recommendations

The findings and results obtained through this study are very useful to know on the reasons corporate holding so much cash particularly for trading/service sector since this sector is the most important sector that is considered as one of the source or backbone and very potential for Malaysia's economy. In addition, the expected other variables that impacts on corporate cash holdings studies can be further enhanced and developed in order to increase the number of studies from time to time so that it can be used in future references.

Even though the results of this study showed positive and negative results for the reasons why companies holds huge cash, but there is more rooms and opportunities to make improvements, particularly in identifying the reasons of companies to hold cash in other sectors not only from main market but also from ace market indicated under Bursa Malaysia for public listed companies. In general, it will increase the probability to identify the main reason for companies to hold cash overall nationwide.

Ongoing research needs to be done to understand more on the reasons why companies hold so much cash for public listed companies especially in Malaysia because this is to identify why majority of the companies are surviving even though there is economic crisis. This should be carried out to determine the source of the company's cash to continue working in developing their companies and at the same time increase the number of studies dealing with the existing corporate cash holdings. Besides that, this research that has been conducted is among highly educated people thus they have shown their concern and responsibility in identifying the reasons

companies hold so much cash. Moreover, studies on other sectors should be carried out to determine the clear view on the reasons companies hold so much cash.

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LIST OF APPENDICES

Appendix A: Public Listed Companies (Trading/Service Sector)

Companies on Bursa Malaysia listed under the Main Markets.

Company	Category	Market Cap	Last Price	PE	DY	ROE
AAX (5238) **AIRASIA X BERHAD**	**Trading-Services**	1.452b	0.35	27.13	0.00	5.38
AEGB (5166) **ASIAMET EDUCATION GROUP BERHAD**	**Trading-Services**	65.58m	0.16	-	62.50	-34.74
AEON (6599) **AEON CO. (M) BHD**	**Trading-Services**	2.541b	1.81	30.32	1.66	4.42
AHB (7315) **AHB HOLDINGS BERHAD**	**Trading-Services**	51.93m	0.30	61.46	0.00	0.53
AIM (0122) **ADVANCE INFORMATION MARKETING BERHAD**	**Trading-Services**	66.51m	0.25	-	0.00	-3.07
AIRASIA (5099) **AIRASIA BERHAD**	**Trading-Services**	10.594b	3.17	6.11	3.79	27.88
AIRPORT (5014) **MALAYSIA AIRPORTS HOLDINGS BERHAD**	**Trading-Services**	13.522b	8.15	55.90	1.23	2.75
ALAM (5115) **ALAM MARITIM RESOURCES BERHAD**	**Trading-Services**	157.16m	0.17	-	0.00	-19.05
AMEDIA (0159) **ASIA MEDIA GROUP BERHAD**	**Trading-Services**	20.35m	0.09	-	0.00	-17.78
AMWAY (6351) **AMWAY (MALAYSIA) HOLDINGS BERHAD**	**Trading-Services**	1.159b	7.05	22.87	4.26	24.28
ANALABS (7083) **ANALABS RESOURCES BERHAD**	**Trading-Services**	135.65m	2.26	12.50	1.44	4.19
ANCOMLB (0048) **ANCOM LOGISTICS BERHAD**	**Trading-Services**	54.43m	0.12	-	0.00	-15.60

APFT (5194) **APFT BERHAD**	**Trading-Services**	30.98m	0.03	-	0.00	-
ARMADA (5210) **BUMI ARMADA BERHAD**	**Trading-Services**	4.341b	0.74	-	1.11	-17.89
ASB (1481) **ADVANCE SYNERGY BERHAD**	**Trading-Services**	91.50m	0.14	38.57	1.85	0.54
ASIABIO (0150) **ASIA BIOENERGY TECHNOLOGIES BERHAD**	**Trading-Services**	81.06m	0.18	1.19	0.00	62.27
ASTRO (6399) **ASTRO MALAYSIA HOLDINGS BERHAD**	**Trading-Services**	14.807b	2.84	20.06	4.40	108.09
ATLAN (7048) **ATLAN HOLDINGS BHD.**	**Trading-Services**	1.106b	4.36	21.96	2.52	10.08
AVI (8885) **AVILLION BERHAD**	**Trading-Services**	287.61m	0.34	-	0.00	-1.90
AWC (7579) **AWC BERHAD**	**Trading-Services**	262.27m	0.98	12.36	2.04	14.31
AXIATA (6888) **AXIATA GROUP BERHAD**	**Trading-Services**	48.134b	5.32	83.65	1.50	2.28
AYS (5021) **AYS VENTURES BERHAD**	**Trading-Services**	171.19m	0.45	7.00	5.56	9.89
BARAKAH (7251) **BARAKAH OFFSHORE PETROLEUM BERHAD**	**Trading-Services**	330.56m	0.40	-	0.00	-49.82
BAUTO (5248) **BERMAZ AUTO BERHAD**	**Trading-Services**	2.402b	2.08	24.47	5.60	22.97
BCMALL (0187) **BCM ALLIANCE BERHAD**	**Trading-Services**	73.72m	0.18	22.73	2.29	8.56
BHS (7241) **BHS INDUSTRIES BERHAD**	**Trading-Services**	169.60m	0.37	-	0.00	-9.12
BINTAI (6998) **BINTAI KINDEN CORPORATION BERHAD**	**Trading-Services**	50.68m	0.18	-	0.00	-10.39
BIPORT (5032)	**Trading-Services**	2.783b	6.05	18.27	3.97	12.77

