Journal of Contemporary Issues in Business and Government Vol. 27, No. 1, 2021
P-ISSN: 2204-1990; E-ISSN: 1323-6903
https://cibg.org.au/

# A Literature Review On Corporate Cash Holdings Decisions

**Boubker Mouline**

*PhD student in economics, Mohamed V University in Rabat, Morocco*
*Email: [1]boubker.mouline@um5s.net.ma*

***Abstract: There has been a growing interest in the issue of treasury and cash holdings as its purpose has overgone several important changes within companies over time. It has evolved from a simple function of comparing accounting and banking information to a function that is at the heart of the strategic sphere of the company. However, in spite of this growing interest, the phenomenon of holding cash has been the subject of rare research, yet to satisfy all the theoretical doubts and curiosity related to this subject. Based on theories explaining the liquidity-accumulating behavior of firms, this research reviews the role of different financial theories such as, trade off theory, pecking order theory and agency theory in the decision making of corporate cash management practices. Majority of the literature depicts the prominence of trade off theory and pecking order theory in the cash management practices of firms. However, some empirical and theoretical studies also described the significance of agency theory. Starting from the motivation of cash holding, this study warrants the need to empirically extent the significance of financial theories in the future.***
***Keyword:Cash Holdings, Structure capital theories, Agency theory, Free cash flow theory.***

## 1. INTRODUCTION

Since the beginning of this millennium, liquidity has more than ever made its way to the heart of corporate strategies for various reasons. Researchers have paid considerable attention to this fact, which is largely explained by an increase in the level of liquidity of companies around the world in recent years. The most prominent examples are probably the large US digital corporations like Google, Amazon, Facebook, Apple and Microsoft (GAFAM), whose cash hoarding behavior frequently makes headlines. Alphabet, Google's headquarters, and apple lead the ranking with the largest cash reserves worldwide, holding $117 billion and $102 billion respectively of cash in 2019. A dramatic increase trend to hold cash was also recognized by scientific research in recent years. Opler et al. (1999), Foley et al. (2007), Pinkowitz et al. (2013), Almeida et al. (2014), Bates, Chang, & Chi, (2018), and Phan et al., (2019) document a tendency to hold cash for firms all over the world. Exemplarily, the cash buffer available to non-financial companies in the EMEA region amounted to €1,085 billion at the end of 2018, reaching a record level of cash holdings for this region, while US companies were close to $1,690 billion in the same year. The liquidity ratio of listed European companies increased on average from 8% to 17% of total assets between 1980 and 2015. During the same period of time, cash positions of US companies grew even more significantly, more than tripling from 8% to 28%, and reaching a record level in 2017 with more than $1.99 trillion held by US non-financial companies. These huge amounts of cash held in 2018 by US and European companies combined amounted to €2,700 billion. This would be the equivalent of the annual GDP of one of the world's largest economic powers,

such as Great Britain or France for example, or the combined GDP of Spain, the Netherlands, and Belgium (€2,600 billion).

The sharp increase in holding high levels of cash has led several researchers to focus on this phenomenon, which has long been overlooked by theorists with no explanation to be found. Furthermore, the reasons that lead companies to accumulate such high levels of liquidity and the impact it has on firm value are major issues that have been revisited by authors in recent years. The holding of liquid assets by companies does not appear in an abundance of theoretical and empirical literature, or at least not sufficiently. The roots of treasury research can be traced back to the 1930s with Keynes (1936), the 1950s with Baumol (1952) and Tobin (1956), the 1960s with Meltzer (1963), and Miller and Orr (1966), and the 1980s with Baskin (1987) and Diamond (1989). This was followed by a very important wave of empirical research from the 1990s onwards aimed at explaining the holding of cash by companies around the world, when cash holdings became an active topic in liquidity research, as shown by the evolution of statistics regarding the number of scientific articles on cash holding published per year, from an average of 5 papers a year between 1990 and 2005 to an average of 35 papers a year between 2005 and 2019. These wave of empirical investigation of cash holdings were initially encouraged by the work of Kim et al. (1998), Harford (1999) and Opler et al. (1999) which motivated a series of follow-up literature that examined the variation and the drivers of the recent and persistent increases in average cash holdings (Dittmar et al., 2003; Ozkan & Ozkan, 2004; Pinkowitz et al., 2006; Bates et al., 2009; Almeida et al., 2014; Anderson & Hamadi, 2016; Graham & Leavy, 2018; Asimakopoulos, Asimakopoulos, & Fernandes, 2019).

