Determinants of corporate cash holdings: Evidence from Algeria
محددات السيولة النقدية في المؤسسات الاقتصادية عينة من الشركات الجزائرية

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Abstract:
The purpose of this paper is to revisit the determinants of cash holding, which include liquid assets, firm size, leverage, investment opportunity and sort term debt, total debt and the profitability, capital expenditure and net working capital. To empirically test our hypotheses on the determinants of cash-holding levels for non-financial Algerian companies from 2013 to 2018. We used a financial data collected from the Sidjilcom database managed by National Center of the Commercial Register (CNRC). We exclude firms in the financial sector as they have a different motivation for holding cash than firms in the non-financial sector. Our final sample has 90 firm-year observations for 15 non-financial companies and test done by Statistical Package for the Social Sciences (SPSS) Version 22.
Keywords: Cash holdings; cash determinants; trade off theory; pecking order theory; Algerian companies.
Jel Classification Codes: G31,G32.

ملخص:
الغرض من هذه الورقة هو إعادة النظر في محددات الاحتفاظ بالنقد ، والتي تشمل الأصول السائلة ، وحجم الشركة ، والرافعة المالية ، وفرصة الاستثمار ، والديون لأجل الفرز ، وإجمالي الدين والربحية ، والنفقات الرأسمالية وصافي رأس المال العامل. لاختبار فرضياتنا بشكل تجريبي حول محددات مستويات الاحتفاظ بالنقد للشركات الجزائرية غير المالية من 2013 إلى 2018. استخدمنا البيانات المالية التي تم جمعها من قاعدة بيانات "سجلكم" التي يديرها المركز الوطني للسجل التجاري (*CNRC*). نحن نستبعد الشركات في القطاع المالي

لأن لديهم دافعًا مختلفًا للاحتفاظ بالنقد من الشركات في القطاع غير المالي. تحتوي العينة النهائية لدينا على 90 ملاحظة لحوالي 15 شركة غير مالية ، وتم إجراء الاختبار بواسطة برنامج(*SPSS*) الإصدار 22.

كلمات مفتاحية: الاحتفاظ بالنقد.، محددات النقد، نظرية المقايضة ، نظرية الترتيب التسلسلي للتمويل، الشركات الجزائرية.

تصنيف JEL : G31، G32.

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1. INTRODUCTION:

One of the most vital assets for companies is cash. Holding a great amount of cash helps managers run an organization smoothly: the firm does not suffer from a cash-shortage and may not need to raise expensive capital from the external market. However, in some circumstances, such as an imperfect market, managers can take advantage of cash holding. As indicated by an enormous writing on liquidity the board, money property and credit extensions are acceptable instruments to convey liquidity. Money property are regularly alluded as the "king" of liquidity instruments, since they are the most widely recognized, yet additionally for being the most conventional.

The purpose of this paper is to revisit the determinants of cash holding, which include liquid assets, firm size, leverage, investment opportunity and sort term debt, total debt and the profitability ratio (Return on assets), capital expenditure and Net working capital (NWC) the Algerian firms for the from 2013 to 2018. We show that the level of cash can be clearly explained by the trade-off theory (negative relationship with firm size and positive relationship with investment opportunity) and partially by the pecking order and free cash flow theory (negative relationship with leverage. The remainder of the paper is organized as follows. Section 2 reviews the cash holding theory. The next section illustrates literature review, section 4: data and methodology. Section 5 provides empirical results. Section 6 concludes.

2. Theory of cash holdings:

In this section we review the main theoretical contributions on the determinants of firms' cash holdings trying to check whether they hold or whether they should be adapted in Algerian context.

In practice, liquidity constraints play a critical role in financing decisions because managers are forward-looking and consider the expected liquidity position of their firms in future periods when making financing decisions. Forward-looking financing decisions involve consideration of the opportunity cost of the consequent future inability to borrow if a decision to borrow is made in the current period (Bigelli & Sánchez-vidal, 2012.(

There are three theories accounting for cash holding: the trade-off theories (Myers, 1977), the pecking order theory (Myers & Majluf, 1984), and the free cash flow theory (Jensen, 1986).