BINTULU PORT HOLDINGS BERHAD						
BISON (5275) **BISON CONSOLIDATED BERHAD**	**Trading-Services**	903.85m	2.65	39.20	0.75	12.29
BJCORP (3395) **BERJAYA CORPORATION BERHAD**	**Trading-Services**	1.896b	0.39	11.92	2.60	2.32
BJFOOD (5196) **BERJAYA FOOD BERHAD**	**Trading-Services**	659.72m	1.73	56.54	2.02	2.89
BJLAND (4219) **BERJAYA LAND BERHAD**	**Trading-Services**	2.050b	0.41	6.52	0.00	6.99
BJMEDIA (6025) **BERJAYA MEDIA BERHAD**	**Trading-Services**	89.33m	0.38	-	0.00	-67.08
BJTOTO (1562) **BERJAYA SPORTS TOTO BERHAD**	**Trading-Services**	3.053b	2.26	11.89	6.19	32.78
BORNOIL (7036) **BORNEO OIL BERHAD**	**Trading-Services**	443.07m	0.09	10.59	0.00	6.07
BRAHIMS (9474) **BRAHIM'S HOLDINGS BERHAD**	**Trading-Services**	118.14m	0.50	-	0.00	-27.94
BSTEAD (2771) **BOUSTEAD HOLDINGS BERHAD**	**Trading-Services**	6.081b	3.00	26.64	5.83	4.04
BTECH (0011) **BRITE-TECH BERHAD**	**Trading-Services**	75.60m	0.30	19.35	5.10	7.05
CARIMIN (5257) **CARIMIN PETROLEUM BERHAD**	**Trading-Services**	80.69m	0.35	-	0.00	-3.97
CARING (5245) **CARING PHARMACY GROUP BERHAD**	**Trading-Services**	413.64m	1.90	26.43	1.58	11.60
CCB (2925) **CYCLE & CARRIAGE BINTANG BERHAD**	**Trading-Services**	205.52m	2.04	26.84	2.45	2.59
CENTURY (7117) **CENTURY LOGISTICS HOLDINGS BERHAD**	**Trading-Services**	400.65m	1.02	22.27	3.43	5.72
CHEETAH (7209) **CHEETAH HOLDINGS BERHAD**	**Trading-Services**	58.71m	0.46	33.09	1.30	1.26

