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The Moderating Effect of Firm Characteristics on the Association Between Accounting Conservatism and Cash Holdings

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Abstract

Recent studies are interested in the determinants of cash holdings (CASH), some of these studies focus on conservatism, as one of these determinants. In light of a debate on the nature of the association between conservatism and CASH, this paper discusses and investigates the answers for three questions, the first question about the direct association between conservatism and CASH, the second question about the moderating effect of firm characteristics on this association, the third question about the effect of adopting Egyptian Accounting Standards (EAS) since 2016 on the last association. This paper focuses on Egyptian listed firms in Egyptian Stock Exchange (EGX), especially EGX 100, for six years period from 2013 to 2018 for 11 main sectors, 125 firms and 703 unbalances panel data observations. The findings indicate that (1) conservatism has a negative effect on CASH, (2) only firm size has a moderating and positive effect on the association between conservatism and CASH, (3) firm leverage, firm growth opportunity, and firm managerial ownership do not have a moderating effect on the last association. (4) Adopting EAS in 2016 by Egyptian listed firms gives the management of these firms' suitable chances to control CASH using its association with conservatism.

Keywords: Accounting conservatism, Cash holdings, Firm size, Firm leverage, Growth opportunity, Managerial ownership

1. Introduction

Cash has a significant role in taking operational, investment, and financial decisions. It ensures continued operations, provides firms with the required finance to take right investment decisions when they are financially constrained, in addition, high level of cash balances increase firm's ability to access capital markets freely, Al-Amri et al. (2015) mention that cash balances contribute to a firm's survival, especially in the 2008 world financial crisis.

Managers are interested in maximizing cash balances, they have four motives for doing that, which are, (1) Transactions motive which means cash reduces transaction costs if firms increase their funds without assets liquidation (Keynes,1936), therefore, the more cash balances, the less need to borrow (Al-Amri et al., 2015). (2) A precautionary motive which means cash balances reduce financial distress costs (Opler et al., 1999). (3) The tax motive which means cash balances will be higher if there are tax consequences related to repatriating foreign earnings (Foley et al., 2007). (4) Agency motive confirms entrenched managers have incentives to hold high level of cash by controlling dividend payments which increases agency problem, since they do not use cash balances to optimize shareholders' wealth (Jensen and Walking, 2010 , and Al-Najjar and Clark, 2017).

In contrast, shareholders do not agree with increasing cash balances. They are interested in maximizing dividend payments, which push them to use their power to prevent accumulating excess cash to serve management interests (Al-Najjar and Clark, 2017). This conflict of interest between managers and owners to determine the suitable cash holdings (CASH) pushes academic research to give more interest in CASH (Meier et al., 2015), especially their behaviors and determinants, one of these determinants is conservatism. This paper concerns with the role of conservatism to control CASH.

The following parts of this paper are classified into, section one presents background about the effect of conservatism on CASH, section two presents the moderating effect of firm characteristics on the association between conservatism and CASH, section three presents background about Egyptian context, section four presents summary of previous studies and hypotheses development, section five develops the research models, section six presents research method, section seven provides hypotheses test and discussion, finally, section eight introduces the conclusion of the paper.

1.1 The Association Between Accounting Conservatism and Cash Holdings

Accounting conservatism is an expectation of non-profits and the expectation of all losses, which means losses are identified much sooner, but recognition of profit is postponed until gains are realized. The Financial Accounting Standard Board (FASB) defines conservatism in Statement of Financial Accounting Concepts No. 2 (1980), as "a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered" (FASB, 1980).

Regarding the effect of conservatism on CASH, there are two opinions, the first opinion supports a positive association between them, since some prior studies interested in

determining reasons of conservatism existence, one of them is decreasing information asymmetry (IA) (Watts, 2003, Kim et al., 2013, Machdar & Mayangsari, 2015, Balakrishnan et al., 2016 , Atlawel and Shaheen, 2017 and Isniawati et al., 2018), since conservatism reduces both IA and morally hazardous agency conflicts between managers and less informed other related parties (Opler et al., 1999), this reduction pushes these parties to decrease cost of capital due to mitigating interests' conflicts between owners, managers and debt holders as a result from decreasing risk related to pay excessive dividends (Ahmed et al., 2002, Ball and Shivakumar, 2005, and Lara et al., 2011). In the other dimension, according to transaction model also, there is a negative association between IA and CASH, since increasing IA due to decreasing conservatism decreases shareholders trust in management, which pushes to increase the cost of capital (Ahmed et al., 2002, Chung et al., 2015 and Shin et al., 2017), management is forced to decrease CASH to cover the increase in the cost of capital. Dittmar and Mahrt-Smith (2007) confirms this result when they mention that firms with good shareholders protection rights have half CASH of firms with poor shareholder protection rights.