2.1. Trade off theory:

The trade-off also known as the transaction cost theory (Opler et al., 1999), argument hypothesizes that firm's optimal level of cash holdings are determined by a trade-off between the marginal costs and marginal benefits of holding cash. Maintaining large cash balances offers several benefits to a firm. First, having large cash balances lead to a reduction in the probability that the firm will experience financial distress as cash acts as a safety reserve to face unexpected losses or external fundraising constraints. Second, even after overcoming financial constraints, cash holdings still helps firms to adopt an optimal investment policy which would otherwise have not been possible because of the external fund raising constraints as it would force the firm to forgo investment projects with positive net present value (NPV). Finally, cash holdings contribute to minimize the costs of raising external funds or liquidating existing assets as it acts like a buffer between the firm's sources and uses of funds. On the other hand, the most widely mentioned marginal cost of holding cash is the opportunity cost due to the low return on liquid assets(Kim et al., 2011).

2.2. Pecking-order theory:

According to the pecking-order theory, a firm manager attempts to lower the cost of information asymmetries and other financing expenses. The first source of funding future investment for the company comes from retained earnings (internal funds). The firm can then decide to use debt instruments and finally, equity instruments.(Ferreira & Vilela, 2004) argue that cash can be seen as a buffer between retained earnings and investment needs.

The pecking-order theory implies that firm size and cash holding have a positive relationship because larger firms are considered to be more successful and therefore maintain more cash for future investment. Nevertheless, neither (Opler et al., 1999) nor(Ferreira & Vilela, 2004) found evidence supporting this prediction.

Firms that are large in size, presumably are expected to be more successful, and hence should have more cash, after controlling for investment(Opler et al., 1999). The similar positive relation is also suggested for the level of cash flows as, controlling for other variables, it is expected that firms with high cash flow will have more cash.

2.3. Free cash flow theory:

According to this theory, management has a tendency to hold more cash for investment purposes to gain more control over firm's assets. If the company has sufficient internal funds for investment purposes, they may not be required to access external financing and they may not be required to be evaluated by the market. This may incentivize them to select negative NPV projects in order to increase their discretionary powers over firm's control of assets. Those companies with less growth opportunity may make investments because they have available funds.

Debt financing is believed to put some financial discipline on the firm's managers. This may imply that low leverage firms are less subject to monitoring and hence, providing managers with more flexibility, control and discretion. This argument allows us to hypothesize that less levered firms hold more cash.

Jenson's (1986) theory predicts that larger firms tend to hold higher levels of cash because the ownership pattern of such firms is very dispersed which results in managers having greater managerial discretions as shareholders have little control over managers and, consequently, the higher probability that managers of such firms will hold higher cash holdings.

Table 1 : Summary of predictions according to the theory

Variables	**Trade off theory**	**Pecking order theory**	**Free cash flow theory**
Cash flow	Negtaive	Positive	N/A
Leverage	Positive/ Negative	Negative	Negative
Firm size	Negtaive	Positive	Positive
Liquidi assets	Negatvie	N/A	N/A

Source: Done by the authors

3. The motives of cash holdings:

(Keynes 1936, n.d.) defines three motives for holding money: (1) transaction demand; (2) precautionary demand; and (3) speculative demand. He then combined the first two demands and called it the transaction demand for money. These demands are interest-elastic. Keynes explained how the interest rate is the main reason that will reduce the willingness to hold cash. Liquidity preference depends on three motives: the transaction motive, which represents businesses' and people's demand for liquidity in business and personal transaction exchange; the precautionary motive, which is the demand for liquidity to be able to finance future needs; and the speculative motive, which is the demand for liquidity to generate some interest income. The literature on corporate cash holdings, after (Keynes 1936, n.d.) has identified four major motives for firms to hoard cash. These include the transaction motive, the precautionary motive, the tax motive, and the agency motive.