CHINHIN (5273) **CHIN HIN GROUP BERHAD**	**Trading-Services**	656.54m	1.18	14.92	2.97	10.14
CHUAN (7016) **CHUAN HUAT RESOURCES BHD**	**Trading-Services**	84.33m	0.50	12.38	3.60	2.52
CNI (5104) **CNI HOLDINGS BERHAD**	**Trading-Services**	50.40m	0.07	-	4.29	-2.18
COMPLET (5136) **COMPLETE LOGISTIC SERVICES BERHAD**	**Trading-Services**	87.87m	0.71	12.48	0.00	5.27
COMPUGT (5037) **COMPUGATES HOLDINGS BERHAD**	**Trading-Services**	70.43m	0.03	-	0.00	-6.80
CYPARK (5184) **CYPARK RESOURCES BERHAD**	**Trading-Services**	673.92m	2.58	13.12	2.02	10.51
DANCO (5276) **DANCOMECH HOLDINGS BERHAD**	**Trading-Services**	137.08m	0.46	12.50	6.52	10.51
DAYA (0091) **DAYA MATERIALS BERHAD**	**Trading-Services**	153.22m	0.08	-	0.00	-247.74
DAYANG (5141) **DAYANG ENTERPRISE HOLDINGS BERHAD**	**Trading-Services**	598.18m	0.62	-	0.00	-5.50
DELEUM (5132) **DELEUM BERHAD**	**Trading-Services**	384.19m	0.96	13.39	3.65	9.31
DESTINI (7212) **DESTINI BERHAD**	**Trading-Services**	496.75m	0.43	13.44	0.00	7.32
DIALOG (7277) **DIALOG GROUP BERHAD**	**Trading-Services**	13.709b	2.43	30.45	1.09	13.41
DKSH (5908) **DKSH HOLDINGS (MALAYSIA) BERHAD**	**Trading-Services**	630.63m	4.00	12.67	2.38	9.01
DNEX (4456) **DAGANG NEXCHANGE BERHAD**	**Trading-Services**	719.70m	0.41	9.93	3.66	16.52
DSONIC (5216) **DATASONIC GROUP BERHAD**	**Trading-Services**	1.566b	1.16	25.61	3.45	23.35
EASTLND (2097)	**Trading-Services**	36.85m	0.15	-	0.00	-3.88

EASTLAND EQUITY BHD						
EATECH (5259) **E.A.TECHNIQUE (M) BERHAD**	**Trading-Services**	221.76m	0.44	-	5.11	-47.11
EDARAN (5036) **EDARAN BERHAD**	**Trading-Services**	30.00m	0.50	-	0.00	-2.80
EDEN (7471) **EDEN INC. BERHAD**	**Trading-Services**	57.60m	0.19	-	0.00	-12.95
EDGENTA (1368) **UEM EDGENTA BERHAD**	**Trading-Services**	2.204b	2.65	20.06	3.02	8.15
EFFICEN (0064) **EFFICIENT E-SOLUTIONS BERHAD**	**Trading-Services**	223.38m	0.32	-	5.40	-5.95
EIG (5081) **ESTHETICS INTERNATIONAL GROUP BERHAD**	**Trading-Services**	170.78m	0.72	20.81	4.17	4.49
EITA (5208) **EITA RESOURCES BERHAD**	**Trading-Services**	218.40m	1.68	10.97	2.38	12.66
ENGTEX (5056) **ENGTEX GROUP BERHAD**	**Trading-Services**	509.82m	1.15	9.10	0.87	7.57
FIAMMA (6939) **FIAMMA HOLDINGS BERHAD**	**Trading-Services**	265.01m	0.50	11.76	3.00	4.83
FITTERS (9318) **FITTERS DIVERSIFIED BERHAD**	**Trading-Services**	192.20m	0.40	-	1.50	-2.33
FOCUSP (0157) **FOCUS POINT HOLDINGS BERHAD**	**Trading-Services**	33.00m	0.20	-	0.00	-0.64
FREIGHT (7210) **FREIGHT MANAGEMENT HOLDINGS BERHAD**	**Trading-Services**	232.69m	1.25	10.73	4.00	8.57
FRONTKN (0128) **FRONTKEN CORPORATION BERHAD**	**Trading-Services**	410.84m	0.39	13.31	1.28	11.27
FSBM (9377) **FSBM HOLDINGS BERHAD**	**Trading-Services**	25.44m	0.18	-	0.00	-40.20
GASMSIA (5209) **GAS MALAYSIA BERHAD**	**Trading-Services**	3.454b	2.69	20.41	4.78	17.41