The second opinion confirms the negative association between conservatism and CASH. Since conservatism means management selects some news or information to hide which means firm that has high conservative earnings, has high level of IA between owners and management, which force management to increase cost of capital, and then decrease CASH to cover the increase in the cost of capital. In other words, low conservatism increases the risk of default for debt holders which force them to increase required CASH (Al-Amri et al., 2015 and Xiangyu et al., 2015).

The last discussion indicates the debate about the association between conservatism and CASH, so the first objective of this paper is to investigate this association to analyze management behaviors to control CASH through conservatism.

1.2 The Moderating Effect of Firm Characteristics on the Association Between Accounting Conservatism and Cash Holdings

Literature reviews that are interested in the effect of firm characteristics on both conservatism and CASH concern with firm size, leverage, growth opportunity, and managerial ownership. The second objective of this paper is to investigate the moderating effect of these characteristics on the association between conservatism and CASH to put guidelines to management to use firm characteristics to control the association between conservatism and CASH:

1.2.1 Firm Size

Watts and Zimmerman (1986) confirm the positive association between firm size and conservatism, since large firm prefers to accept General Price Level Adjusted (GPLA) accounting practices. These practices decrease reported profits that are targeted by adverse political actions to prevent transferring wealth away from the firm. In other words, large firm has incentives to hide profits, which increase suspicion about monopoly situations (Moeinaddin et al., 2012).

Regarding the association between firm size and CASH, there are two opinions, the first opinion proves the negative effect of firm size for some reasons, 1) According to transaction cost motive, large firms could have low cash, since increasing economies of scale reduces transaction costs because they have high ability to convert from non-cash assets into cash. 2) large firm is not interested in holding more cash due to its issuance cost, as a part of financing costs, is low (Lee and Powell, 2011). 3) According to the precautionary motive, a large firm has less financial distress, which means accessibility of these firms to the capital market is easy (Almeida et al., 2004, Sufi, 2009). 4) Smaller firms are riskier, thus these smaller firms must have higher CASH to face these risks than large firms (Shipe, 2016).

The second opinion confirms positive effects of firm size for some reasons, 1) large firms need to have higher level of CASH to decrease a takeover (Ferreira and Vilela, 2004). 2) larger firms who have high operating cash flow increase their CASH (Kariuki et al., 2015).

1.2.2 Firm Leverage

Regarding the association between firm leverage and conservatism, some previous studies confirm a positive association for some reasons since conservatism mitigates conflict between creditors and owners, which encourage creditors to accept increasing leverage (Duellman, 2007, Joo, 2009, Kung et al., 2010 and Li, 2013), but Alkurdi et al. (2017) reject this result when they mention that leverage had an insignificant association with conservatism.

Regarding the association between firm leverage and CASH, there are two opinions, The first opinion confirms a negative effect of leverage for some reasons, 1) According to leverage role in increasing the discipline of the capital markets, firm with low leverage accumulates cash balances without being subjected by capital market monitoring, which could explain a negative association (Bigelli and Sanchez-Vidal, 2012), 2) High leveraged firm has a stronger ability to get new debt, so it does not need to hold higher level of CASH (Ogundipe et al., 2012), 3) Needing new investments exceed retained earnings will force firms to get new debts which increases leverage. However, if the retained earnings are higher than investment, firms will accumulate cash (Saddour, 2006), 4) Higher debts lead to increase both firm leverage annual interest expense which will be paid and reduce the amount of cash under managers' control.

However, the second opinion confirms the positive effect of firm leverage on CASH. The supporters think loans increase the financial distress's probability, thus firm decreases this probability by increasing cash balances (Kariuki et al., 2015, Das and Goal, 2019).

1.2.3 Growth Opportunity

Some previous studies confirm a positive association between growth opportunity and conservatism, since the market expectation of cash flows may be inflated when increasing the growth of sales which effects on conservatism (Ahmed et al., 2002).

Regarding the association between firm growth opportunity and CASH, previous studies confirm a positive association, since firms that have strong growth opportunities search for

the best chances to guarantee financing, which lead them to hold more cash to get suitable chances in suitable time. Moreover, firms who have greater financial distress costs should hold a high ratio of cash to reduce these costs (Uyar and Kuzey, 2014).