3.1. Precautionary motive :

The liquidity literature suggest that it is valuable to hold liquid resources in capital markets with information asymmetries because it provides firms with the security to pursue investment opportunities even at times when cost of external capital is too high, e.g. when securities are underpriced (see (Almeida et al., 2004); Myers & Majluf 1984). Under the assumption that lines of credits can be accessed unconditionally, lines of credit provide the same precautionary benefit as cash (Lins et al., 2010)In fact, (Gill, 2015) suggests that lines of credit can weaken firms' incentive to hold precautionary cash, because precautionary liquidity could instead be held in the form of lines of credit, which provide the same benefit but do not entail the same cost of carry and agency cost of managerial discretion as cash does.

3.2. Transaction motive*:*

Conventional models of finance advocate the importance of transaction costs in firms‟ financing decisions. Due to the cost in converting non-cash assets into cash, firms hold cash for liquidity purposes and this is more prominent in smaller firms because large firms enjoy economies of scale in the conversion of assets ((Baum & Stephan, 2005). Accordingly, operational cash holdings should make up a substantial portion of cash held by firms to avoid transaction costs because ad-

hoc non-operational cash requirements are difficult to predict, and holding cash for non-operational purposes incurs substantial costs (e.g. tax and agency costs). Debt capacity, on the other hand, may be preserved for non-operational purposes and tapped only when funds are needed. Debt is generally less expensive than equity; and private issues are cheaper than public issues . As such, firms preserve debt capacity to avoid expensive public issues. Similar to the transactional motive for cash, smaller firms have greater tendency to maintain debt capacity, because these firms have limited access to the capital market and less negotiating power with underwriters and banks. In general, the transaction motive of holding cash and preserving debt capacity is important because it prevents unnecessary fire sales of assets which generate lower than true value cash and result in investors' negative sentiment and signaling. Recent empirical evidence suggests that the presence of transactional costs alters firms' financial policy because firms owners prefer lower fixed costs when sourcing for funds (Fama & MacBeth, 1973).

3.3. Agency motive*:*

Managers' preference for large cash-on-hand is the conventional agency argument of the high cash holdings held by firms. Jensen (1986) argues that entrenched managers prefer retaining cash within the firm rather than increasing dividend payments to shareholders. Cash holdings are larger when the agency problem is greater. The agency argument for holding large amount of cash within firms has been extensively researched (e.g., (Dittmar et al., 2003), and (Fama & MacBeth, 1973), (Opler et al., 1999). On the other hand, the agency problem may also be used to explain the large debt capacity preserved by firms. Entrenched managers are more likely to resist debt financing, thereby keeping a larger portion of debt capacity unused, because debt instruments constrain managers‟ behaviour and actions. (Liu, 2018)reported that firms with high equity value or recent equity issue are likely to resist debt financing. Furthermore, lines of credit reduce the agency problem caused by large cash holdings because the bank imposes covenants and closer monitoring when committed credit lines have been issued (Yensu, 2014)). Following this argument, entrenched managers would try to reduce the level of committed credit and prefer to keep a larger portion of debt capacity unused yet conditional. This conditional form of liquidity is then exercised when the firm is performing well enough to satisfy covenant restrictions (Asvanunt et al., 2011)

4. Literature review*:*

Academic literature on cash holdings can be dated back to Keynes (1936), who

indicates two main benefits from holding cash: lower transaction costs from not having to liquidate assets when facing a payment and a valuable buffer to meet unexpected contingencies. The literature about cash specifically applied to companies is generally traced back to Miller and Orr (1966), who develop a trade-off model for the determination of the optimal level of cash holdings by balancing the costs of running out of cash and the costs of holding non-interest bearing cash. The trade-off model of optimal cash holdings (Miller and Orr, 1966; (Kim et al., 2011)is typically opposed to the financing hierarchy theory (Myers and Majluf, 1984), which does not assume an optimal level and expects higher levels of cash reserves in more profitable firms as a financial slack . Together with these two main views, there are several other hypothesis that contribute to the determinants of cash holdings. In fact, financially constrained firms, i.e. firms with a lower access to external financing, should have a higher propensity to save cash out of cash flows(Almeida et al., 2004), should prefer cash to lower debt for higher levels of hedging needs (Al-Najjar, 2013), and have a higher dollar value of cash held (Bigelli & Sánchez-vidal, 2012.*(*

