

CHAPTER II

LITERATURE REVIEWS AND HYPOTHESIS DEVELOPMENT

2.1. Cash and Cash Equivalents

Cash and Cash Equivalents are the parts in the asset element. Cash and Cash Equivalents are the current assets which are categorized as the operating assets. Cash is the amount of money that is ready to be used. Cash is also important for liquidity measurement. The savings in the bank can be categorized as the Cash and Cash Equivalent. Even though, a firm does not hold the money directly, but that firm can take the money anytime. Cash and Cash Equivalent will be presented in the Statement of Financial Position or the Balance Sheet. Cash will be explained or described better in the Statement of Cash Flows. In the Cash Flows Statement, cash will be categorized from the operating activities, investment activities, and financing activities.

Based on IAS 7 Paragraph 7, Cash Equivalents are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes (IFRS Interpretations Committee , 2013). It is detailed as follows:

“For an investment to qualify as a cash equivalent it must be readily convertible to a known amount of cash and be subject to an insignificant risk of changes in value. Therefore, an investment normally qualifies as a cash equivalent only when it has a short maturity of, say, three months or less from the date of acquisition. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares acquired within a short period of their maturity and with a specified redemption date.”

In the book of Corporate Finance (Ross, Westerfield, & Jaffe, 2010) defines cash as follows:

“The economic definition of cash includes currency, checking account deposits at commercial banks, and undeposited checks. However, financial managers often use the term cash to include short-term marketable securities. Short-term marketable securities are frequently referred to as “cash equivalents” and include Treasury bills, certificates of deposit, and repurchase agreements. The balance sheet item “cash” usually includes cash equivalents.

2.2. The Determinants of Cash Holdings

There are two primary reasons for holding cash based on (Ross, Westerfield, & Jaffe, 2010) which are transaction motive and compensating balances. Transactions-related needs come from normal disbursement and collection activities of the firm. The disbursement of cash includes the payment of wages and salaries, trade debts, taxes, and dividends. Cash is collected from sales from operations, sales of assets, and new financing. The cash inflows (collections) and outflows (disbursements) are not perfectly synchronized, and some level of cash holdings is necessary to serve as a buffer. If the firm maintains too small a cash balance, it may run out of cash. If so, it must sell marketable securities or borrow. Selling marketable securities and borrowing involve trading costs. Another reason to hold cash is for compensating balances. Cash balances are kept at commercial banks to compensate for banking services rendered to the firm. A minimum required compensating balance at banks providing credit services to the firm may impose a lower limit on the level of cash a firm holds.

According to the theory, firms hold cash to protect themselves against adverse cash flow shocks that might force them to forgo valuable investment opportunities due to costly external financing. Many theories are established relate to the determination of cash holdings. The economics and finance literature have identified four motives for firms to hold cash (Bates, Kahle, & Stulz, 2009). There are transaction motive, precautionary motive, tax motive, and agency motive. There is one additional motive of cash holdings, the speculative motive. Those motives are explained by Bates, Kahle, & Stulz (2009) and Opler, Pinkowitz, Stulz, & Williamson (1999) as follow:

1. The transaction motive

Transaction motive refers to the need to hold cash to satisfy normal disbursement collection activities associated with a firm's ongoing operation. Transaction means the act of giving and taking of cash or kinds in the ordinary course of business. A firm frequently involves in purchase and sales of goods or services. A firm should make payment in terms of cash for the purchase of goods, payment of salary, wages, rent, interest, tax, insurance, dividend, and so on.

A firm also receives cash in terms of sales revenue, interest on loan, return on investments made outside the firm, and so on. If these receipts and payments were perfectly synchronized, a firm would not have to hold cash for transaction motive. But in real, cash inflows and outflows cannot be matched exactly. Sometimes, receipts of cash exceed the disbursement whereas at other time disbursement exceeds the receipt. Because of this reason, if disbursement exceeds the

receipt, a firm should hold certain level of cash to meet current payment of cash in excess of its receipt during the period.

2. The precautionary motive

Precautionary motive refers to hold cash as a safety margin to act as a financial reserve. A firm should hold some cash for the payment of unpredictable or unanticipated events. A firm may have to face emergencies such as strikes and lock-up from employees, increase in cost of raw materials, funds and labor, fall in market demand and so on. These emergencies also bound a firm to hold certain level of cash. But how much cash is held against these emergencies depends on the degree of predictability associated with future cash flows. If there is high degree of predictability, less cash balance is sufficient. Some firms may have strong borrowing capacity at a very short notice, so that they can borrow at the time when emergencies occur. Such a firm may hold very minimum amount of cash for this motive.

3. The tax motive

From (Bates, Kahle, & Stulz, 2009) paper, Foley, Hartzell, Titman, and Twite found that U.S. corporations that would incur tax consequences associated with repatriating foreign earnings hold higher levels of cash. This is particularly true for affiliates for which the implied tax consequences of repatriation are the highest. Consequently, multinational firms are more likely to accumulate cash.