1.2.4 Managerial Ownership

Some previous studies confirm a negative association between managerial ownership and conservatism, since the decrease in managerial ownership increases agency problem, then increases the required conservatism (Lafond and Roychowdhury, 2008, Liu, 2019).

Some other previous studies confirm a positive association between managerial ownership and CASH, since managers have incentives to maintain large cash for their own interest rather than owners (Ferreira and Vilela, 2004, Abdioglu, 2016). In addition, as managerial ownership increases, controlling by outsiders will be more difficult, which facilitates achieving managers' purposes to increase CASH (Abdioglu, 2016).

1.3 Egyptian Environment

Accounting practices in Egypt, as an emerging country, have been developed also. The first issuance of Egyptian Accounting Standards (EAS) was in 1996, Accounting standards have been developed by the Egyptian Society of Accounting and Auditing (ESAA) which were discussed and adopted by Ministerial Committee and Ministerial Decrees, since EAS has been developed to be consistent with International Financial Reporting Standards (IFRS) by translating them into Arabic (ROSC 2002, Elbayoumi et al., 2019).

As a result of developments in accounting practices in Egypt, accounting conservatism has been also developed. Egyptian culture had an important impact on accounting systems, since accounting and disclosure procedures were likely to be more conservative. Increased interest in conservative accounting arises because accounting standards do not cover all areas of accounting. Some fields require manager judgment, thus, the extent of conservative accounting relies on the manager's decisions (Dey et al., 2008).

CASH has been developed in Egyptian market, since Central Agency for Public Mobilization and Statistics (CAPMAS) mentions that cash balances increased by 41.9% from LE 456.5 billion ($25.45 billion) in 2015/2016 compared to LE 322 billion ($17.95 billion) in 2014/2015.

As a result of increased interest in CASH and conservatism in Egypt context, the third objective of this paper is investigating effect of adopting EAS in 2016 on the association between conservatism and CASH. Thus the sample is interested in 3 years before and after adoption EAS in 2016.

2. Literature Review and Hypotheses Development

2.1 Firm Characteristics

2.1.1 Firm Size

Some previous studies, such as Moienaddin et al. (2012) and Al-Amir et al. (2015), confirm a positive association between firm size and conservatism. Others studies who are interested in the association between firm size and CASH are divided into two groups, the first group finds a negative association. Opler et al. (1999) prove large firm with high credit ratings has a low level of CASH for US firms from 1971 to 1994, Nguyen (2006) investigates precautionary motive for cash, he confirms a negative association for Japanese banks after 1998 . Drobetz and Grüninger (2007) confirm this negative association for Swiss firms. Bates et al. (2009) mention that CASH increases with small firms with higher ratios than large firms for a sample of Swiss firms from 1995 to 2004. Ogundipe et al. (2012) investigate this association for Nigerian firms, they find a negative association due to the economies of scale for a sample of listed firms in Nigerian Stock Exchange from 1995 to 2010.

In contrast, the second group proves a positive association between firm size and CASH. Kariuki et al. (2015) confirm that for private manufacturing firms for a sample of 156 firms in Kenya. Hosono et al. (2019) confirm that for sample of Japanese firms from 1994 to 2016, since they prove firms increase their intensity of CASH represented by ratio of cash to firm size. Das and Goel (2019) use a sample of Indian firms, they confirm smaller firms with good profitability may also hold less cash.

Regarding moderating effect of firm size, Behrghani and Pajoohi, (2013) find firm size has a positive moderating influence on the association between conservatism and earnings management. The researcher does not have studies are interested in investigating the effect of firm size on the association between conservatism and CASH. Hence, the paper investigates the moderating influence of firm size on this association in the Egyptian context. Therefore, the hypothesis is:

H1A: Firm Size has a moderating effect on the association between accounting conservatism and cash holdings.

2.1.2 Firm Leverage

Some literature review, such as Kung et al. (2010) and Li (2013), confirm a positive association between firm leverage and conservatism. Others studies who are interested in the association between firm leverage and CASH are divided into two groups, the first group proves a negative association. Ferreira and Vilela (2004) confirm high debt firms have low cash due to increasing monitoring role of debt holders for a sample of listed firms in the Economic and Monetary Union of the European countries between 1987 and 2000. Ozkan and Ozkan (2004) support this result when they confirm that for a sample of UK firms from 1984 to 1999, in addition, other studies confirm a negative association such as Bigelli and Sanchez-Vidal (2012).