Overall, regression analysis results show that corporate liquidity holding (dependent variable) is positively related to i) liquidity ratio, firm size, near liquidity, internationalization of firm, and industry, and ii) negatively related to net working capital and short-term debt. Regression analysis results on the Canadian manufacturing industry show that corporate liquidity holding is positively related to liquidity ratio, firm size, and the internationalization of firm. In addition, findings from the Canadian service industry show that corporate liquidity holding is positively related to i) liquidity ratio, firm size, and internationalization of the firm, and ii) negatively related to net working capital, short-term debt, and investment.(Gill, 2015.*(*

Another literature studies, attempted to examine the determinants of corporate cash holdings among publicly traded US restaurant firms from 1997 to 2008. It examined seven variables – firm size, leverage, investment opportunities, liquid asset substitutes, capital expenditure, cash flow, and a dividend payout – to determine if they exert a significant impact on the cash holdings of restaurant firms. Our findings reveal that the cash holdings of restaurant firms are positively affected by investment opportunities and are negatively affected by firm size, liquid asset substitutes, capital expenditure and dividend payout (Kim et al., 2011). (Tran, 2018) claims that firm size, leverage, cash flow, cash flow volatility, and investment opportunity exert influence on such cash holding behavior by

firms' managers. This behavior can be explained by the trade-off theory, the pecking-order theory and free cash flow theory. (Yensu, 2014) shows that corporate cash holdings in the countries are significantly determined by leverage, net working capital, capital expenditure, and return on asset and, therefore, firm specific factors are important determinants of cash holdings, implying that corporate cash holding is afirm's internal decision. Another regression analysis of the cash ratios of the pooled sample post-spin-off entities suggests that larger firms with higher net working capital ratios are allocated less cash, while firms with higher sales growth, lack of rated debt, and higher research and investment expenditure are allocated more cash relative to their assets (D'Mello et al., 2008).

5. Data and methodology:

5.1. Data

To empirically test our hypotheses on the determinants of cash-holding levels for non-financial Algerian companies from 2013 to 2018. We used a financial data collected from the Sidjilcom database managed by National Center of the Commercial Register (CNRC). We exclude firms in the financial sector as they have a different motivation for holding cash than firms in the non-financial sector. Our final sample has 90 firm-year observations for 15 non-financial companies and test done by Statistical Package for the Social Sciences (SPSS) Version 22.

The final panel data set used for the analysis was constructed as follows. First, firm-years with missing data for any variables targeted in our analysis during the study period were eliminated. Second, from these non-financial firms, only those with at least six continuous time-series observations during the study period were selected.

5.2.Variable definition:

the literature review indicates that liquidity ratio, firm size, net working capital, near liquidity, total debt, short-term debt, investment, return on assets, earnings uncertainty, interest rate, and industry dummy determine demand for liquidity holdings in corporations. The present study investigates the relationship between a set of such variables and the working capital requirements of a sample of Canadian manufacturing and service firms. Table 1 below summarizes the definitions and theoretical predicted signs.

We will look at corporate cash holdings determinants. The selection of the variables used in this study was guided by the literature. The dependent variable cash holding was, defined as cash and marketable securities divided by total assets.