Although the question regarding the determinants of cash holding has been the subject of several economic and financial studies, as well as of growing interest among researchers, no consensus has yet been reached on the factors that determine and influence the decision to hold cash. The theoretical and empirical debate around this issue is therefore very open, and any argument presented is debatable. Therefore, it is very important to explore the problem of cash holding. Overall, this paper contributes to existing literature in two ways. Firstly, this article mainly reviews and studies the research on cash holding issues, which helps to it provides a coherent overview of the theoretical foundation of holding cash. Secondly, the systematic review of this paper is also conducive to finding new research directions and further improving the research on cash holding issues.

## 2. LITERATURE REVIEW

According to neoclassical financial theory, the question of holding cash is not relevant. In fact, in the friction-free world of Modigliani and Miller (1958), the investment decision is separate from the financing decision. In theory, the company can evaluate its investment opportunities without worrying about how it will be financed because of its ability to raise funds or sell assets on the market at no cost. However, in the real world, companies have an incentive to hold a certain level of liquidity. By challenging the restrictive assumptions of neoclassical finance, recent developments in contemporary finance have revealed the motivations of holding liquid assets. Several theories constitute the foundation of empirical research on corporate cash holdings and identify the determinants of the level and market value of cash. These theories can be structured in three general strands: Firstly, the Liquidity preference theory theory of cash holding motivation, secondly the classic capital structure theories and finally theories that focus on agency conflicts.

**2.1. Liquidity preference theory**

All the theories that deal with the liquidity holding problem have the same point of reference, that is, the irrelevance of the capital structure according to Modigliani and Miller (1958), who assert that in perfect financial markets, the value of a company is independent of its sources of financing. However, Keynes (1936) is considered to be the first to have refuted the classic idea of keeping liquid assets is irrational. In his famous book "The General Theory of Employment, Interest of Money", Keynes proposed the theory of the motivation for holding liquid assets and quickly attracted the attention of the scientific world. He believes that firms hold liquidity mainly for three reasons involving transactions, precaution, and speculation. Elements of the Keynesian analysis should first be studied before presenting in detail these explanatory reasons for holding liquidity. Although Aristotle cited three functions of money, namely a unit of account, then a means of payment, and finally a store of value, classical economists have focused only on the second function of money. Considering that it is not rational to hold money beyond its transactional needs while the rest of the income would be invested or landed, classical and neo-classical economists asserted that savings depend on the interest rate. When the interest rate rises, a substitution effect reduces consumption to increase savings. This view of interest rates was criticized by Keynes (1936).

In his general theory, Keynes developed a theory of the demand for money that he called the liquidity preference theory. Under this theory, holding cash is considered as a means of meeting liquidity constraints, while the cost of foregoing liquidity is expressed as the loss of interest (Dittmar & Mahrt-Smith, 2007). In the same vein, the holding of liquidity is preferred to the holding of securities, as the latter cannot be converted into cash without a financial counterpart. Indeed, Keynes (1936) defines liquidity as the speed at which an asset can be converted into currency at an optimal transaction cost. At this level, Keynes (1936) gives up the classical vision that considers the speed of transformation of an asset as a constant and presents his new view that the interest rate is not determined by investment and savings, but rather by the demand and supply of money. He distinguishes between the demand for money, and the speed at which money is transformed into income since the choice made by an economic agent to maintain or give up liquidity is a function of savings, not profit. Money with perfect cash is an asset that can be exchanged immediately and at no cost for any kind of real or financial asset (Keynes, 1936). Thus, both economic agents and firms seek to hold a stock of money for the four reasons discussed by Keynes (1936) and subsequently interpreted by several economists.

**2.2.The transactions motive.**

Keynes points out that the lack of temporal synchronization between incoming and outgoing payments leads economic agents to conserve liquidity to bridge this gap. In other words, an economic agent does not know the exact moment of receipt of an incoming payment and, consequently, it seeks to protect itself against these contingencies and delays between incoming and outgoing flows of liquidity. This motive, therefore, depends primarily on the amount of income and the time interval between its collection and disbursement, as well as on the existence of transaction costs associated with the liquidation of non-monetary assets. As for companies, the amount of cash they hold varies depending on size of income, as well as its frequency, regularity, and coordination with the outflows to be made.