In contrast, the second group proves a positive association. Guney et al. (2007) prove this association for firms in the largest five countries around the world from 1996 to 2000. Kariuki et al, (2015) confirm that firm leverage has a positive effect on CASH in Kenya, Das and Goel (2019) find that firms with low leverage and profitability hold highs level of CASH. The researcher does not have studies that are interested in investigating the effect of firm leverage on the association between conservatism and CASH. Hence, this paper investigates this moderating influence in the Egyptian context. Therefore, the hypothesis is:

H1B: Firm leverage has a moderating effect on the association between accounting conservatism and Cash holdings.

2.1.3 Growth Opportunity

Some literature reviews, such as Ahmed et al. (2002), confirm a positive association between firm leverage and conservatism. Others studies who are interested in the association between growth opportunity and CASH are divided into two groups, the first group proves a positive association between growth opportunity and CASH. Opler et al. (1999) confirm this association with of U.S. firms. Uyar and Kuzey (2014) support this result for a sample of Turkish non-financial firms.

In contrast, the second group rejects this positive association. Ogundipe et al. (2012) find the growth opportunity is not of CASH determinants in Nigeria. In addition, Kariuki et al. (2015) confirm an insignificant association for private manufacturing firms in Kenya. The researcher does not have studies that are interested in investigating the effect of firm growth opportunity on the association between conservatism and CASH. Hence, this paper investigates this moderating influence in the Egyptian context. Therefore, the hypothesis is:

H1C: Growth opportunity has a moderating effect on the association between accounting conservatism and Cash holdings.

2.1.4 Managerial Ownership

Some literature review, such as LaFand and Roychowdhury (2008) and Liu (2019) confirm a negative association between managerial ownership and conservatism, others studies who are interested in the association between managerial ownership and CASH confirm a negative association also, Ozkan and Ozkan (2004) confirm this result. Chen (2008) reports that also for 1500 US firms from 2000 to 2004. However, Abdioglu (2016) proves a positive association for sample of listed Turkish firms in the Borsa Istanbul 100 index from 2005 to 2013.

The researcher does not have studies that are interested in investigating the effect of managerial ownership on the association between conservatism and CASH. Hence, this paper investigates this moderating influence in the Egyptian context. Therefore, the hypothesis is:

H1D: Managerial ownership has a moderating effect on the association between accounting conservatism and Cash holdings.

2.2 Moderating Effect of Adopting EAS in Egypt Since 2016 on the Association Between Conservatism and Cash Holdings

There are three editions of EAS, in 1996, 2006, and 2016. Each edition introduces accounting treatments which have a significant influence on conservatism, there are many studies which investigate this effect, but the researcher does not have any study that interested in the influence of the last edition of EAS in 2016 on CASH or on the association between conservatism and CASH, to judge the role of new accounting treatments which were introduced in 2016 that management can depend on to control CASH using its association with conservatism. Thus, the hypothesis to investigate the answer for this question is:

H2: Adopting EAS in 2016 has a moderating effect on the association between Accounting conservatism and cash holdings.

3. The Model

To investigate the hypotheses, a baseline model is formulated by using Bates et al. (2009), and Al-Amri et al. (2015) models, as follows:

$$\text{CASH it} = \beta 0 + \beta 1\text{CONSV it} + \beta 2\ \text{SIZE it} + \beta 3\ \text{LEV it} + \beta 4\ \text{GROWTH it} + \beta 5\ \text{MAN.OWN it} + \beta 6\ \text{YEAR it} + \beta 7\ \text{DIVY it} + \beta 8\ \text{CFV it} + \beta 9\ \text{NWC it} + \beta 10\ \text{AGE it} + \varepsilon\ \text{it} \quad (1)$$

Table 1. Variable measuring

Variables	Abbreviation	Measure	Biographic references	The effect on CH according to studies
Dependent variable				
Cash Holdings	**CASH** it	Ratio of total cash and equivalent items to total assets	Al-Amri et al. (2015). Kariuki et al. (2015).	
Independent variable				
Conservatism	**CONSV** it	Net profit before extraordinary items plus depreciation expense less operating cash flows deflated by assets multiply by -1.	Al-Amri et al. (2015). Xiangyu et al. (2015). Lin et al. (2018). Hamad et al. (2019).	Positive Negative Negative Negative
Moderating variables				
Firm Size	**SIZE** it	Natural logarithm (LN) of total assets.	Opler et al.(1999). Nguyen (2006). Bateset al. (2009). Ogundipe (2012).	Negative Negative Negative Negative