Table 2 : Proxy variables definition and predicted relationship

Variables	Label	Definition	Predicted impact
Dependent variable:			
Cash holding (Cash ratio)	CASHR	Cash and marketable securities divided by total assets	N/A
Independent variables:			
Previous yearCash holding	PREVCASH	Actual cash less previous year cash over previous year cash	Positive
Liquidity ratio	LIQ	Cash over net assets	Positive
Firm size	SIZE	Logarithme of total assets	Positive
Financial leverage	LEV	Total debt to total Equity	Negative
Liquidi assets	LIQASSETS	Current assets to current liabilities	Positive
Investment opprtunities	INVESTMEN	Changes in fixed assets over net assets	Positive
Short term debt	DEBT	Current liabilities over total debt	Negative
Total debt	TOTDEBT	Total debt over total assets	Negative
Profitability (Return on assets	ROA	Earnings after depreciation, interest, taxes but before dividen over net asse	Positive
Expenditure capital	EXPCAPT	Changes in fixed assets over total asssets	Positive
Net Working Capital	NWC	Short term claims less short term assets over total assets	Positive

Source: Done by the authors

5.3. Estimated Model:

The Ordinary least-squares (OLS) regression analysis is used to examine the roles of firm liquidity, size, leverage, investment opportunities, liquid asset substitutes, investment opportunities, short term debt, total debt, return on assets, capital expenditures, and net working capital in explaining the determinants of cash holdings for Algerian companies. The OLS regression analysis is commonly used because it can properly handle the possible problem ofheteroskedasticity, which

commonly exists in cross-firm regression and violates the constant residual assumptions of regression, as suggested by (Beguin et al., 1985).

$$CASH_{it} = B_0 + B_1 PREVCASH_{it} + B_2 LIQ_{it} + B_3 SIZE_{it} + B_4 LEV_{it} + B_5 LIQASSETS_{it} + B_6 INVESTMENT_{it} + B_7 DEBT_{it} + B_8 TOTDEBT_{it} + B_9 ROA_{it} + B_{10} EXPCAPT_{it} + B_{11} NWC_{it} + \varepsilon_t \ldots$$

Where:

CASH = cash holdings of firms

β = Beta coefficient

PREVCASH= cash holdings of the precedent year

LIQ= Liquidity value

LEV= Financial leverage

LIQASSETS= Liquid assets detained by the firm

INVESTMENT= Investments opportunities

DEBT= Short term debt

TOTDEBT= Total debt

ROA= Return on investment (profitability)

EXPCAPT= Expenditure capital

NWC= Net working capital

ε = error term

SIZE = size of firms

One of the key assumptions of WLS Model is the correct specification of the equation, both in functional form as well as in variables. Specification of equation is generally investigated by a number of tests, including application of Ramsey's

(1969) regression specification error test (RESET) which we apply to test model misspecification or under-fitting of the model applied.

The second important assumption of WLS is the normal distribution of the data, particularly the residuals. This can be explored with the help of graphical presentation of the residuals and their skewness.

Empirical results:

Univariate analysis:

Table 3 provides summary statistics for our sample. The mean of cash ratio is 0. 1317145 with the minimum of 0,0002 and the maximum of 0,638781, implying that the cash level varies significantly among firms. The variety in the independent variables is also observed. For example, the firm leverage has a mean of -1,4734342 and ranges from to -38,77303209 to 21,19180957.

Table 3 : Summary statistics

Statistiques descriptives

	Moyenne	Ecart type	N
CASH	,1317145	,17323281	76
PREVCASH	5,6580263	45,02885140	76
LIQ	2,7808117	45,86371237	76
SIZE	10,4436823	,95940096	76
LEV	-1,4734342	23,45810520	76
LIQASSETS	6,0815730	16,42806402	76
INVESTMENT	-,2245766	9,17313720	76
DEBT	,6642552	,29772385	76
TOTDEBT	,5855609	,25715202	76
ROA	,1907866	,76273503	76
EXPCAPT	-,0803360	,24060430	76
NWC	-,3910470	3,75094545	76

Source : SPSS version 22 results

Table 4 provides the correlation among the variables employed in our model. All values in Table 4 are below 0.7, suggesting that our regression models are not likely to have a multicollinearity problem.