4. The agency motive

Managers would rather retain cash than increase payouts to shareholders when the firm has poor investment opportunities. These discretionary cash holdings are typically estimated as the excess cash holdings derived from models controlling for the transaction and precautionary motives for holding cash.

5. The Speculative motive

The speculative motive refers to the need to hold cash in order to be able to take advantage of bargain purchases that might arise, attractive interest rates and favorable exchange rate fluctuations. Some firms hold cash in excess than transaction and precautionary needs to involve in speculation. Speculative needs for holding cash require that a firm possibly may have some profitable opportunities to exploit, which are out of the normal course of business. These opportunities arise in conditions, when price of raw material is expected to fall, when interest rate on borrowed funds are expected to decline and purchase of inventory occurs at reduced price on immediate cash payment.

Firm size and firm age may influence the firms' cash holdings. The results indicate that firms with strong growth opportunities, firms with riskier activities, and small firms hold more cash than other firms. Firms that have the greatest access to the capital market, such as large firms and those with credit ratings, tend to hold less cash (Opler, Pinkowitz, Stulz, & Williamson, 1999).

2.3. Static Trade off Theory Relates to Determinant Factors of Cash Holdings

Static trade-off theory talks about the optimal capital structure. Within the static trade-off model of holding cash, the costs and benefits of holding cash are weighted. The optimal amount of cash holdings is found when the marginal cost of holding cash equals the marginal benefit of holding cash (Schuite, 2012). Every firm will have the optimal target cash or the estimated cash level that is the optimal point to give the optimal returns. This level varies depending on firm specifics like growth potential, access to capital markets, size and leverage. Deviations from the optimum level reduce firm value. Hence, the management of firm liquidity is an important element and one that affects shareholder value (Martinez-Sola, Garcia-Teruel, & Martinez-Solano, 2013).

The trade-off model postulates that firms identify their optimal level of cash holdings by weighting the marginal costs and marginal benefits of holding cash. The benefits related to cash holdings are the following: reduces the likelihood of financial distress, allows the pursuance of investment policy when financial constraints are met, and minimizes the costs of raising external funds or liquidating existing assets. The main cost of holding cash is the opportunity cost of the capital invested in liquid assets (Ferreira & Vilela, 2004).

Nguyen (2005) explains in his paper that the tradeoff model analysis of the demand for liquidity, underlines the costs and benefits of holding cash. The cost essentially derives from the lower return on liquid assets. Excess cash holdings can also exacerbate inefficiencies through the selection of

unprofitable investments. On the other hand, firms hold liquid assets to reduce the costs of raising external resources when investment opportunities unexpectedly arise or when internal cash flows fall short of planned investment outlays. At the optimum, the marginal costs are exactly offset by the marginal benefits of holding cash. Cash holdings are also positively related to the magnitude of funding costs, which decrease with firm size given the fixed cost component of issuing securities (Nguyen, 2005).

Table 2.1
Static Trade Off Theory Prediction

Variables	Prediction
Firm Size	–
Firm Age	–
Net Working Capital	–
Sales Growth	+
Dividend Payment	–
Cash From Operations	–

Table 2.1 summarizes the static trade off theory predictions for some variables that might influence determination of cash holdings. Firm size and firm age will have negative effect to cash holdings because older and greater firms tend to hold less cash compare to younger and smaller firms. Because of older and greater firms have greater access to capital market, they will get fund easily if there is cash shortage. Economies of scale in cash management also allow larger and older firms to obtain financing in an easier and cheaper

way. Smaller and younger firms hold more cash because they have high probability to face financial distress. Larger and older firms also have other benefits compare to smaller and younger firms. One of the benefits is the larger firms often have a lower cost of capital than small firms because they can borrow at lower interest rates. That fact makes larger firms hold less cash because they will obtain cash cheaply from borrowing. Static trade off theory argument that liquid assets other than cash can be liquidated whenever cash is needed, so there should be negative relationship between net working capital and cash holdings.

The trade off model predicts that cash holdings are positively related to investment opportunities. The cost of incurring in a cash shortage is higher for firms with a larger investment opportunity set due to the expected losses that result from giving up valuable investment opportunities (Ferreira & Vilela, 2004). Theory also predicts that firms with better investment opportunities have greater financial distress costs because the positive NPV of these investments disappears (almost entirely) in case of bankruptcy. In this case, firms with better investment opportunities will keep higher levels of cash to avoid financial distress (Ferreira & Vilela, 2004). Sales growth can be the representation of investment opportunity that has the positive relationship with cash holdings.

It is expected that firms currently pay dividend will hold less cash because they can raise funds at low cost by reducing its dividend payments. It is different for a firm that does not pay dividends, which has to use the capital markets to raise funds. In static trade off theory, it is assumed that all

dividend paying firms will prefer to obtain cash by deducting the dividend payment. If there is cash shortage, dividend paying firms can obtain cash from cutting the dividend and for non-paying dividend firms, they will use capital market to obtain funds. Static trade off theory gives argument that cash from operations can be the substitute for firm's cash holdings. For firms that have greater amount of cash from operations, they will maintain less cash. Vice versa, firms that have small amount of cash from operations, they will hold more cash for its operations.