			Al-Amri et al. (2015). Kariuki et al. (2015). Hosono (2019) Das and Goel (2019)	Positive Positive Positive Positive
Leverage	**LEV** it	Ratio of total liabilities to total assets	Ferriera and Vilela (2004) Ozkan and Ozkan (2004) Bates et al. (2009). Gunny et al. (2012) Kariuki et al. (2015). Das and Goel (2019)	Negative Negative Negative Positive Positive Positive
Growth Opportunity	**GROWTH** it	Yearly sales growth rate,	Uyar and Kuzey (2014) Kariuki et al. (2015).	Positive Negative
Managerial Ownership	**MAN.OWN** it	Ratio of ownership by executive directors to number of outstanding shares.	Mun & Jang (2015). Abdioglu (2016) Liu (2019)	Positive Negative Negative
Year	**YEAR** it	It is dummy variable equals 1 if firm issued financial report in 2016 or after, otherwise it will be zero.		
Control variables				
Dividends Payments	**DIVY** it	Ratio of dividend payments to total assets.	Opler et al. (1999). Saddour (2006).	Negative Negative
Cash Flow Volatility	**CFV** it	Natural logarithm (LN) of standard deviation cash flow.	Saddour (2006). Kariuki et al. (2015).	Positive Positive
Net Working Capital	**NWC** it	Current Assets minus Current Liabilities minus cash and cash equivalents scaled by total assets.	Al-Amri et al. (2015).	Negative
Firm Age	**AGE** it	Natural logarithm (LN) of firm age.	Al-Amri et al. (2015). Poudel et al.(2019)	Negative Negative

In this paper, measuring conservatism uses a method that does not rely on market prices, such as Basu (1997) measure which uses market prices to measure conservatism, there are three reasons for neglecting market information to measure conservatism, The first, there is no identified relation between the measures that used market prices and conservatism choices,

Shon (2000) indicates that basu (1997) measure cannot express the right effect of any conservative methods. The second, Muller and Riedl, (2001) mention that conservatism measures that use market prices could concern with the differences between returns of good news against returns of bad news than interest in expressing the conservatism. The third, most emerging markets are not highly efficient, which means using market prices can not reflect the real firms' performance.

4. Research Method

4.1 Data Description

Regarding Egyptian listed firms in EGX, especially EGX 100, using published annual reports in Thomson Reuters Eiko data base. The sample period starts from 2013, due to excluding the effect of the 2011 Egyptian revolution which could be the greatest Egyptian political event in the twenty-first century till writing this paper, this political event had an effect on Egyptian political and economic situation in 2011, which made instability in the Egyptian stock Exchange (EGX) in 2011 and 2012.

The sample includes 11 main sectors includes real estate, food and beverage, construction material, industrial goods, chemicals, travel, basic resources, personal and household, telecommunications, health care, and media. The paper excludes banks and financial institutions sector, because determining CASH is based on regulations that were prepared by the Central Bank of Egypt which could affect the normality of CASH.

4.2 Descriptive Statistics

Table 2 explains the properties and descriptive statistics for all study variables through the period between 2013 to 2018 for 125 Egyptian listed firms:

Table 2. Descriptive statistics

Variables	N	Mean	Standard deviation	95% confidence interval	
				Minimum	Maximum
CASH it	703	0.098	0.125	0.000	0.881
CONSV it	703	-0.015	0.139	-0.867	0.713
SIZE it	703	5.938	0.792	4.380	7.984
LEV it	703	0.495	0.299	-0.003	1.950
GROWTH it	703	0.247	0.707	-0.903	7.784
MAN.OWN it	703	0.523	0.280	0.000	1.000
DIVY it	703	-0.026	0.051	-0.354	0.033
CFV it	703	4.585	0.831	2.280	6.276
NWC it	703	0.068	0.276	-1.192	0.977
AGE it	703	1.455	0.283	0.301	2.061

There are some notes from Table 2 which are, (1) Minimum cash balances (0.00) refers to that all Egyptian firms in a sample have positive cash balances, (2) Due to closing maximum (0.881) and mean (0.098) of cash balances refers to that cash balances for the most of

Egyptian firms in a sample are low, (3) Due to mean (-0.015) and standard deviation (0.139) of conservatism, most firms in the sample have low conservatism, (4) Maximum firm leverage (1.950) indicates that some firms in EGX 100 have negative shareholders equities.