**2.3.The precautionary motive**

The second reason for holding cash is the precautionary motive, which states that firms accumulate cash as a buffer to prepare for unforeseeable shocks to their finances. The uncertainty of the economic environment and the nature of the activity carried out by an organization explains the precautionary reason for holding cash. Changes in the environment are often unpredictable, but the likely risks associated with the activity can be calculated a

priori as the variations that may occur in turnover or profitability. This does not exclude the possibility that unpredictable events, such as the loss of a significant customer or a promising project, or even the occurrence of a disaster, may occur without anyone being able to predict them in advance. Indeed, these companies may face two situations: either the non-existence of means of financing or the abnormally high costs of these means when they are accessible. In such cases, these companies will experience difficult situations and will be forced to abandon these projects, hence the interest for these companies to accumulate cash. Models developed by recent research show the direct causal link between cash holdings and the precautionary motive (Ferrando & Mulier 2013; Asimakopoulos, Asimakopoulos, & Fernandes, 2019). Their findings revealed that unlisted companies hold more cash than their listed peers for the precautionary motive as a result of unlisted companies suffering from more liquidity constraints than others. Keynes estimates that the cash balance to be held is determined mainly based on the transactions that agents plan to carry out. Thus, he considers that the balance of cash to be maintained, as a precautionary measure, is proportional to the agent's income.

**2.4.The speculative motive**

According to Keynes, a form of wealth holding via a risk-free and cost-free reserve of money is to take advantage of interest rate movements in the market. This motive represents the intentional decision of an agent to reserve his or her income. After making this decision, agents are then presented with two choices involving this reserved income. The first choice is related to the part of the revenue that will be destined to savings in monetary form, and the second choice is associated with the part of the income that will be intended to speculate in stocks. Keynes defines speculation as "the activity that consists in predicting the psychological state of the financial market." Agents who can make near-reality predictions about the evolution of the interest rate will be able to make a profit. Keynes also demonstrates how an agent might prefer to hold wealth in the form of cash rather than bonds despite a zero return on cash at the time of his research. He found that for bonds, the return is a function of two elements: the return in the form of interest and the return in the form of capital gain. Thus, an increase in interest rates translates into a decrease in the value of a bond. When economic agents anticipate a rise in interest rates, they also expect a parallel reduction in the value of bonds and, thus, a negative return (capital loss). Consequently, economic agents prefer to accumulate their wealth in the form of cash, as they consider a zero return to always be higher than a negative return. Accordingly, the holding of cash depends on agents' expectations of the evolution of bond yields.

**2.5.The funding motives**

Another reason for treasury holdings was added by Keynes in response to criticism of his theory by several authors (Ohlin, 1937; Hicks, 1936; Robertson, 1936), specifically on his theory of interest rate determination. In his response to the criticisms, Keynes (1937, 1938) acknowledged that he had made a mistake. To reinforce his liquidity-preference theory, he introduced a fourth factor that influences the demand for money, which he called the "financing motive." He emphasized that every need for investment requires additional liquidity, and he added that the demand for financing arises in the period between the date of the investment decision and the completion of the investment by entrepreneurs. The financing motive thus makes it possible to understand interest rate variations. In this sense, it underlines that a forecast increase in investment, which means the anticipation of an increase in real activity, contributes to the rise in the demand for financing, and excess in demand for financing necessarily leads to a rise in interest rates. Keynes teaches us that the investment needs of companies are not funded by their deposits and savings, but by the loans granted by

financial institutions. Thus, an upward variation in interest rates may be due to the refusal of financial institutions to give the liquidity needed to finance additional investments.

**2.6.Capital structure theories**

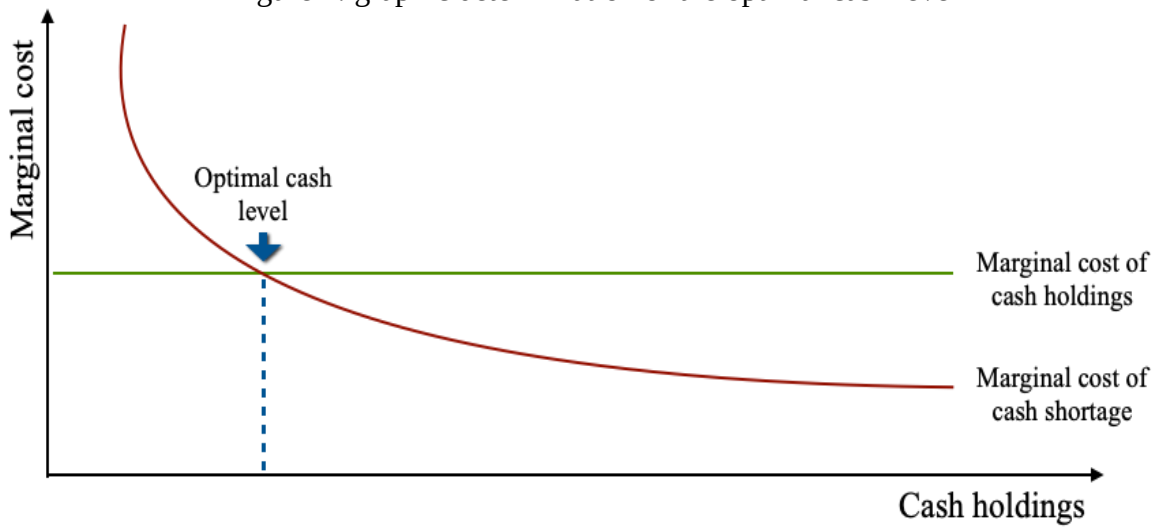
Capital structure theories consider a firm's entire financing decision and not exclusively its cash holding policy. They also embrace agency problems. However, agency issues are just one of numerous factors that are considered by the trade-off theory, and the pecking-order theory regards agency problems that differ from those discussed in the second category of theories