2.4. Pecking Order Theory Relates to Determinant Factors of Cash Holdings

In Ali & Yousaf (2013) paper, they explains that according to pecking order theory the first and foremost preference of the corporations to finance their investments is given to retained earnings and then debt and finally at the end they go for equity share. When the corporations have enough funds from operating activities these funds will be sufficient enough to finance firm's new + NPV investments then the firm will repay the debt first of all and then pileup the cash. But when the situation is other way around cash flows or retained earnings will not be sufficient enough to finance the current investments the firm will use the cash that was hold by the firm or the firm will issue new debt (Ali & Yousaf, 2013).

The pecking order theory of capital structure is one of the most influential theories of corporate finance. The pecking order theory suggests that firms have a particular preference order for capital used to finance their

businesses (Myers & Majluf, 1984). Firm will prefer retained earnings to debt, short-term debt over long-term debt and debt over equity. This theory suggests that firms do not have target cash levels, but cash is used as a buffer between retained earnings and investment needs. Thus, when current operational cash flows are enough to finance new investments, firms repay debt and accumulate cash. When retained earnings are not enough to finance current investments, firms use the accumulated cash holdings and, if needed, issue debt (Ferreira & Vilela, 2004).

Table 2.2
Pecking Order Theory Prediction

Variables	Prediction
Firm Size	+
Firm Age	+
Sales Growth	+
Dividend Payment	+
Cash From Operations	+

Table 2.2 shows the prediction of pecking order theory for some variables relationship to cash holdings. Based on pecking order theory, larger and older firms will accumulate more cash compare to smaller and younger firms. Larger and older firms will have greater performance and generate a lot of cash compare to smaller and younger firms. In pecking order theory, it is assumed that larger and older firms are more successful and obtain huge amount of cash compare to smaller and younger firms. Same with static trade

off theory, pecking order theory also predicts the positive relationship of sales growth with cash holdings. A large investment opportunity set creates a demand for a large stock of cash, because cash shortfalls imply that unless a company engages in costly external financing it must forego profitable investment opportunities (Ferreira & Vilela, 2004). Therefore, high sales growth which is representation of greater investment and growth opportunity will persuade the firm to hold more cash.

Firms that currently pay dividend will retain more cash for paying the dividend than the firms that do not pay dividend for its shareholder. Pecking order theory argues that there should be additional cash hold by paying dividend firms. Non-paying dividend firms will not need additional cash because they will not distribute any cash to its shareholder. The pecking order predicts that cash holdings are positively related to internal cash flows and dividend payouts, and negatively related to debt ratios as firms attempt to build conservative balances sheets before returning cash to investors (Nguyen, 2005). Cash from operations can influence cash holdings. Pecking order theory predicts that if other variables are controlled, there is positive relationship between cash holdings and cash from operations.

2.5. Free Cash Flow Theory Relates to Determinant Factors of Cash Holdings

In Ali & Yousaf (2013) paper, it said that the believers of the free cash flow theory state that, corporate managers hold the cash to get the flexibility on the firm's investment decisions by increasing the amount of assets under

their control. By holding more amount of cash in the current assets there is no need to raise funds for any investment opportunity and managers have flexibility in decision making and they could invest in investments even if that have negative impact on the shareholders wealth. Free cash flow theory of Jensen (1986) suggests that managers have an incentive to build up cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. Cash reduces the pressure to perform well and allows managers to invest in projects that best suit their own interests, but may not be in the shareholders best interest.

Free cash flow is cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital (Jensen, 1986). Jensen (1986) paper also states that conflicts of interest between shareholders and managers over payout policies are especially severe when the organization generates substantial free cash flow. The problem is how to motivate managers to disgorge the cash rather than investing it at below the cost of capital or wasting it on organization inefficiencies. Jensen (1986) suggests that managers have an incentive to hoard cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. Having cash available to invest, the manager does not need to raise external funds and to provide capital markets detailed information about the firm's investment projects (Ferreira & Vilela, 2004). Hence, managers could undertake investments that have a negative impact on shareholders wealth.

Table 2.3
Free Cash Flow Theory Prediction

Variables	Prediction
Firm Size	+
Sales Growth	-

Table 2.3 shows free cash flow theory relationship prediction of some variables and cash holdings. Ferreira & Vilela (2004) argument that based on free cash flow theory, larger firms tend to have larger shareholder dispersion, which gives rise to superior managerial discretion. Moreover, larger companies are not likely to be the target of a takeover due to the amount of financial resources needed by the bidder. Thus, it is expected that managers of large firms have more discretionary power over the firm investment and financial policies, leading to a greater amount of cash holdings (Ferreira & Vilela, 2004). Free cash flow theory also gives argument managers of firms with poor investment opportunities are expected to hold more cash to ensure the availability of funds to invest in growth projects, even if the NPV of these projects is negative (Ferreira & Vilela, 2004). Therefore, free cash flow theory predicts the negative relationship of investment opportunities or the growth opportunity and cash holdings.