4.3 Correlation:

Correlation is designed to investigate fitness and adequacy of the baseline model. The following table presents a correlation matrix between dependent variables, CASH, and all other variables:

Table 3. Variables correlation (Pearson correlation)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CASH it	1.000									
CONSV it	**-0.088***	1.000								
	0.019									
SIZE it	0.009	0.056	1.000							
	0.821	0.135								
LEV it	0.029	**0.141***	**0.328***	1.000						
	0.572	**0.000**	**0.000**							
GROWTH it	-0.016	**-0.128***	0.041	0.035	1.000					
	0.615	**0.000**	0.373	0.447						
MAN.OWN it	**0.093***	-0.009	**-0.205***	**0.093***	-0.014	1.000				
	0.013	0.756	**0.000**	**0.013**	0.276					
DIVY it	**-0.324***	-0.039	**-0.158***	**0.213***	0.051	**-0.196***	1.000			
	0.000	0.298	**0.000**	**0.000**	0.167	**0.000**				
CFV it	**0.210***	**0.084***	**0.815***	**0.253***	-0.003	**0.167***	**-0.241***	1.000		
	0.002	**0.005**	**0.000**	**0.000**	0.458	**0.233**	**0.001**			
NWC it	**-0.093***	**-0.233***	**-0.285***	**-0.602***	0.054	**0.194***	**-0.092***	**-0.291***	1.000	
	0.014	**0.000**	**0.000**	**0.000**	0.096	**0.000**	**0.014**	**0.000**		
AGE it	0.035	-0.044	**-0.105***	**0.141***	-0.011	**0.299***	-0.071	**-0.001***	**-0.109***	1.000
	0.353	0.249	**0.005**	**0.000**	0.785	**0.000**	0.062	**0.000**	**0.004**	

* indicate statistical significance at the 5%

Table 3 indicates a negative correlation between conservatism and CASH. Concerning the firm characteristics variables, the result shows no correlation between firm characteristics, except managerial ownership, and CASH. Also, the result shows positive correlation between cash flow volatility and CASH, and negative correlation between dividend payments, net working capital and CASH. Finally, the table shows no correlation between firm age and CASH.

4.4 Regression Results and Analysis

To test hypotheses, there are 6 models; model (1) is a baseline model to test the association between conservatism and CASH. Model (2) is interested in the moderating effect of firm size only on this association through computing SIZE it * CONSV it, model (3) is interested in the moderating effect of firm leverage only on this association through computing LEV it * CONSV it, model (4) is interested in the moderating effect of firm growth opportunity only on this association through computing GROWTH it * CONSV it, model (5) is interested in the moderating effect of managerial ownership only on this association through computing MAN.OWN it * CONSV it,, and model (6) is interested in moderating effect of all firm characteristics and YEAR by multiplying each one of them by conservatism. The regression results are shown as follow:

Table 4. OLS Regression results using Robust of effecting of conservatism and firm characteristics on CASH

	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**	**Model (5)**	**Model (6)**
Intercept	**0.243*** **	**0.221*** **	**0.249*** **	**0.238*** **	**0.243*** **	**0.217*** **
CONSV it	**-0.140***	**-1.088** **	-0.077	**-0.121***	-0.170	**-0.969** **
SIZE it	**-0.082*** **	**-0.077*** **	**-0.083*** **	**-0.080*** **	**-0.082*** **	**-0.746*** **
SIZE it * CONSV it		**0.171** **				**0.170** **
LEV it	-0.006	0.006	0.008	0.007	0.006	0.008
LEV it * CONSV it			-0.115			-0.154
GROWTH it	0.002	0.002	0.002	-0.005	0.002	-0.005
GROWTH it * CONSV it				-0.091		-0.099
MAN.OWN it	0.024	0.023	0.023	0.025	0.025	0.023
MAN.OWN it * CONSV it					0.064	-0.153
YEAR it	-0.008	-0.004	-0.007	-0.007	-0.007	0.001
YEAR it * CONSV it						**0.188** **
DIVY it	**-0.722*** **	**-0.752*** **	**-0.719*** **	**-0.725*** **	**-0.726*** **	**-0.775*** **
CFV it	**0.079*** **	**0.075*** **	**0.079*** **	**0.077*** **	**0.078*** **	**0.073*** **
NWC it	**-0.065** **	**-0.057** **	**-0.068** **	**-0.063** **	**-0.064** **	**-0.057** **
AGE it	**-0.034***	**-0.030***	**-0.034***	**-0.034***	**-0.034***	**-0.030***
N	**703**	**703**	**703**	**703**	**703**	**703**
R^2	**0.231**	**0.247**	**0.232**	**0.235**	**0.231**	**0.264**
Adjusted R^2	**0.219**	**0.236**	**0.220**	**0.223**	**0.219**	**0.248**
F. value	**20.73**	**20.65**	**19.01**	**19.32**	**18.87**	**16.41**
Akaike crit. (AIC)	**-1086.917**	**-1100.527**	**-1086.504**	**-1089.234**	**-1085.306**	**-1107.914**
Bayesian crit. (BIC)	**-1036.808**	**-1045.862**	**-1031.840**	**-1034.570**	**-1030.642**	**-1035.028**
RMSE	**0.111**	**0.110**	**0.111**	**0.111**	**0.111**	**0.110**