GDEX (0078) **GD EXPRESS CARRIER BERHAD**	**Trading-Services**	3.402b	0.61	92.42	1.64	8.25
GENM (4715) **GENTING MALAYSIA BERHAD**	**Trading-Services**	30.462b	5.13	12.71	3.22	11.87
GENTING (3182) **GENTING BERHAD**	**Trading-Services**	34.396b	8.93	14.37	1.40	6.83
GETS (5079) **GETS GLOBAL BERHAD**	**Trading-Services**	27.72m	0.22	-	0.00	-1.09
GKENT (3204) **GEORGE KENT (MALAYSIA) BERHAD**	**Trading-Services**	1.955b	3.47	17.80	2.88	25.88
GUNUNG (7676) **GUNUNG CAPITAL BERHAD**	**Trading-Services**	88.57m	0.38	-	0.00	-5.68
HAIO (7668) **HAI-O ENTERPRISE BERHAD**	**Trading-Services**	1.560b	5.20	23.15	2.88	21.19
HANDAL (7253) **HANDAL RESOURCES BERHAD**	**Trading-Services**	35.20m	0.22	-	0.00	-6.93
HAPSENG (3034) **HAP SENG CONSOLIDATED BERHAD**	**Trading-Services**	23.602b	9.48	22.14	3.69	17.41
HARBOUR (2062) **HARBOUR-LINK GROUP BERHAD**	**Trading-Services**	276.28m	0.69	10.03	2.17	7.73
HARISON (5008) **HARRISONS HOLDINGS (MALAYSIA) BERHAD**	**Trading-Services**	274.64m	4.01	12.43	6.23	7.35
HSSEB (0185) **HSS ENGINEERS BERHAD**	**Trading-Services**	430.76m	1.35	26.73	0.47	18.70
HUBLINE (7013) **HUBLINE BERHAD**	**Trading-Services**	247.02m	0.12	-	0.00	-9.33
ICON (5255) **ICON OFFSHORE BERHAD**	**Trading-Services**	282.52m	0.24	-	0.00	-29.62
IHH (5225) **IHH HEALTHCARE BERHAD**	**Trading-Services**	46.469b	5.64	56.23	0.53	3.70
ILB (5614)	**Trading-Services**	134.57m	0.69	-	3.62	-3.83

INTEGRATED LOGISTICS BHD						
INNITY (0147) **INNITY CORPORATION BERHAD**	**Trading-Services**	89.96m	0.65	-	0.00	-12.03
IPMUDA (5673) **IPMUDA BERHAD**	**Trading-Services**	56.89m	0.79	-	3.82	-6.61
JCBNEXT (0058) **JCBNEXT BERHAD**	**Trading-Services**	233.80m	1.67	28.84	1.20	2.41
KAB (0193) **KEJURUTERAAN ASASTERA BERHAD**	**Trading-Services**	83.20m	0.26	-	0.00	-
KAMDAR (8672) **KAMDAR GROUP (M) BERHAD**	**Trading-Services**	70.29m	0.36	40.80	0.00	0.77
KFIMA (6491) **KUMPULAN FIMA BERHAD**	**Trading-Services**	468.50m	1.66	11.87	5.42	5.24
KGB (0151) **KELINGTON GROUP BERHAD**	**Trading-Services**	170.08m	0.74	13.91	1.35	16.12
KNUSFOR (5035) **KNUSFORD BERHAD**	**Trading-Services**	92.17m	0.93	-	2.16	-5.93
KPJ (5878) **KPJ HEALTHCARE BERHAD**	**Trading-Services**	4.260b	1.00	27.79	5.93	9.18
KPS (5843) **KUMPULAN PERANGSANG SELANGOR BERHAD**	**Trading-Services**	673.66m	1.35	17.18	3.15	2.86
KPSCB (9121) **KPS CONSORTIUM BERHAD**	**Trading-Services**	79.09m	0.54	8.93	0.00	3.54
KTB (4847) **KONSORTIUM TRANSNASIONAL BERHAD**	**Trading-Services**	56.39m	0.14	-	0.00	-27.24
KTC (0180) **KIM TECK CHEONG CONSOLIDATED BERHAD**	**Trading-Services**	91.85m	0.18	90.00	0.00	1.11
KUB (6874) **KUB MALAYSIA BERHAD**	**Trading-Services**	236.50m	0.43	8.55	2.35	8.88
LFECORP (7170) **LFE CORPORATION BERHAD**	**Trading-Services**	45.53m	0.25	-	0.00	-3.64