2.6. Factors Influence Cash Holdings

Prior researchers already conducted many researches to find the factors that influence firm's cash holdings. Several factors are proven to be

the determinant of firm's cash holdings. Common variables that are used for determine firm's cash holdings are firm size, net working capital, dividend payment, sales growth, and cash from operations. Those variables have been proven to be determinant of firm's cash holdings. Other variables that are also ever used by some researchers to be the factors that influence firm's cash holdings are leverage, capital expenditures, cash flow volatility, and corporate governance. There is one new variable that currently tested to be determinant of firm's cash holdings which is firm age. Here are some explanations of those variables or factors that influence firm's cash holdings:

2.6.1. Firm Size

Firm size is one of firm's characteristics. It is a measurement of how big the firm in physical assets. Firm size is commonly measured by the natural log of total assets. Firm that has lots of assets does not mean all the assets are belonging to the firms. Firm can obtain those assets from borrowing and/or leasing. In some cases, that is true that firm with more assets are more successful compared to firm with less assets. Firms should optimize the usage and benefits of its asset for improving its operation and growing its business. Smaller firms might generate high profit by utilize its assets wisely.

2.6.2. Net Working Capital

Net working capital can be one of liquidity indicators. Net working capital is same with liquid assets minus current liabilities. Net

working capital shows the proportion of current liabilities and current assets that had by firms. It is good for a firm that has positive net working capital rather than firm with negative working capital. Positive working capital means the current assets of the firm can handle all its current liabilities. Negative working capital means the firm's current liabilities cannot be paid with all its liquid assets. Investors will choose to invest in firms with positive net working capital. It is very important for firms to maintain positive net working capital.

2.6.3. Dividend Payment

Dividend is the return of invested capital from investors. Shareholders can get capital gain and/or dividend as the return from their investment in public firms. Every firm has its own policy relates to dividend payment. Firms can choose to distribute dividend to its shareholders or not. Firms also can choose the types of dividend that will be distributed to its shareholders. Firm will try to maximize shareholders' wealth by giving dividend and/or increase the firm's value that might make shareholders get capital gain. Firm that currently pay dividend may pay dividend as cumulative and non-cumulative dividend. Cumulative dividend means firm has obligation to pay dividend to its shareholder for every certain period. If there is no payment of dividend for that certain period, the firm should record dividend payable. Non-cumulative dividend means firm only pays dividend when it declares dividend payment for its shareholders.

2.6.4. Sales Growth

Sales growth is comparison of current sales and previous sales of firms. Sales growth can be positive or negative. If sales growth is positive and near to 0, it means there is just low growth. If the sales growth near to 1 or exceed 1, it means the growth is so high. Sales growth can be the representation of investment opportunity and growth opportunity. Investor will choose to invest in firms with high growth opportunities because it has bright future. Increase in sales growth means the firms can manage its assets and resources wisely for its business. If sales growth increases, the possibilities of firm faces the profitable investment is higher. There will be many investment offering and the firm may choose the best one with positive NPV.

2.6.5. Cash From Operations

Cash from operations is the receipt and disbursement of cash relate to its operation. Cash from operation can be negative or positive. If cash from operation is negative, it means the firm's cash operation receipts are lower than the firm's cash operation disbursement. If cash from operation is positive, it means the firm generates cash receipts from operation higher than the cash disbursement for its operation. Cash from operations can be found easily from cash flow statement. Cash flow statement will also explain the cash used for financing and investing activities. Firms with positive and high amount of cash from

operations attract more investor rather than firm with low amount of cash from operations. Positive and high amount of cash in cash from operation activities might be guarantee for firm's prospect.

2.6.6. Firm Age

Firm age is one of characteristics of firm. There are many measurements of firm age. Firm age can be measured by how long the firm is running its business. For listed firms, the measurement of firm age is counted from when the firms are listed rather than when the firms are established. Firm age commonly measured by the natural log of how long firms listed plus one. Older firms usually have greater access to capital market. Some older firms also viewed more successful compared to younger firms by investors. Actually, firm age has several stages which are introduction, growth, mature, shake-out, and decline stage. Every stage can influence the firm's habits in doing business. Investors will pay attention to firm age before they decide to invest.

2.7. Previous Researches

There are some prior researchers that conducted researches relate to factors that influence firm's cash holdings. Those researches are conducted from many countries and different period of times. Various variables are found affecting firm's cash holdings. A research may found different result

with other researches. Those researches are summarized in table 2.4 as follow:

Table 2.4
Summary of Previous Researches

No	Research	Finding
1.	The Determinants and Implications of Corporate Cash Holdings by Tim Opler, Lee Pinkowitz, Rene Stulz, and Rohan Williamson (1999)	They find that firms with strong growth opportunities, higher business risk, and smaller size hold more cash than other firms. Firms that have the greatest access to the capital markets, such as large firms and those with high credit ratings, tend to hold lower ratios of cash to total non-cash assets.
2.	Why Do Firms Hold Cash? Evidence from EMU Countries by Miguel A. Ferreira & Antonio S. Vilela (2004)	The results suggest that cash holdings are positively affected by the investment opportunity set and cash flows and negatively affected by asset's liquidity, leverage and size.
3.	Corporate Cash Holdings: An Empirical Investigation of UK Companies by A. Ozkan & N. Ozkan (2004)	The evidence provides strong support for the hypotheses that growth options, size and cash flows of firms exert a positive impact on firm's cash holding decisions. Contrarily, firms with other liquid assets tend to hold less cash.