**2.7.Trade-off theory**

Opler et al (1999) have implemented a cash management model by assimilating the determination of the optimal level of liquidity to the determination of the optimal level of debt. If fact, holding cash, as well as debt, generates costs and profits and plays an essential role in financing a company's growth opportunities. Thus, we can, as most previous studies have done, apply the trade-off theory to determine its optimal cash holding level. It is in the firm's interest to accumulate cash to the level where its marginal cost equals its marginal profit. There would be an optimal level of liquidity holding, which can be represented graphically by the intersection between the curve of the marginal cost of holding liquid assets and the curve of the marginal cost of deficit in liquid assets (Opler et al., 1999).

We can illustrate the model of Opler et al. (1999) for determining the optimal level of cash by the following graph:

Figure 1: graphic determination of the optimal cash level




*Source: Opler et al. (1999)*

According to this theory, the optimal level of liquidity is determined by the trade-off between the benefits and costs of holding cash. The creation of a safety buffer, which avoids the costs of external financing or liquidation of the company's assets, would be the main advantage that the company can derive from holding liquid assets and allow the company to exercise its future investment options. However, there are types of costs associated with the business of carrying cash. Firstly, the rate of return on liquid assets is limited and is often lower than the value of the company's resources. The very presence of cash thus reduces the company's profitability. Secondly, the assessment of the costs and benefits attached to cash may differ between shareholders and managers. In particular, managers may wish to hold a high level of cash to serve their interests and increase their autonomy (Opler et al., 1999). This cost resulting from agency problems between shareholders and management and the low profitability of cash relative to other assets of the firm are the main costs of holding cash.

Many authors have recently studied the ability of capital structure theories to explain the level of liquidity, and the majority of them find support for the trade-off theory (Bigelli et al., 2012; Maheshwari & Rao, 2017; Asimakopoulos, Asimakopoulos, & Fernandes, 2019).

**2.8.The theory of hierarchical financing**

According to the theory of hierarchical financing, there is no optimal level of debt, and consequently, the firm does not have an optimal financial structure (Myers & Majluf, 1984).

The firm would first use treasury funds to finance an acquisition or a new project, then issue risk-free debt and later on issue risky debt or convertible bonds before opting to issue shares. The company's objective is to avoid situations where it is forced to abandon profitable investment projects or to issue undervalued stocks.

The main feature of this theory is the asymmetry of information between investors and managers. Managers have information that investors do not have and act in the interests of former shareholders. A vital advantage of this model is the possession of a sufficient level of cash. In the existence of information asymmetries, cash allows companies to take advantage of all profitable investment opportunities since it will enable them to avoid recourse to expensive sources of financing and thereby avoid any loss in value.

Because there is not an optimal level of debt or fluidity, the treasury would only be the result of other financing and investment decisions. The relevant variable is the level of net debt, whether it corresponds respectively to zero debt and cash or to a larger liability associated with cash. According to this theory, companies avoid issuing shares to finance their investment projects because of the expense associated with information asymmetries.