*** p<0.01, ** p<0.05, * p<0.1

Form Table 4, model (6) has the highest R. square and adjusted R. square which means this model has the best explanation power to describe the influence of conservatism on CASH. In addition, Table 4 indicates the following notes:

- There is a significant and negative effect of conservatism on CASH for all models, except models (3) and (5). This result supports the second group of studies, such as Xiangyu et al. (2015), but it is not consistent with the first group of studies, like Al-Amri et al. (2015), Lin et al. (2018) and Hamad et al. (2019).
- There is a significant and negative effect of firm size on CASH for all models. This result supports Nguyen (2006), Drobetz and Gruninger (2007) and Ogundipe et al. (2012).However, this result is not consistent with Kariuki et al.(2015), Hosono et al.(2019) and Das and Goel (2019).
- All other firm characteristics do not have a significant effect on CASH for all models. This result is not consistent with the most of literature reviews. This means management cannot use firm leverage, firm growth opportunity, and managerial ownership to control CASH.
- There is no significant influence of applying EAS in 2016 on CASH, this result indicates that new accounting treatments in last edition of EAS does not have a significant influence on the management behavior to hold CASH.
- There is a significant and negative effect of dividend payments, net working capital and firm age on CASH, these results confirm (1) Owners have a power to get more (or increase) dividends which reduces available cash balances. (2) Management with high net working capital has enough current assets to be converted into cash easily which reduces the management willing to have more cash balances. (3) The trust in old firms is higher which could encourage the management of their firms to get outside funds instead of using cash balances.
- Cash flow volatility has significant and positive effect on CASH, this means that firm that has high cash flow volatility tends to increase CASH to cover any risks result from this height in volatility.

5. Hypothesis Test and Discussion

5.1 Hypotheses Test

Hypotheses are tested through analyzing the results of Table 4, which are:

- Models (2) and (6), with referring to SIZE it* CONSV it interaction, there is a positive effect of firm size on the association between conservatism and CASH. Hence, the first sub-hypothesis (H1A) is accepted.
- Models (3) and (6), with referring to LEV it* CONSV it interaction, there is no significant effect of firm leverage on the association between conservatism and CASH. Hence, the second sub-hypothesis (H1B) is rejected.
- Models (4) and (6), with referring to GROWTH it* CONSV it interaction, there is no significant effect of firm growth opportunity on the association between conservatism and CASH. Hence, the third sub-hypothesis (H1C) is rejected.

- Models (5) and (6), with referring to MAN.OWN it* CONSV it interaction, there is no effect of managerial ownership on the association between conservatism and CASH. Hence, the fourth sub-hypothesis (H1D) is rejected.
- Model (6), with referring to YEAR it * CONSV it interaction, there is a negative and positive effect of applying EAS in 2016 on the association between conservatism and CASH. Hence, the second hypothesis (H2) is accepted.

Finally, the significance in models (2), (3), (4), and (5) ranks the moderating influence of firm characteristics; they are (1) firm size, (2) firm growth opportunity, (3) firm leverage, and (4) managerial ownership.

5.2 Discussion

There are three objectives of this paper, the first objective is to test the association between conservatism and CASH, the second objective is to verify the presence of a moderating effect of the firm characteristics between conservatism and CASH, the third objective is to investigate the influence of adopting EAS in 2016 on the association between conservatism and CASH.