4.	<p>The Determinants of Cash Holdings: Evidence from Chinese Listed Companies by Li Wenyao (2005)</p>	<p>It provides evidence that cash flows, growth opportunities and size of firms exert positive impacts on their cash holdings, while non-cash liquid assets and leverage exert negative impacts on cash holdings.</p>
5.	<p>How Sensitive are Japanese Firms to Earnings Risk? Evidence from Cash Holdings by Pascal Nguyen (2005)</p>	<p>The results show that cash holdings are positively associated with firm level risk, but negatively related to industry risk. Consistent with previous findings, cash holdings are decreasing with the firm's size and debt ratio, and increasing with its profitability, growth prospects, and dividend payout ratio.</p>
6.	<p>Corporate Cash Holdings Evidence from a Different Institutional Setting by Wolfgang Drobetz & Matthias C. Gruninger (2006)</p>	<p>The results indicate that there is a negative relationship between asset tangibility and cash holdings and a non-linear relationship between leverage and cash holdings. Dividend payments are positively related to cash reserves. However, there is no robust impact of firm size on cash.</p>
7.	<p>The Determinants and the Value of Cash Holdings:</p>	<p>The cash level of mature companies' increases with their size, their</p>

	Evidence from French firms by Khaoula Saddour (2006)	investment level, and the payout to their shareholders in the form of dividends or stock repurchases, and decreases with their trade credit and their expenses on research and development.
8.	International Evidence on The Non-linear Impact of Leverage on Corporate Cash Holdings by Yilmaz Guney, Aydin Ozkan, and Neslihan Ozkan (2007)	The findings provide strong and robust support for a significant non-linear relation between cash holdings and leverage. The research also observes that, in addition to firm-specific variables such as growth opportunities, size, capital expenditures, and dividend payouts, country-specific ownership and legal characteristics play a significant role in determining cash holdings of firms.
9.	The Determinants of Corporate Cash Holdings by Tomas Prenker & Jens Kück (2009)	Cash flow to total assets is positively related to cash holdings for Swedish firms, suggesting support for the financing hierarchy model and possibly a precautionary motive.
10.	Cash Holdings in German Firms by S. Schuite (2012)	Cash holdings decrease with net working capital, capital expenditures, acquisitions and leverage.

11.	Determinants of Corporate Cash Holdings: Evidence from Canada by Amarjit Gill & Charul Shah (2012)	The results show that market-to-book ratio, cash flow, net working capital, leverage, firm size, board size, and the CEO (chief executive officer) duality significantly affect the corporate cash holdings in Canada.
12.	Manufacturing Firms' Cash Holding Determinants: Evidence from Bangladesh by Sohani Islam (2012)	Current asset, operating income, cash flow, Size, short term debt, total debt, intangible asset, leverage ratio, net cash and tangibility ratio have significant relationship with cash hold by the manufacturing firms.
13.	Cash Holdings and Firm Characteristics: Evidence from Nigerian Emerging Market by Lawrencia Olatunde Ogundipe1, Sunday Emmanuel Ogundipe1, and Samuel Kehinde Ajao (2012)	The results show that cash flow, net working capital, leverage, profitability and investment in capital expenditure significantly affect the corporate cash holdings in Nigeria.
14.	Cash Holdings Around the World: Why do Listed Firms Hold More Cash? By Henk von Eije (2012)	Listed firms have a larger cash ratio in the IPO year in comparison to the years preceding the IPO. After the IPO the cash ratios decline.

15.	<p>Determinants of Cash holding in German Market by Abbas Ali & Samran Yousaf (2013)</p>	<p>The result gave strong evidence that firm size, working capital, and leverage significantly affect the cash holdings decisions of non-financial firms and that are in conformity with the existing literature on the determinants of corporate cash holdings.</p>
16.	<p><i>Analisa Faktor-faktor Penentu Kebijakan Cash Holding Perusahaan Manufaktur di Indonesia</i> by Rabecca Theresia Jinkar (2013)</p>	<p>The result of this research shows that manufacturing companies' cash holding policy in Indonesia is significantly influenced by growth opportunity, leverage, net working capital, and dividend payment.</p>
17.	<p>Determinants of Corporate Liquidity - An Analysis of Cash Holdings by Sara Anjum & Qaisar Ali Malik (2013)</p>	<p>The objective of the study is to determine and measure how and to what extent size of the firm, net working capital, leverage, cash conversion cycle and sales growth affect the cash holdings of corporate organizations. The results demonstrated significant relationship between cash holdings and the selected variables except sales growth.</p>
18.	<p>Determinants of Corporate</p>	<p>The results reveal that cash flow and</p>