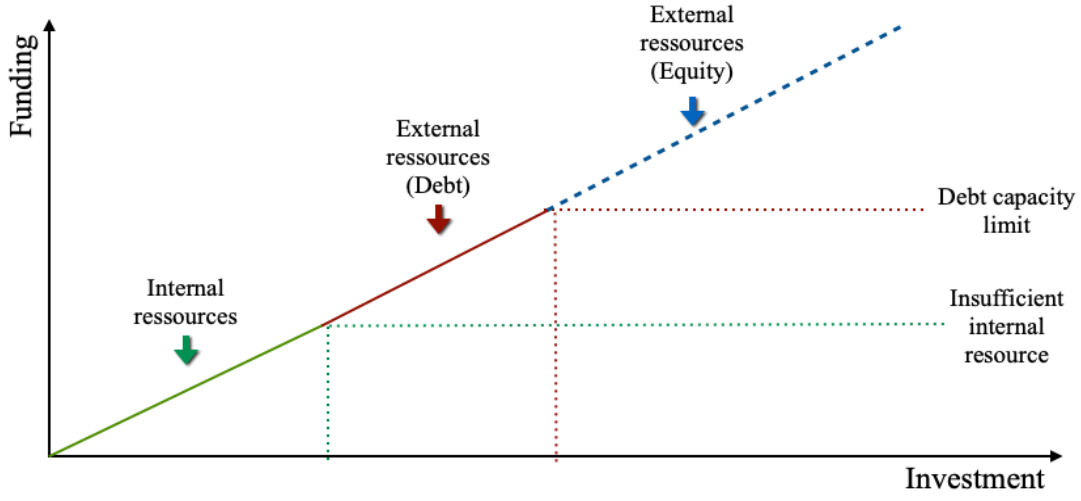
In fact, in the same light as car buyers in the Akerlof (1970) Model, potential investors do not have the same information as company managers and thus fear that the company's shares may be overvalued. Faced with this risk, potential investors will demand that the shares be emitted at a lower value than the capital stock market value. This fear makes the recourse to the financial market expensive because of the risk of adverse selection on the company's assets.

The shareholders are therefore faced with an important dilemma: to bear the high cost of financing and take the risk of transferring part of the company's wealth to the lender and the new shareholder, or to abandon profitable investment projects.

Thus, to finance its investments, a company has a privileged recourse to internal financing resources and resort to external sources only when internal liquidity is insufficient. Regarding the external sources, the company will first of all take on debt until it reaches the limit of its capacity to borrow, and from that moment on it will resort to capital increase.

We can give an illustration of the theory of hierarchical financing by the graph below:

Figure 2: Graphic representation of pecking order theory




*Source: Myers and Maljuf, 1984*

When existing investments generate high levels of cash flow, the company will use them to finance its other profitable projects, subsequently repay its debts, distribute dividends to its shareholders or repurchase its shares, and finally accumulate cash. On the contrary, if the cash flow generated by the company's activity is lower than its investment needs, it will use its accumulated cash flow to finance its investment projects before going into debt or issuing new shares. The level of liquidity, therefore, depends in particular on the cash flow generated by previous investments and thus acts as a buffer fund between retained earnings and investment needs. On the other hand, the fact of using the funds generated by the company's activity to repay its debts or accumulate cash has no impact on the value of the firm.

There is no optimal treasury since cash is simply seen as a negative debt. To the extent that holding cash is assumed to have no impact on the value of the firm, there is nothing wrong with it for shareholders

Extensive empirical research has validated the theoretical reasoning of the hierarchical financing theory (Opler, et al., 1999; Kim, Mauer, & Sherman, 1998; Ozkan & Ozkan, 2004; Sher, 2014; Graham & Leavy, 2018).

**2.9.Agency theory and corporate governance**

The separation of ownership from control in widely held companies and their sharing between shareholders and non-owner managers served as a basis for promoting the agency theory. These assumptions are regarded by Jensen and Meckling (1976) as the basic elements of agency theory, which in turn defines the agency relationship between the owners of the firm who present themselves as shareholders on one hand, and the persons who have been entrusted with the management of the firm and who present themselves as managers on the other. An agency relationship is established when the actions of one person affect both his or her utility and that of another person, as a result of an explicit or implicit contractual relationship. The person undertaking the actions is the "agent" hired to perform one or more tasks on behalf of the "principal" whose utility is affected by the actions of his agent. The relationship between firm owners and non-owner managers is a perfect illustration of this, given the divergent interests between them (Jensen & Meckling, 1976).

The firm's holding of the remaining cash left after the financing of all the projects with a positive net present value called "Free Cash-Flow" represents a significant part of the divergence of interest between manager and owner and, therefore, of agency costs (Jensen, 1986). In fact, the latter creates conflicts of interest between the managers of a company and its shareholders. They are not the sole owners of the companies they manage. The managers could act against the interests of the shareholders in return for their own. In such situations, managers seek to increase the amount of liquid assets themselves for several reasons: Kruger (2015) shows, for example, that a high level of liquidity increases losses through expenditures on projects with negative NPVs. In fact, cash holding allows managers to finance projects with a negative NPV or low rate of return that the capital markets would not accept to finance, or simply use them for their interests by increasing the benefits in nature and thus derive more private benefits. The presence of cash encourages managers to diversify into projects that are not necessarily successful and that belong to sectors of activity in which they are familiar with in order to extend their discretionary power. Thus, one of the easiest ways for executives to achieve their goal is to accumulate cash rather than distributing it to shareholders in the form of dividends or share buybacks. In this way, executives avoid the use of capital markets and their controls (Dittmar & Marth-Smith, 2007; Harford et al., 2008).