Table 4 : Correlation matrix

		CASH	PREVCASH	LIQ	SIZE	LEV	LIQASSETS	INVESTMENT	DEBT	TOTDEBT	ROA	EXPCAPT	NWC
Corrélation de Pearson	CASH	1,000	-,065	-,226	-,175	-,503	-,107	-,053	-,135	,237	,530	-,425	,033
	PREVCASH	-,065	1,000	,929	-,200	,059	-,040	,002	,126	,148	-,024	,039	-,996
	LIQ	-,226	,929	1,000	-,136	,411	-,021	,125	,179	,051	-,378	,009	-,921
	SIZE	-,175	-,200	-,136	1,000	,101	,357	,028	-,505	-,037	-,109	,178	,229
	LEV	-,503	,059	,411	,101	1,000	,052	,319	,243	-,199	-,944	-,047	-,043
	LIQASSETS	-,107	-,040	-,021	,357	,052	1,000	,008	-,454	-,074	-,024	-,133	,085
	INVESTMENT	-,053	,002	,125	,028	,319	,008	1,000	-,069	-,005	-,292	-,670	,005
	DEBT	-,135	,126	,179	-,505	,243	-,454	-,069	1,000	-,162	-,170	,013	-,158
	TOTDEBT	,237	,148	,051	-,037	-,199	-,074	-,005	-,162	1,000	,193	-,048	-,159
	ROA	,530	-,024	-,378	-,109	-,944	-,024	-,292	-,170	,193	1,000	-,039	,012
	EXPCAPT	-,425	,039	,009	,178	-,047	-,133	-,670	,013	-,048	-,039	1,000	-,026
	NWC	,033	-,996	-,921	,229	-,043	,085	,005	-,158	-,159	,012	-,026	1,000
Sig. (unilatéral)	CASH		,287	,025	,066	,000	,179	,326	,122	,020	,000	,000	,388
	PREVCASH	,287		,000	,042	,307	,366	,495	,139	,102	,420	,370	,000
	LIQ	,025	,000		,121	,000	,429	,141	,061	,331	,000	,469	,000
	SIZE	,066	,042	,121		,192	,001	,404	,000	,376	,174	,062	,023
	LEV	,000	,307	,000	,192		,327	,002	,017	,042	,000	,345	,356
	LIQASSETS	,179	,366	,429	,001	,327		,473	,000	,263	,419	,126	,233
	INVESTMENT	,326	,495	,141	,404	,002	,473		,277	,481	,005	,000	,484
	DEBT	,122	,139	,061	,000	,017	,000	,277		,081	,071	,455	,087
	TOTDEBT	,020	,102	,331	,376	,042	,263	,481	,081		,048	,340	,085
	ROA	,000	,420	,000	,174	,000	,419	,005	,071	,048		,369	,460
	EXPCAPT	,000	,370	,469	,062	,345	,126	,000	,455	,340	,369		,410
	NWC	,388	,000	,000	,023	,356	,233	,484	,087	,085	,460	,410	
N	CASH	76	76	76	76	76	76	76	76	76	76	76	76
	PREVCASH	76	76	76	76	76	76	76	76	76	76	76	76
	LIQ	76	76	76	76	76	76	76	76	76	76	76	76
	SIZE	76	76	76	76	76	76	76	76	76	76	76	76
	LEV	76	76	76	76	76	76	76	76	76	76	76	76
	LIQASSETS	76	76	76	76	76	76	76	76	76	76	76	76
	INVESTMENT	76	76	76	76	76	76	76	76	76	76	76	76
	DEBT	76	76	76	76	76	76	76	76	76	76	76	76
	TOTDEBT	76	76	76	76	76	76	76	76	76	76	76	76
	ROA	76	76	76	76	76	76	76	76	76	76	76	76
	EXPCAPT	76	76	76	76	76	76	76	76	76	76	76	76
	NWC	76	76	76	76	76	76	76	76	76	76	76	76

Source : Done by SPSS V22

Multivariate analysis:

Empirical results, as reported in Table 5 who show that the coefficients of most of the variables are consistent with the theoretical predictions. For the purpose of looking at whether or not the transactional motive is well explained, we investigate the coefficient of the firm size and net working capital. The coefficient of the firm size is negative and statistically significant, indicating that cash to asset ratio of the Algerian firms is affected by the size of the firm. This result is consistent with some of the theories such as information asymmetry theory, the financial distress hypothesis and the transaction costs hypothesis that suggests that the higher fixed processing fee for obtaining external financing discourages smaller firms to go for external financing and hence prompting them to hold more liquid assets. Nevertheless, these results are not in line with the argument of Opler et al (1995) that larger firms have more capacity to accumulate cash since they are presumably more profitable. In addition, the negative coefficient of investment opportunity does not support neither the trade-off theory nor the pecking-order theory. These results are not similar to those in(Opler et al., 1999), With regard to leverage coefficient, the significantly negative coefficient of leverage confirms the explanation of the pecking-order theory and free cash flow theory for the company managers' cash holding behavior.

Our evidence on liquid assets strongly supports the relationship predicted by trade off theory. In fact, firms with higher financing deficits hold significantly lower amounts of cash, same impact has been observed for investment opportunities which have negative impact on cash holdings.

The coefficient of net working capital can affect either negatively or positively on corporate cash holdings. In Algerian corporations, coefficient of net working capital is negative, but statistically not different than zero, which indicates that firms with higher levels of networking capital tend to hold less cash. In other words, the more a firm holds networking capital the less cash it needs since other current assets are cash substitutes and can be converted to cash. This result is consistent with some of the earlier studies such as (Marshall et al., 2017) and (Tran, 2018)On the basis of these results we can say that Algerian firm's cash to net asset ratio is closely related to the transactional motive, as indicated by the negative signs on variables of the firm size and net working capital and expenditure capital.

We consider the coefficient for the capital expenditure which has a statistically significant negative relationship to the firm's cash holdings. This result is consistent with the pecking order theory which suggests a negative relationship for the capital expenditure coefficient as substantial capital spending tend to drain out cash balances. The negative sign can also be explained by the precautionary motive. Firms that acquire tangible long-term assets can use them as collaterals to obtain loans from the market, which can reduce the need for cash holdings (The et al., 2013).

Table 5 : Multivariate results

Modèle		standardisés		Sig.
		B	Ecart standard	
1	(Constante)	0,16668	0.219	0.161
	PREVCASH	-0,01034	0,00529788	0.0033
	LIQ	0,004352	0,003995274	0.03
	SIZE	-0,0019	0,018359142	0.02
	LEV	-0,002	0,002521765	0.009
	LIQASSETS	-0,00215	0,001123475	0.02
	INVESTMENT	-0,00816	0,002416259	0.0012562
	DEBT	-0,12714	0,067756323	0.04
	TOTDEBT	0,061575	0,057282664	0.045
	ROA	0,102788	0,074691966	0.048
	EXPCAPT	-0,48699	0,100011777	0.0000
	NWC	-0,07468	0,056201927	0.03

Source: Results from SPSS V22.

6. Conclusion*:*

This study examines the determinants of corporate cash holdings for Algerian non-financial firms from 2013 to2018. The median Algerian firm is found to hold 13% of net assets in cash throughout the study period, comparable to previous findings on the US market, however lower than findings on the European market . The objective of this paper is to look at the firm-specific factors that determine the

level of corporate cash holdings. Firm specific factors were used for three motives of holding cash. These include transactional, precautionary and financing motive. This study provides results for the determinants of corporate cash holdings using firm specific factors. To examine whether the transactional motive is well explained, the coefficient of the firm size is negative, indicating that cash to asset ratio of the Algerian firms is negatively affected by firm size, that suggests that the higher fixed processing fee for obtaining external financing discourages smaller firms to go for external financing and hence prompting them to hold more liquid assets. The mangers of these organizations are conservative. They are conscious about the risk factor, that's why they hold large amount of cash in their balance sheet. In Algerian corporations, coefficient of net working capital is significantly negative. While leverage is a negative determinant. However, the findings are not partially explained by the transaction cost motive and the trade-off theory arguing that the cost of liquid shortage is larger for firms with larger growth opportunities and expenditure capital who will hold more liquidity. Additional support for the transaction cost motive is found through the negative impact of liquid asset substitution on total liquidity. The significant negative coefficient of short term debt explains perfectly that cash and short term debt are substitutes.