	<p>Cash Holdings: Evidence from The Emerging Market of Turkey by Ali Uyar & Cemil Kuzey (2014)</p>	<p>growth opportunities have positive and significant impact on the cash level.</p> <p>However, the amount of capital expenditures, liquid assets used as cash substitute, the degree of tangibility of assets, financial debt ratio and leverage have negative and significant impact on the cash level.</p>
19.	<p>Cash Holdings and Firm Characteristics: Evidence from UK Market by Efstathios I. Magerakis (2015)</p>	<p>The empirical findings suggest that cash holdings are positively related to investment opportunity, as R&D and market to book ratio. Cash ratio is also positively related to industry cash flow volatility and negatively affected by cash flow, net working capital, capital expenditures, leverage, tax expenses, age, and size. In particular, leverage, tax regime, and capital expenditures significantly affect the corporate liquidity in UK market.</p>
20.	<p><i>Analisis Faktor-faktor yang Mempengaruhi Cash Holding pada Perusahaan Non Keuangan yang</i></p>	<p>There are significant positive relationship between growth opportunity, leverage, net working capital, cash from operations,</p>

	<p><i>Terdaftar di BEI dalam Periode 2011 – 2013 by Sherly Pranowo (2015)</i></p>	<p>independent director, and board director size to cash holdings.</p>
21.	<p><i>Pengaruh Growth Opportunity, net working capital, Cash Conversion Cycle dan Leverage Terhadap Cash Holding Perusahaan by Marfuah Ardan Zulhilmi (2015)</i></p>	<p>Based on multiple regression analysis showed that the growth opportunity and net working capital have significant positive effect on cash holding company, while the cash conversion cycle and leverage have significant negative effect on cash holding company.</p>
22.	<p>Corporate Life-Cycle Dynamics of Cash Holdings by Wolfgang Drobetz, Michael Halling, and Henning Schröder (2015)</p>	<p>The results indicate that firms' cash policies are markedly interacted with their strategy choices. While firms in early stages and post-maturity stages hold large amounts of cash, cash ratios decrease when firms move towards maturity.</p>

2.8. Hypothesis Development

2.8.1. Firm Size and Firm's Cash Holdings

Static trade off theory predicts that firm size will negatively affect firm's cash holdings. It is contradicted with the prediction of pecking order theory and free cash flow theory that predict firm size will positively affect firm's cash holdings. Based on the static trade off theory, every firm should weight the benefits and cost of holding cash. There is an optimum point of cash holding which can give optimum return to the firm. There is also economies of scale that make larger firms hold less cash compare to the smaller firms. Pecking order theory argues that larger firms tend to be more successful compare to smaller firms and hold more cash. Free cash flow theory argues managers in larger firms will have higher authority and control over the firms and hold more cash. In free cash flow theory, there is conflict of interests of managers that prefer to hold excess cash without pay attention to its shareholders' wealth.

The negative relationship found between cash holdings and size provides support to the trade-off argument and contradicts the pecking order theory (Ferreira & Vilela, 2004). Opler, Pinkowitz, Stulz, & Williamson (1999) found that firms with smaller size hold more cash than other firms. There is negative correlation exists between cash and firm's size (Magerakis, 2015). Consistent with previous findings, cash holdings are decreasing with the firm's size and debt ratio, and increasing with its profitability, growth prospects, and dividend payout

ratio (Nguyen, 2005). Those prior researchers found that there is negative effect of firm size to firm's cash holdings. The researches of Pastor & Gama (2013), Islam (2012), Zhang (2011), Ozkan & Ozkan (2004), Ali & Yousaf (2013), Guney, Ozkan, & Ozkan (2007), and Wenyao (2005) related to the determinant of cash holdings show there is significant influence of firm size to cash holdings. The findings of the prior researchers show there is significant relationship of firm size to firm's cash holdings, although some of them found firm size positively affect firm's cash holdings.

In Indonesia, there are similar researches conducted to test the factors that determine firm's cash holdings. Cash holdings determination of manufacturing firms in Indonesia is not significantly affected by firm size, cash flow, and capital expenditure (Jinkar, 2013). Based on regression analysis, it was found that size of firm as the independent variable does not affect cash holding in Food and Beverages Firms for the year 2007-2011 (Rahmawati, 2014). Both of the researches predict there is negative effect of firm size to firm's cash holdings. Unfortunately, their results are not significant. From those Indonesian researches, firm size is not proved to affect firm's cash holdings.

According to prior researches, most of the results find that there is negative relationship of firm size to firm's cash holdings. Static trade off theory also supports their finding. Larger firms have the greater access to capital market and can hold less cash compare to smaller

firms. Smaller firms tend to face many financial distress, so smaller firms tend to hold more cash for precautionary motives. Static trade of theory also support that larger firms can obtain cash by borrowing with low cost compare to smaller firms. Smaller firms also tend to need a lot of cash for growing its business. Thus, it is expected that firm size will negatively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A1} = Firm size will negatively affect firm's cash holdings

2.8.2. Net Working Capital and Firm's Cash Holdings

Static trade off theory predicts that net working capital will negatively affect firm's cash holdings. Net working capital is looked as liquid assets other than cash that might be cash substitute. Based on static trade off theory, firms with high net working capital will retain low amount of cash because if there is cash shortage, the firm can easily liquidate non-cash liquid asset. Based on the theory, non-cash liquid assets can be easily liquidated if there is cash shortage, but in the reality, liquidating the assets is hard in bad economic condition. The results from the prior researchers are various and might different.