Recognizing that costly expenditures must be incurred to address agency problems, shareholders often look for another way to control managerial behavior effectively. There are levers for shareholders to take action against possible discretionary management behavior. In

fact the agency theory literature shows that the magnitude of this conflict of interest can be attenuated by implementing appropriate governance structures (Jensen & Meckling, 1976; Fama, 1980; Fama & Jensen, 1983; Yung & Nafar, 2014; Shafique & Ali 2020). In fact, corporate governance provides the most effective disciplinary mechanisms for shareholders to motivate managers to maximize shareholder returns (Fama & Jensen, 1983; Demirguc-Kunt & Maksimovic, 2011; Anderson & Hamadi, 2016; Deb et al., 2017). The results of previous studies identify a large number of determinants affecting the holding of liquidity, corporate governance being one of the key factors (Kusnadi, 2011; Megginson et al., 2014). Empirical tests of the impact of agency conflicts and the quality of governance on cash holdings were conducted in two main directions. The first direction tests the predictions of agency theory on international samples, characterized by a great heterogeneity of legal and institutional contexts and capital market development. The second direction investigates the impact of governance on treasury in a given legal context. The two fields of empirical tests of the impact of agency conflicts on treasury lead to contradictory results. In fact, international studies conclude that the level of treasury decreases with the degree of shareholder protection and shareholder concentration; and increases with the development of capital markets, thus confirming the predictions of agency theory (J. Harford et al., 2008; Najjar & Belghitar, 2011; Uyar & Kuzey, 2014). The results of tests of agency theory predictions in a given institutional context are more mixed than those of international studies. Opler et al. (1999) find that agency theory does not play a significant role in explaining the holding of cash by U.S. firms, whereas Harford (1999) finds that agency theory plays a key role in explaining the holding of cash by U.S. firms. Al-Najjar and Belghitar (2011) and Kusnadi (2004) also validated the predictions of agency theory. The results of Mansi and Maxwell (2008) on the U.S. market contradict the predictions of agency theory. They find that firms with poor governance hold little cash and squander it more quickly, particularly through acquisitions. Other studies, both on international samples (Pinkowitz et al., 2006) and within a single country (Uyar & Kuzey, 2014) have examined the impact of governance features on cash valuation. These studies conclude that governance quality is important for cash valuation. When firms are well governed or located in countries where investors' rights are respected, the cash retained to finance profitable investments is well valued, while conversely, when investors have doubts about the use of cash or the intentions of management, their preference is to pay dividends and the cash retained has a low marginal value for them.

## 3. CONCLUSION

The previous discussion of cash holding theories and related empirical results enabled us to highlight the determinants that motivate companies to hold high levels of liquidity. In fact, we have seen that liquidity allows the company to benefit from several advantages, especially in terms of cost optimization. We can mention the transaction costs of external financing transactions, the costs borne by the company due to the asymmetry of information, and the costs of bankruptcy due to the risk of defaults. Considering the perspective offered by agency theory and free cash flow in our study, we have identified that a significant holding can be motivated by the discretionary behavior of managers prioritizing their own interest. For this reason, they do not hesitate to over-invest and waste the cash. In fact, the divergence of interests and opportunism of managers leads them to take managerial and financial decisions that are sub-optimal from the shareholder's point of view. This opportunistic behavior can take various forms, including over-investment, or the orientation of the company's activities towards sectors that are not necessarily profitable, but which give the manager the opportunity to put down roots, or the possibility of earning additional income. Managers may

also be inclined to hold high levels of liquidity in order to avoid the pressure and disciplinary effect of the financial market, and to lead an easy life within the company.
this theoretical framework shows that cash holding research has a diverse foundation consisting of several distinct theories. The individual meaning of these theories is well investigated. However, the interplay of these theories is not yet in the focus of research. It is an interesting prospect for future research to compare the relative importance of different cash holding theories and identify situations in which this relative importance changes.