LIONFIB (8486) **LION FOREST INDUSTRIES BERHAD**	**Trading-Services**	167.89m	0.73	6.19	0.00	4.84
LUXCHEM (5143) **LUXCHEM CORPORATION BERHAD**	**Trading-Services**	637.86m	0.76	14.25	9.27	17.67
M&G (5078) **MARINE & GENERAL BERHAD**	**Trading-Services**	155.63m	0.22	0.57	69.77	86.09
MAGNUM (3859) **MAGNUM BERHAD**	**Trading-Services**	2.459b	1.71	12.36	7.60	7.90
MALAKOF (5264) **MALAKOFF CORPORATION BERHAD**	**Trading-Services**	4.650b	0.93	13.04	7.53	5.94
MARCO (3514) **MARCO HOLDINGS BERHAD**	**Trading-Services**	147.60m	0.14	9.15	3.57	9.00
MAXIS (6012) **MAXIS BERHAD**	**Trading-Services**	46.082b	5.90	21.56	3.39	31.09
MAYBULK (5077) **MALAYSIAN BULK CARRIERS BERHAD**	**Trading-Services**	810.00m	0.81	-	0.00	-75.44
MBMR (5983) **MBM RESOURCES BHD**	**Trading-Services**	828.68m	2.12	17.85	2.83	2.85
MCLEAN (0167) **MCLEAN TECHNOLOGIES BERHAD**	**Trading-Services**	32.18m	0.18	-	0.00	-2.50
MEDIA (4502) **MEDIA PRIMA BERHAD**	**Trading-Services**	770.89m	0.70	-	11.51	-23.36
MEDIAC (5090) **MEDIA CHINESE INTERNATIONAL LIMITED**	**Trading-Services**	700.20m	0.42	14.98	7.35	5.52
MEGASUN (0081) **MEGA SUN CITY HOLDINGS BERHAD**	**Trading-Services**	52.65m	0.24	13.26	0.00	6.24
MESB (7234) **MESB BERHAD**	**Trading-Services**	55.69m	1.02	-	0.00	-4.52
MFCB (3069) **MEGA FIRST CORPORATION BERHAD**	**Trading-Services**	1.475b	3.59	9.74	1.39	11.27
MHB (5186)	**Trading-Services**	1.352b	0.85	-	0.00	-5.28

MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BERHAD						
MISC (3816) **MISC BERHAD**	**Trading-Services**	31.291b	7.01	12.81	4.28	6.71
MMCCORP (2194) **MMC CORPORATION BERHAD**	**Trading-Services**	5.877b	1.93	14.41	2.07	4.29
MMODE (0059) **M-MODE BERHAD**	**Trading-Services**	58.58m	0.36	-	1.67	-
MTRONIC (0043) **METRONIC GLOBAL BERHAD**	**Trading-Services**	42.72m	0.05	-	0.00	-11.75
MUIIND (3891) **MALAYAN UNITED INDUSTRIES BERHAD**	**Trading-Services**	630.50m	0.22	-	0.00	-22.23
MULPHA (3905) **MULPHA INTERNATIONAL BERHAD**	**Trading-Services**	818.22m	2.56	3.70	0.00	6.89
MYEG (0138) **MY E.G. SERVICES BERHAD**	**Trading-Services**	7.285b	2.02	34.06	0.84	35.30
NATWIDE (9806) **NATIONWIDE EXPRESS HOLDINGS BERHAD**	**Trading-Services**	79.95m	0.67	-	0.00	-17.94
NICORP (4464) **NAIM INDAH CORPORATION BERHAD**	**Trading-Services**	48.21m	0.06	-	0.00	-4.24
OCB (5533) **OCB BERHAD**	**Trading-Services**	66.85m	0.65	23.72	1.54	1.18
OCK (0172) **OCK GROUP BERHAD**	**Trading-Services**	758.18m	0.87	26.36	0.69	6.60
OLDTOWN (5201) **OLDTOWN BERHAD**	**Trading-Services**	1.126b	2.43	16.99	4.12	15.89
OLYMPIA (3018) **OLYMPIA INDUSTRIES BERHAD**	**Trading-Services**	127.93m	0.13	4.70	0.00	6.82
OVERSEA (0153) **OVERSEA ENTERPRISE BERHAD**	**Trading-Services**	50.52m	0.21	-	1.46	-1.19
OWG (5260) **ONLY WORLD GROUP HOLDINGS BERHAD**	**Trading-Services**	301.28m	1.17	45.00	2.39	2.89