Prior researches, especially the foreign researchers found that there is inverse relationship between cash holdings and net working capital. More assets that can be liquidated tend to hold less cash (Magerakis, 2015). Non-cash liquid assets is also a substitute for holding cash, firms with more non-cash liquid assets tend to hold less

cash (Wenyao, 2005). Wenyao (2005) and Magerakis (2015) give argument that non-cash liquid assets proxies by net working capital can be liquidated easily if there is cash shortage. Prenker & Kück (2009) found there is significant negative relationship of non-cash liquid assets and firm's cash holdings. It is suggesting a substitution effect between cash and other liquid assets. Ferreira & Vilela (2004) also found that there is negative relationship of non-cash liquid assets with firm's cash holdings. Not all foreign researches found the negative relationship between liquidity or the non-cash liquid assets with firm's cash holdings. Some of researchers found the significant positive relationship of net working capital with firm's cash holdings.

The pooled regression results also indicate that firms' cash holdings increase with volatility of cash flows, market-to-book ratio and liquidity position of firms (Guney, Ozkan, & Ozkan, 2007). Moreover net working capital also has a highly significant relationship with cash holdings and an increase in net working capital leads to higher cash balances therefore highly liquid firms tend to have higher cash balances as against lesser liquid firms (Anjum & Malik, 2013). There is evidence from Gill & Shah (2012) that there is positive relationship between net working capital and cash holdings for Canadian manufacturing firms. Gill & Shah (2012) also conducted the test for Canadian service firms and found that there is negative relationship between net working capital and cash holdings. Gill & Shah (2012) research shows that the industry might influence the result.

In Indonesia, most of the researchers found that there is significant positive effect of net working capital and firm's cash holdings. Prior Indonesian researches Jinkar (2013), Fauzi (2013), Zulhilmi (2015), and Pranowo (2015) found that there is positive impact of net working capital to cash holdings. Different with those researches, Rahmawati (2014) found that there is no significant impact of net working capital to cash holdings. Rahmawati (2014) research is limited to Food and Beverage firms. Prasentianto (2014) found that there is significant negative impact of net working capital to cash holdings, but it is only limited to Indonesian Property and Real Estate firms. Based on those researches, most of the results found that net working capital positively affect cash holdings in Indonesia.

According to static trade off theory, net working capital will have inverse relationship with firm's cash holdings. Non-cash liquid assets are viewed as cash substitute that can be liquidated easily. This research is conducted in Indonesia where the economic condition is not stable. Trade off theory related to the negative effect prediction of net working capital to firm's cash holdings is not fit to be implemented in Indonesia. With the Indonesian bad economic condition, it is hard to liquidated non-cash liquid assets if there is cash shortage. Non-cash liquid assets cannot be substitute of cash holdings. Non-cash liquid assets and cash are parts of total assets, so there should be inline relationship, not the inverse relationship. Thus, it is expected that net

working capital will positively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A2} = Net working capital will positively affect firm's cash holdings

2.8.3. Dividend Payment and Firm's Cash Holdings

Static trade off theory predicts that there is inverse relationship of dividend payment to firm's cash holdings. Firms that currently pay dividend can deduct the dividend payment if there is cash shortage. Contradicted with static trade off theory, pecking order theory predicts the positive effect of dividend payment to firm's cash holdings. Firms that currently pay dividend to its shareholder will reluctant to cut the dividend payment and need more cash for dividend payment compared to non-paying dividend firms. Many prior researchers found there is positive impact of dividend payment to firm's cash holdings.

The impact of dividend on cash holdings is positive and significant in Germany (Guney, Ozkan, & Ozkan, 2007). The pecking order predicts that cash holdings are positively related to internal cash flows and dividend payouts (Nguyen, 2005). Nguyen (2005) found that dividends (DDUMMY) have cash balances that are 20% higher compared with firms paying no dividend. These cash holdings patterns are better explained by the pecking order model. There is positive relationship between dividend payments and cash holdings, probably reflecting firms' reluctance to cut dividend payments (Drobetz &

Gruninger, 2006). Jinkar (2013) found that Indonesian firms that currently pay dividend will increase the amount of retained cash holdings for the smoothness of dividend payment. The result of this research is following the existing theory and the prior researches.