6. Bibliography List :

Al-Najjar, B. (2013). The financial determinants of corporate cash holdings: Evidence from some emerging markets. International Business Review, 22(1), 77–88. https://doi.org/10.1016/j.ibusrev.2012.02.004

Almeida, H., Campello, M., & Weisbach, M. S. (2004). The cash flow sensitivity of cash holdings. Advances in Environmental Biology, 7(14), 4795–4801.

Asvanunt, A., Broadie, M., & Sundaresan, S. (2011). Managing corporate liquidity: Strategies and pricing implications. International Journal of Theoretical and Applied Finance, 14(3), 369–406. https://doi.org/10.1142/S0219024911006589

Baum, C. F., & Stephan, A. (2005). Uncertainty Determinants of Corporate Liquidity. 0, 1–31.

Beguin, C., Kulmburg, A., Guignard, J. P., & Rufer, J. M. (1985). Wirkung Der Gasatmosphaeren Auf Das Gefuege Verschiedener Werkzeugstaehle. Haerterei-Technische Mitteilungen, 40(5), 223–228.

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

D'Mello, R., Krishnaswami, S., & Larkin, P. J. (2008). Determinants of corporate cash holdings: Evidence from spin-offs. Journal of Banking and Finance, 32(7), 1209–1220. https://doi.org/10.1016/j.jbankfin.2007.10.005

Dittmar, A., Mahrt-Smith, J., & Servaes, H. (2003). International Corporate Governance and Corporate Cash Holdings. The Journal of Financial and Quantitative Analysis, 38(1), 111. https://doi.org/10.2307/4126766

Fama, E., & MacBeth, J. D. (1973). Risk , Return , and Equilibrium : Empirical Tests Eug ene F . Fama and James D . M acBeth. Journal of Politcal Economy, 607–636.

Ferreira, M. A., & Vilela, A. S. (2004). Why do firms hold cash? Evidence from EMU countries. European Financial Management, 10(2), 295–319. https://doi.org/10.1111/j.1354-7798.2004.00251.x

Gill, A. (2015). Factors that Influence Corporate Liquidity Holdings in Canada. August.

Keynes 1936. (n.d.). Abba P. Lerner.

Kim, J., Kim, H., & Woods, D. (2011). International Journal of Hospitality Management Determinants of corporate cash-holding levels : An empirical examination of the restaurant industry . International Journal of Hospitality Management, 30(3), 568–574. https://doi.org/10.1016/j.ijhm.2010.10.004

Lins, K. V., Servaes, H., & Tufano, P. (2010). What drives corporate liquidity? An international survey of cash holdings and lines of credit. Journal of Financial Economics, 98(1), 160–176. https://doi.org/10.1016/j.jfineco.2010.04.006

Liu, W. (2018). Determinants and marginal value of corporate cash holdings: financial constraints versus corporate governance. 12(1), 57–70.

Marshall, B. R., Nguyen, H. T., & Nguyen, N. H. (2017). Politics and liquidity $. Journal of Financial Markets. https://doi.org/10.1016/j.finmar.2017.07.004

Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (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

The, S., Analysis, Q., Sep, N., & Mauer, C. (2013). The Determinants of Corporate Liquidity : Theory and Evidence Author (s): Chang-Soo Kim , David C . Mauer and Ann E . Sherman Published by : Cambridge University Press on

behalf of the University of Washington School of Business Administration Stable UR. 33(3), 335–359.

Tran, P. L. (2018). Determinants of corporate cash holding : Evidence from UK listed firms Determinants of corporate cash holding : Evidence from UK listed firms. September. https://doi.org/10.15208/beh.2018.40

Yensu, J. (2014). Capital structure, corporate cash holding and dividend policy in African countries. 187.