Regarding the first objective, Table 4 confirms a negative association between conservatism and CASH, which means increase (or decrease) in conservatism pushes to decrease (or increase) CASH. This result affirms that conservatism increases IA and agency cost, which leads to get lenders and shareholders' trust that encourages managers to reduce CASH. On the other side, shareholders expect to decrease firms' cash balance if the firm has a high level of conservatism, and vice verses. Thus, this paper introduces a guideline to managers and shareholders to control and expect CASH by controlling conservatism through the negative association between them.

Regarding the second objective, the results which are presented in Table 4 can be discussed as follows:

Firm size: there is a negative effect of firm size on CASH, which provides evidence that large firm has a better chance to get required finance through capital market without needing to increase its CASH. In addition, it confirms the positive influence of firm size on the association between conservatism and CASH. Such a result suggests increasing in firm size increases in the negative association between conservatism and CASH also, which means, large firm gives more interest to the conservatism in determining the suitable cash balance, however, small firm does not have the same interest, which is supported by transaction cost model, thus management can depend on firm size to control CASH through its association with conservatism, since large firm has a better opportunity to control CASH. In addition, shareholders of large firms expect management has a better control on CASH using its negative association with conservatism.

Firm Leverage: there is insignificant effect of firm leverage on CASH. Moreover, firm leverage does not have a significant influence on the association between conservatism and

CASH, thus management cannot depend on firm leverage to control CASH using its negative association with conservatism.

Growth opportunity: there is insignificant effect of firm growth opportunity on CASH. Moreover, growth opportunity does not have a significant influence on the association between conservatism and CASH, thus management cannot depend on firm growth opportunity to control CASH using its negative association with conservatism.

Managerial ownership: there is insignificant effect of firm managerial ownership on CASH. Moreover, there is insignificant effect of managerial ownership on the association between conservatism and CASH, thus management cannot depend on firm managerial ownership to control CASH using its negative association with conservatism.

Regarding the third objective, all models confirm that using new EAS by Egyptian listed firms since 2016 until 2018 does not have an influence on determining CASH, which means EAS has introduced new accounting treatments do not effect on management behaviors to hold cash. However, model (6) in Table 4 indicates that these new accounting treatments in EAS 2016 have a moderating influence on the association between conservatism and CASH, this means applying this edition of EAS in 2016 has a significant effect of using conservatism to control cash, or in other words, management uses new EAS to increase the influence of conservatism on determining CASH.

6. Conclusion

Cash balances have a high effect on managers, bondholders, and shareholders' decisions. Determining the optimal cash balance is affected by some determinants. Some literature reviews consider conservatism is one of these determinants which has an effect on CASH. However, there is a debate on the association between conservatism and CASH, in addition, investigating a moderating influence of the firm characteristics on the last association.

The paper concentrates on Egyptian listed non-financial firms in EGX100. It concerns with three questions, the first question about the effect of conservatism on CASH, the second question about the moderating effect of the firm characteristics on the association between conservatism and CASH, the third question about the moderating effect of adopting EAS in 2016 on the last association.

For available data of 11 main sectors, 125 listed firms in EGX 100, 703 completed observation, between 2013 and 2018, the finding indicates (1) conservatism has a negative effect on CASH, (2) Firm size has negative association with CASH, however, firm leverage, firm growth opportunity, and firm managerial ownership do not have a significant association with CASH, (3) firm size has positive effect on the association between conservatism and CASH, (4) firm leverage and firm growth opportunity have negative effect on the last association, (5) In spite of adopting EAS in 2016 by Egyptian listed firms introduces some new accounting treatments do not effect on both CASH, this EAS has a positive effect on the association between conservatism and CASH.

Regarding Egypt, this paper provides three contributions which are, (1) Provide management with a guideline to use conservatism to control CASH, thus management can increase CASH by reducing conservatism, and vice verses. (2) Provide management with firm characteristics that effect on the association between conservatism and CASH, since large firm gives firms a better chance to control CASH balances using its association with conservatism, but management cannot depend on firm leverage, firm growth opportunity, or firm managerial ownership to control CASH using its association with conservatism. (3) Managements use adopting EAS in 2016 to increase their chance to use conservatism to control their cash balances.

For future researches, researcher suggests to concentrate on the role corporate governance, social responsibility, and sustainability on CASH, with applying in emerging markets, like Egypt. Moreover, investigate the other determinants that could control cash balances. Finally, investigate the mediation role of IA on the association between conservatism and CASH.

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