According to prior researches, most of the results find that there is positive relationship of dividend payment to firm's cash holdings. Contradicted with static order theory, pecking order theory supports those researches. Firms that currently pay dividend will need extra cash to be distributed for its shareholders. Thus, it is expected that dividend payment will positively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A3} = Dividend payment will positively affect firm's cash holdings

2.8.4. Sales Growth and Firm's Cash Holdings

Sales growth is representation of growth opportunity and investment opportunity. Higher sales growth means the high growth and investment opportunity. Static trade off theory and pecking order theory support the positive relationship of investment and growth opportunity to firm's cash holdings. Firms with high investment and growth opportunity will face many profitable investment opportunity and need additional cash compared to firms with low investment and growth opportunity. Contradicted with static trade off theory and pecking order theory, free cash flow theory suggests inverse

relationship between investment opportunity and firm's cash holdings. In the free cash flow theory, managers tend to accumulate more cash and invest it in negative NPV (representation of low investment opportunity).

Firms with higher investment opportunities are expected to hold larger amounts of cash to reduce the likelihood of forgoing these investments (Ferreira & Vilela, 2004). Firms with growth opportunities tend to hold more cash not to incur opportunity costs by foregoing valuable investment projects (Uyar & Kuzey, 2014). Gill & Shah (2012) found that there is positive significant relationship between growth opportunity and cash holdings for Canadian manufacturing firms. Opler, Pinkowitz, Stulz, & Williamson (1999); Ozkan & Ozkan (2004); Wenyao (2005); Nguyen (2005); Guney, Ozkan, & Ozkan (2007); and Ali & Yousaf (2013) found that growth opportunities affect cash holdings significantly and positively.

The result of Jinkar (2013) research shows that manufacturing companies' cash holding policy in Indonesia is significantly influenced by growth opportunity. Fauzi (2013), Zulhilmi (2015), and Pranowo (2015) found that there is positive significant relationship to cash holdings. Firms with more investment opportunities will keep higher liquidity levels, in order not to limit or cancel their profitable investment projects. High growth opportunities lead to increasing profitable investment opportunity. Increasing profitable investment opportunity means the needs of cash is increase.

According to prior researches, most of the results find that there is positive relationship of investment and growth opportunity to firm's cash holdings. Investment and growth opportunity is represented by sales growth. Sales growth is predicted to have inline relationship with firm's cash holdings. Both of static order theory and pecking order theory supports those researches. Free cash flow theory relationship prediction for investment opportunity and firm's cash holdings are less supported from prior researches. Thus, it is expected that sales growth will positively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A4} = Sales growth will positively affect firm's cash holdings

2.8.5. Cash From Operations and Firm's Cash Holdings

Static trade off theory predicts the inverse relationship of cash from operations and firm's cash holdings. Cash from operations is viewed as the cash substitute. High cash inflow from operations might persuade the managers to hold less cash. If cash inflow from operating activities is low, the firms should retain more cash. Different with static trade off theory, pecking order theory predicts there is positive effect of cash flow from operations to firm's cash holdings. If the cash inflow from operations is high, the cash holdings will be high too. Pecking order theory argues that if all variables are controlled, high cash inflow from operation might boost the firm's cash holdings.

The results suggest that cash holdings are positively affected by the investment opportunity set and cash flows (Ferreira & Vilela, 2004). There is evidence in line with the pecking order theory that there is a positive association between cash holdings and operating cash flows (Nguyen, 2005). Cash flow to total assets is positively related to cash holdings for Swedish firms, suggesting support for the financing hierarchy model and possibly a precautionary motive (Preker & Kück, 2009). Teruel & Solano (2004); Wenyao (2005); Ogundipe, Ogundipe, & Ajao (2012); Pastor & Gama (2013); Ali & Yousaf (2013); Uyar & Kuzey (2014); and Pranowo (2015) found the same result that cash from operations is positively and significantly affect cash holdings.

According to prior researches, most of the results find that there is positive relationship of cash flow from operations to firm's cash holdings. Those results are consistent with the pecking order theory. Thus, it is expected that cash from operations will positively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A5} = Cash from operations will positively affect firm's cash holdings

2.8.6. Firm Age and Firm's Cash Holdings

Static trade off theory predicts that older firms will have greater access to capital market and can hold less cash compared to younger firms. Oler & Picconi (2014) added firm age as an additional

explanatory variable for cash holdings determinant. It is expected that older firms have greater access to capital markets and therefore need less cash. Younger firms will need more cash for growing its business and operations. Older firms will not need much cash for growing because older firms tend to stop growing in certain stage. There are just few researchers that include firm age variable to be cash holdings determinant.

Cash ratio is also positively related to industry cash flow volatility and negatively affected by cash flow, net working capital, capital expenditures, leverage, tax expenses, age, and size (Magerakis, 2015). Based on the Magerakis (2015) research, firm age negatively affect firm's cash holdings. If the firm's age is higher, it is more likely that the firm will be better known and relations with banks and suppliers have been established. This makes it more likely that alternative possibilities exist to overcome temporary cash shortages by e.g. the use of commercial paper, lines of credit or trade credit (Eije, 2012).

According to prior researches, most of the results find that there is negative effect of firm age to firm's cash holdings. Those results are consistent with the static trade off theory. Thus, it is expected that firm age will negatively affect firm's cash holdings. Therefore the hypothesis alternative will be formulated as follow:

H_{A6} = Firm age will negatively affect firm's cash holdings