## 4. REFERENCES

[1] Akerlof, G. A. (1970). The Market for « Lemons »: Quality Uncertainty and the Market Mechanism. The Quarterly Journal of Economics, 84(3), 488. https://doi.org/10.2307/1879431

[2] Al-Najjar, B., & Belghitar, Y. (2011). Corporate cash holdings and dividend payments : evidence from simultaneous analysis. Managerial and Decision Economics, 32(4), 231-241. https://doi.org/10.1002/mde.1529

[3] Ali, H., & Shafique, O. (2020). «Board Committee's Characteristics and Selling, General and Administrative Cost Behavior: Evidence from Pakistan». International Journal of Management Research and Emerging Sciences, 10(2), 187-203.

[4] Almeida, H., Campello, M., Cunha, I., & Weisbach, M. S. (2014). Corporate liquidity manage- ment: A conceptual framework and survey. Annual Review of Financial Economics, 6, 135– 162.

[5] Anderson, R. W., & Hamadi, M. (2016). Cash holding and controloriented finance. Journal of Corporate Finance, 41(1), 410–425.

[6] Asimakopoulos, P., Asimakopoulos, S., & Fernandes, F. D. S. (2019). Cash holdings of listed and unlisted firms : new evidence from the euro area. The European Journal of Finance, 25(17), 1708-1729. https://doi.org/10.1080/1351847x.2019.1652197

[7] Baskin, J. (1987). Corporate Liquidity in Games of Monopoly Power. The Review of Economics and Statistics, 69(2), 312. https://doi.org/10.2307/1927239

[8] Bates, T. W., Chang, C.-H., & Chi, J. D. (2018). Why has the value of cash increased over time? Journal of Financial and Quantita- tive Analysis, 53(1), 749–787.

[9] Bates, T. W., Kahle, K. M., & Stulz, R. M. (2009). Why Do U.S. Firms Hold So Much More Cash than They Used To? The Journal of Finance, 64(5), 1985-2021. doi:10.1111/j.1540- 6261.2009. 01492.x

[10] Baumol, W. J. (1952). The Transactions Demand for Cash : An Inventory Theoretic Approach. The Quarterly Journal of Economics, 66(4), 545. https://doi.org/10.2307/1882104

[11] Bigelli, M., & Sánchez-Vidal, J. (2012). Cash holdings in private firms. Journal of Banking & Finance, 36(1), 26-35. https://doi.org/10.1016/j.jbankfin.2011.06.004

[12] Deb, P., David, P., & OBrien, J. (2017). When is cash good or bad for firm performance? Strategic Management Journal, 38, 436–454.

[13] Demirgüç-Kunt, A., & Maksimovic, V. (2011). Firm Innovation in Emerging Markets: The Role of Finance, Governance, and Competition. Journal of Financial and Quantitative Analysis, 46(6), 1545-1580. doi:10.1017/s0022109011000378
[14] Diamond, D. W. (1989). Reputation Acquisition in Debt Markets. Journal of Political Economy, 97(4), 828-862. https://doi.org/10.1086/261630
[15] Dittmar, A., & Mahrt-Smith, J. (2007). Corporate governance and the value of cash holdings. Journal of Financial Economics, 83(3), 599-634. https://doi.org/10.1016/j.jfineco.2005.12.006
[16] Dittmar, A., Mahrt-Smith, J., & Servaes, H. (2003). International corporate governance and corporate cash holdings. J. Financ. Quant. Anal. , 28, 111–133.
[17] Fama, E. F. (1980). Agency Problems and the Theory of the Firm. Journal of Political Economy, 88(2), 288-307. https://doi.org/10.1086/260866
[18] Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. Journal of Law and Economics , 26, 301-325.
[19] Ferrando, A., & Mulier, K. (2013). Do firms use the trade credit channel to manage growth? Journal of Banking & Finance, 37(8), 3035-3046. https://doi.org/10.1016/j.jbankfin.2013.02.013
[20] Foley, C. F., Hartzell, J., Titman, S., & Twite, G. (2007). Why do firms hold so much cash? A tax-based explanation. doi:10.3386/w12649
[21] Graham, J. R., & Leary, M. T. (2018). The Evolution of Corporate Cash. The Review of Financial Studies, 31(11), 4288-4344. https://doi.org/10.1093/rfs/hhy075
[22] Harford, J. (1999). Corporate Cash Reserves and Acquisitions. The Journal of Finance, 54(6), 1969-1997. https://doi.org/10.1111/0022-1082.00179
[23] Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate governance and firm cash holdings in the US. Journal of Financial Economics, 87(3), 535-555. https://doi.org/10.1016/j.jfineco.2007.04.002
[24] Hicks, J.R. (1936). Mr Keynes' theory of employment. Economic journal, juin 1936. Pp 238- 253
[25] Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review , 76, 323-329.
[26] Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm : Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305-360. https://doi.org/10.1016/0304-405x(76)90026-x
[27] Keynes, J. M. (1936). The General Theory of Employment, Interest and Money. Political Science Quarterly, 51(4), 600. https://doi.org/10.2307/2143949
[28] Keynes, J. M. (1937). Alternative Theories of the Rate of Interest. The Economic Journal, 47(186), 241. https://doi.org/10.2307/2225525
[29] Kim, C.-S., Mauer, D. C., & Sherman, A. E. (1998). The Determinants of Corporate Liquidity: Theory and Evidence. The Journal of Financial and Quantitative Analysis, 33(3), 335-358. https://doi.org/10.2307/2331099
[30] Krüger, P. (2015). Corporate goodness and shareholder wealth. Journal of Financial Economics, 115(2), 304-329. https://doi.org/10.1016/j.jfineco.2014.09.008