PANSAR (8419) **PANSAR BERHAD**	**Trading-Services**	113.40m	0.41	17.84	2.47	3.78
PANTECH (5125) **PANTECH GROUP HOLDINGS BERHAD**	**Trading-Services**	476.28m	0.64	10.98	2.81	7.99
PARKSON (5657) **PARKSON HOLDINGS BERHAD**	**Trading-Services**	601.65m	0.55	-	0.00	-4.12
PASUKGB (0177) **PASUKHAS GROUP BERHAD**	**Trading-Services**	109.56m	0.14	-	0.00	-3.93
PBA (5041) **PBA HOLDINGS BHD**	**Trading-Services**	400.84m	1.21	7.05	3.31	6.84
PDZ (6254) **PDZ HOLDINGS BHD**	**Trading-Services**	34.77m	0.16	-	0.00	-
PENERGY (5133) **PETRA ENERGY BERHAD**	**Trading-Services**	254.18m	0.79	-	6.33	-19.40
PERDANA (7108) **PERDANA PETROLEUM BERHAD**	**Trading-Services**	1.199b	1.54	-	0.00	-24.96
PERISAI (0047) **PERISAI PETROLEUM TEKNOLOGI BHD**	**Trading-Services**	44.13m	0.04	-	0.00	-
PERMAJU (7080) **PERMAJU INDUSTRIES BERHAD**	**Trading-Services**	51.92m	0.27	-	0.00	-8.92
PESTECH (5219) **PESTECH INTERNATIONAL BERHAD**	**Trading-Services**	1.269b	1.66	14.08	1.81	18.83
PETDAG (5681) **PETRONAS DAGANGAN BHD**	**Trading-Services**	23.724b	23.88	15.58	2.93	25.71
PETONE (7027) **PETROL ONE RESOURCES BERHAD**	**Trading-Services**	2.79m	0.06	4.04	0.00	-
PHARMA (7081) **PHARMANIAGA BERHAD**	**Trading-Services**	963.94m	3.71	30.92	4.31	5.85
PICORP (7201) **PROGRESSIVE IMPACT CORPORATION BERHAD**	**Trading-Services**	85.54m	0.13	-	4.69	-9.15
PINEAPP (0006)	**Trading-Services**	20.37m	0.42	75.00	0.00	1.04

PINEAPPLE RESOURCES BERHAD						
PJBUMI (7163) **PJBUMI BERHAD**	**Trading-Services**	23.78m	0.29	-	0.00	-13.74
PLABS (0171) **PETERLABS HOLDINGS BERHAD**	**Trading-Services**	62.27m	0.29	17.79	2.41	7.84
POS (4634) **POS MALAYSIA BERHAD**	**Trading-Services**	4.180b	5.34	40.89	2.00	5.37
PRESBHD (5204) **PRESTARIANG BERHAD**	**Trading-Services**	643.72m	1.33	42.90	2.26	9.06
PRKCORP (8346) **PERAK CORPORATION BERHAD**	**Trading-Services**	139.00m	1.39	-	21.58	-1.03
PTRANS (0186) **PERAK TRANSIT BERHAD**	**Trading-Services**	358.36m	0.29	12.67	2.46	13.31
PUC (0007) **PUC BERHAD**	**Trading-Services**	280.10m	0.21	170.83	0.00	0.73
RA (0110) **R&A TELECOMMUNICATION GROUP BERHAD**	**Trading-Services**	4.83m	0.01	-	0.00	-
RANHILL (5272) **RANHILL HOLDINGS BERHAD**	**Trading-Services**	652.91m	0.74	9.02	10.61	12.16
REDTONE (0032) **REDTONE INTERNATIONAL BERHAD**	**Trading-Services**	291.89m	0.39	-	0.52	-1.96
REV (0173) **REV ASIA BERHAD**	**Trading-Services**	55.20m	0.41	1.04	107.32	786.60
RGB (0037) **RGB INTERNATIONAL BHD**	**Trading-Services**	395.46m	0.30	14.75	2.03	12.50
RHONEMA (5278) **RHONE MA HOLDINGS BERHAD**	**Trading-Services**	146.08m	0.88	17.19	4.55	8.53
SALCON (8567) **SALCON BERHAD**	**Trading-Services**	291.41m	0.43	-	4.65	-1.91
SAMCHEM (5147) **SAMCHEM HOLDINGS BERHAD**	**Trading-Services**	272.00m	1.00	14.97	5.50	13.92