[31] Kusnadi, Y. (2011). Do corporate governance mechanisms matter for cash holdings and firm value? Pacific-Basin Finance Journal, 19(5), 554-570. https://doi.org/10.1016/j.pacfin.2011.04.002

[32] Maheshwari, Y., & Rao, K. T. V. (2017). Determinants of Corporate Cash Holdings. Global Business Review, 18(2), 416-427. https://doi.org/10.1177/0972150916668610

[33] Megginson, W., L., Ullah, B., & Wei, Z. (2014). State ownership, soft-budget constraints, and cash holdings : Evidence from China's privatized firms. Journal of Banking & Finance, 48, 276-291. https://doi.org/10.1016/j.jbankfin.2014.06.011

[34] Meltzer, A. H. (1963). The Demand for Money: A Cross-Section Study of Business Firms. The Quarterly Journal of Economics, 77(3), 405. https://doi.org/10.2307/1879569

[35] Miller, M. H., & Orr, D. (1966). A Model of the Demand for Money by Firms. The Quarterly Journal of Economics, 80(3), 413. https://doi.org/10.2307/1880728

[36] Modigliani et Miller. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. The American economic review, 48(3). Pp 261-297

[37] Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, 13(2), 187-221. https://doi.org/10.1016/0304-405x(84)90023-0

[38] Ohlin, B. (1937). Some notes on the Stockolm theory of savings and investment. Economic journal. Pp 53-59

[39] Opler, T. (1999). The determinants and implications of corporate cash holdings. Journal of Financial Economics, 52(1), 3-46. https://doi.org/10.1016/s0304-405x(99)00003-3

[40] Ozkan, A., & Ozkan, N. (2004). Corporate cash holdings: An empirical investigation of UK companies. Journal of Banking & Finance, 28(9), 2103-2134. https://doi.org/10.1016/j.jbankfin.2003.08.003

[41] Phan, H. V., Nguyen, N. H., Nguyen, H. T., & Hegde, S. (2019). Policy uncertainty and firm cash holdings. Journal of Business Research, 95(1), 71–82.

[42] Pinkowitz, L. F., Stulz, R. M., & Williamson, R. G. (2013). Is there a U.S. High Cash Holdings Puzzle after the Financial Crisis? SSRN Electronic Journal. doi:10.2139/ssrn.2253943

[43] Pinkowitz, L., Stulz, R., & Williamson, N. (2006). Does the Contribution of Corporate Cash Holdings and Dividends to Firm Value Depend on Governance ? A Cross-country Analysis. The Journal of Finance, 61(6), 2725-2751. https://doi.org/10.1111/j.1540-6261.2006.01003.x

[44] Robertson, D.H. (1936). Some notes on Mr Keynes' General theory of employment. Quarterly journal of Economics. 10. Pp 191-198

[45] Sher, G. (2014). Cashing in for growth: Corporate Cash Holdings as an Opportunity for Investment in Japan. IMF Working Papers, 14(221), 1. https://doi.org/10.5089/9781498322171.001

[46] Tobin, J. (1956). The Interest-Elasticity of transactions demand for cash. The Review of Economics and Statistics, 38(3), 241. https://doi.org/10.2307/1925776

[47] Uyar, A., & Kuzey, C. (2014). Determinants of corporate cash holdings: evidence from the emerging market of Turkey. Applied Economics, 46(9), 1035-1048. https://doi.org/10.1080/00036846.2013.866203

[48] Yung, K., & Nafar, N. A. (2014). Creditor rights and corporate cash holdings: International evidence. International Review of Economics & Finance, 33, 111–127.