SANBUMI (9113) **SANBUMI HOLDINGS BERHAD**	**Trading-Services**	45.27m	0.20	-	0.00	-6.89
SAPNRG (5218) **SAPURA ENERGY BERHAD**	**Trading-Services**	7.430b	1.24	177.14	0.81	0.33
SCC (0158) **SCC HOLDINGS BERHAD**	**Trading-Services**	74.11m	0.53	12.30	19.05	15.25
SCH (0161) **SCH GROUP BERHAD**	**Trading-Services**	82.45m	0.20	45.45	7.50	2.82
SCICOM (0099) **SCICOM (MSC) BERHAD**	**Trading-Services**	590.05m	1.66	13.30	5.42	41.60
SCOMI (7158) **SCOMI GROUP BERHAD**	**Trading-Services**	278.04m	0.15	-	0.00	-21.56
SCOMIES (7045) **SCOMI ENERGY SERVICES BHD**	**Trading-Services**	316.14m	0.14	-	0.00	-17.87
SEEHUP (7053) **SEE HUP CONSOLIDATED BERHAD**	**Trading-Services**	52.84m	1.01	-	2.67	-1.06
SEG (9792) **SEG INTERNATIONAL BHD**	**Trading-Services**	815.44m	0.65	22.09	32.56	28.91
SEM (5250) **7-ELEVEN MALAYSIA HOLDINGS BERHAD**	**Trading-Services**	1.862b	1.51	42.54	3.11	73.96
SERBADK (5279) **SERBA DINAMIK HOLDINGS BERHAD**	**Trading-Services**	4.165b	3.12	12.63	1.67	24.22
SIME (4197) **SIME DARBY BERHAD**	**Trading-Services**	60.800b	8.94	18.83	2.57	8.38
SJC (9431) **SENI JAYA CORPORATION BERHAD**	**Trading-Services**	24.32m	0.60	-	1.67	-1.17
SMRT (0117) **SMRT HOLDINGS BERHAD**	**Trading-Services**	56.06m	0.16	-	0.00	-103.74
SOLID (5242) **SOLID AUTOMOTIVE BERHAD**	**Trading-Services**	144.59m	0.37	33.04	4.32	1.35
STAR (6084)	**Trading-Services**	974.90m	1.32	3.42	27.27	27.75

STAR MEDIA GROUP BERHAD						
STERPRO (0140) **STERLING PROGRESS BERHAD**	**Trading-Services**	50.27m	0.18	-	0.00	-149.50
STRAITS (0080) **STRAITS INTER LOGISTICS BERHAD**	**Trading-Services**	97.49m	0.27	51.96	0.00	5.26
SUIWAH (9865) **SUIWAH CORPORATION BERHAD**	**Trading-Services**	161.65m	2.65	14.86	0.38	5.64
SUMATEC (1201) **SUMATEC RESOURCES BERHAD**	**Trading-Services**	212.64m	0.05	17.24	0.00	1.77
SUNWAY (5211) **SUNWAY BERHAD**	**Trading-Services**	8.115b	1.65	12.65	5.45	3.46
SURIA (6521) **SURIA CAPITAL HOLDINGS BERHAD**	**Trading-Services**	550.43m	1.91	9.45	3.66	5.64
SYSCORP (5173) **SHIN YANG SHIPPING CORPORATION BERHAD**	**Trading-Services**	288.00m	0.24	50.00	0.00	0.48
T7GLOBAL (7228) **T7 GLOBAL BERHAD**	**Trading-Services**	167.78m	0.40	15.56	0.00	7.79
TALIWRK (8524) **TALIWORKS CORPORATION BERHAD**	**Trading-Services**	1.282b	1.06	23.45	7.55	5.10
TASCO (5140) **TASCO BERHAD**	**Trading-Services**	450.00m	2.25	13.75	2.00	9.30
TENAGA (5347) **TENAGA NASIONAL BHD**	**Trading-Services**	87.256b	15.40	12.64	3.96	12.07
TEXCHEM (8702) **TEXCHEM RESOURCES BERHAD**	**Trading-Services**	116.65m	0.94	35.61	10.64	1.17
TEXCYCL (0089) **TEX CYCLE TECHNOLOGY (M) BERHAD**	**Trading-Services**	211.36m	0.83	11.41	0.61	13.15
TFP (0145) **TFP SOLUTIONS BERHAD**	**Trading-Services**	29.73m	0.15	-	0.00	-27.83
THHEAVY (7206) **TH HEAVY ENGINEERING BERHAD**	**Trading-Services**	123.32m	0.11	-	0.00	-216.13

TM (4863) **TELEKOM MALAYSIA BERHAD**	**Trading-Services**	22.472b	5.98	27.84	3.60	10.72
TMCLIFE (0101) **TMC LIFE SCIENCES BERHAD**	**Trading-Services**	1.563b	0.90	60.00	0.17	3.66
TNLOGIS (8397) **TIONG NAM LOGISTICS HOLDINGS BERHAD**	**Trading-Services**	602.88m	1.31	8.69	1.53	9.54
TOCEAN (7218) **TRANSOCEAN HOLDINGS BHD**	**Trading-Services**	26.24m	0.64	-	0.00	-0.71
TURBO (5167) **TURBO-MECH BERHAD**	**Trading-Services**	88.02m	0.82	21.01	6.13	4.13
UMS (7137) **UMS HOLDINGS BERHAD**	**Trading-Services**	111.08m	2.73	19.85	3.66	3.51
UMWOG (5243) **UMW OIL & GAS CORPORATION BERHAD**	**Trading-Services**	2.275b	0.33	-	0.00	-16.62
UNIMECH (7091) **UNIMECH GROUP BERHAD**	**Trading-Services**	135.13m	1.03	15.77	2.91	3.31
UTUSAN (5754) **UTUSAN MELAYU (MALAYSIA) BERHAD**	**Trading-Services**	43.74m	0.40	-	0.00	-86.25
UZMA (7250) **UZMA BERHAD**	**Trading-Services**	492.84m	1.54	14.54	0.00	7.41
VOIR (7240) **VOIR HOLDINGS BERHAD**	**Trading-Services**	159.72m	1.10	-	0.00	-1.35
WARISAN (5016) **WARISAN TC HOLDINGS BERHAD**	**Trading-Services**	134.40m	2.00	41.75	2.00	0.97
WIDETEC (7692) **WIDETECH (MALAYSIA) BERHAD**	**Trading-Services**	25.96m	0.58	23.87	0.00	3.20
WPRTS (5246) **WESTPORTS HOLDINGS BERHAD**	**Trading-Services**	11.765b	3.45	19.76	4.06	28.86
XINHWA (5267) **XIN HWA HOLDINGS BERHAD**	**Trading-Services**	270.00m	1.25	-	0.80	-
XOX (0165)	**Trading-Services**	98.39m	0.11	-	0.00	-

XOX BHD						
YFG (7122) **YFG BERHAD**	**Trading-Services**	18.27m	0.03	-	0.00	-
YINSON (7293) **YINSON HOLDINGS BERHAD**	**Trading-Services**	4.218b	3.86	16.34	4.30	13.04
YTL (4677) **YTL CORPORATION BERHAD**	**Trading-Services**	12.438b	1.14	15.77	8.33	5.06

Appendix B: Results from Eviews 9

Multiple Regressions Analysis (OLS)

Dependent Variable: CASH
Method: Least Squares
Date: 11/22/17 Time: 23:08
Sample: 1 300
Included observations: 300

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FSIZE	-0.076985	0.045277	-1.700304	0.0901
CFV	0.017326	0.070698	0.245076	0.8066
LEV	-0.007662	0.009149	-0.837469	0.4030
CAPEX	0.002808	0.002456	1.143360	0.2538
C	0.858530	0.296315	2.897358	0.0040

R-squared	0.016277	Mean dependent var	0.352935
Adjusted R-squared	0.002939	S.D. dependent var	0.475220
S.E. of regression	0.474522	Akaike info criterion	1.363507
Sum squared resid	66.42540	Schwarz criterion	1.425237
Log likelihood	-199.5261	Hannan-Quinn criter.	1.388212
F-statistic	1.220303	Durbin-Watson stat	1.385624
Prob(F-statistic)	0.302220		

Descriptive Statistics

	CASH	FSIZE	CFV	LEV	CAPEX
Mean	0.352935	6.519483	0.098783	1.370732	1.816861
Median	0.115800	6.358600	0.000000	0.300200	0.349200
Maximum	5.853100	7.849100	5.853100	7.646100	38.43660
Minimum	0.006800	5.032900	0.000000	-15.77820	-89.30590
Std. Dev.	0.475220	0.607552	0.390714	3.002479	11.27129
Skewness	5.568766	0.327046	11.08573	-1.489376	-2.508127
Kurtosis	61.21156	2.938005	158.6183	13.19053	24.06637
Jarque-Bera	43907.88	5.395994	308857.8	1408.999	5861.933
Probability	0.000000	0.067340	0.000000	0.000000	0.000000
Sum	105.8804	1955.845	29.63493	411.2195	545.0582
Sum Sq. Dev.	67.52451	110.3667	45.64465	2695.449	37985.54
Observations	300	300	300	300	300

Correlation

	CASH	FSIZE	CFV	LEV	CAPEX
CASH	1.000000	-0.096350	0.023376	-0.049643	0.060936
FSIZE	-0.096350	1.000000	-0.014530	0.032996	0.058227
CFV	0.023376	-0.014530	1.000000	-0.005248	0.111821
LEV	-0.049643	0.032996	-0.005248	1.000000	0.031378
CAPEX	0.060936	0.058227	0.111821	0.031378	1.000000