Are Financially Constrained Firms More Susceptible to Restatements' Incidence?

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ABSTRACT

Purpose - The aim of this study is to examine to what extent corporate managers under considerable financial constraints engage in opportunistic accounting practices that could lead to restating their financial restatements as well the role of corporate governance in monitoring the opportunistic behavior of those managers.

Design/Method - Using logistic regression analysis, this study investigated the direct relationship between the level of financial constraints and financial restatements' incidence as well the moderating role of corporate governance in mitigating the managerial opportunism after controlling firm-specific characteristics that potentially affect this relationship.

Findings- The study found a significant and positive impact of financial constraints on the probability of financial restatements. Then, we examine moderating factor (governance)

that potentially influence the relation between the level of financial constraints and restatement probability. The interaction of financial constraints and corporate governance is statistically significant and reflects that corporate governance has a moderating role on the hypothesized relationship of financial constraints and financial restatements' incidence.

Finally, our results indicated that firms under higher level of financial constraints have higher tendency toward restating their financial statements as well corporate governance mechanisms could restrain the managerial opportunistic behavior in financially constrained firms that could results in financial restatements. Also, we found that financially constrained firms with larger size and lower leverage are associated with higher restatement probabilities.

Key Words: Financial Constraints - Financial Restatements' Incidence - Corporate Governance- Firm Characteristics.

1. INTRODUCTION

Companies follow financial accounting standards in preparing their financial statements. However, Accounting standards offer some flexibility to choose between several accounting policies, which gives the opportunity for companies, especially, those under considerable level of financial constraints, to window dressing their annual reports, which, in turn, increase

the probability of restating their financial statements latterly (Qasem et al., 2017).

Two competing views interpreting the relationship between financial restatements' incidence and the extent to which firms are financially constrained (Bowen et al., 2018). The conventional view, which is known as "opportunistic earnings management", suggests that firms under higher levels of financial constraints have higher incentives to manipulate earnings. Managers of financially constrained firms have higher tendency toward engaging in aggressive accounting practices to improve firm's financial appearance and meet short-term objectives including debt covenants, earnings, and share price (Jensen 2005). They opportunistically practice the managerial discretion in picking up accounting choices that semblance their firm appearance. During this process, some financially constrained firms may violate GAAP, the matter that lead to restating their financial statements (Bowen et al., 2018). This opportunistic earnings management perspective implies an intention to mislead investors for the benefit of firm's managers. The opportunistic behavior of firm managers raises significant concerns about the efficiency of corporate governance practices and the oversight of financial disclosure (Bowen et al., 2018).

On the other hand, managers of financially constrained firms would pick up accounting choices that help achieving short-term objectives and meeting market's expectations in order

to convey positive signals to the market "managerial signaling". Such carefully orchestrated managerial signaling used here is working as a communication tool intended to inform rather than misleading firm's investors (Shivakumar, 2000).

These two competing perspective, the opportunism earnings management perspective versus the managerial signaling perspective, about how financial constraints could affect managerial behavior worth further investigation and make it interesting to investigate the relationship between the extent to which firms under high levels of financial constraints and the announcement of financial restatements as well the moderating role of corporate governance mechanisms in mitigating opportunistic behavior.

This study contributes to extended literature in two ways; First, it investigates the direct relationship between the extent to which corporate managers under considerable financial constraints engage in opportunistic accounting practices that could results in restating their financial restatements. Second, it explores the role of corporate governance in moderating the relationship between financial constraints and financial restatements after controlling firm-specific characteristics that potentially affect the relationship.

The rest of this paper will be organized as follows. Section 2 introduces an overview of financial constraints (opportunism

versus managerial signaling perspective). Section 3 introduces the market reactions and other consequences of financial restatements. Section 4 introduces the role of corporate governance in moderating the relationship between financial constraints and financial restatements. Section 5 describes data and method. Section 6 discusses the results of regression analysis. The final section presents the study's conclusion.

2. FINANCIAL CONSTRAINTS

Opportunistic Earnings Management Versus Managerial Signaling

Two possible scenarios interpreting how managers of firms under high levels of financial constraints could engage in opportunistic accounting practices that could lead to restating their financial restatements as well the moderating role of corporate governance in monitoring the opportunistic behavior of those managers (Bowen et al., 2018): First scenario suggests that, while most managers are working to achieve short-term financial objectives, managers of firms under considerable level of financial constrains find difficulty in meeting specific short-term financial targets and improving the financial performance of their firms. Consequently, those opportunistic managers have higher tendency toward using more managerial discretion in reporting earnings to create a semblance of relative success (Jensen 2005; Kothari et al. 2016).

Bowen et al. (2018) and Kurt (2018) reported that majority of managers are more likely to manage earnings at the cost of long-term prospects of their firms. Some of these aggressive earnings management practices could violate GAAP, which in turn, trigger financial restatements. They also added that those aggressive earnings management practices could result in deteriorating long-run financial performance and expose firms to higher litigation risks. This what is known as "opportunistic earnings management", since this scenario implies an intention to mislead investors for the benefit of firm management.

On the other hand, firms may become under financial constraints due to its investment opportunities. Linck et al. (2013) observed that, firms under considerable financial constraints but, in same time, has valuable investment opportunities and projects, their managers are expected to use more managerial discretion in reporting earnings in order to signal the firm's potential positive prospects to the market and increase its share price in short-run. In this vein, Linck et al. (2013) argued that, using more managerial discretion in reported earnings is intended to reveal valuable private information and enhance firm value. This scenario is known as "the managerial signaling". This signaling perspective is working a communications tool intended to inform and signal positive prospects, not mislead, investors and other stakeholders.

In the same vein, Bowen et al. (2018) found that firms under considerable financial constraints are more likely to convey positive information since they are constrained as a result of incorporating in extraordinary investment opportunities and difficulty to finance those valuable opportunities. Also, Linck et al (2013) and Kurt (2018) pointed out that corporate managers facing such situations are more likely to use discretionary accruals to semblance the firm appearance and make their financial reports more informative, which in turn, trigger restatements.

3. RESTATING FINANCIAL STATEMENTS

Market reactions and consequences

Financial restatements are adjustments made on financial statement resulting from failure to cope with the GAAP requirement (Wan Mohammad et al., 2018). Efendi et al. (2004) and Myers et al. (2004) viewed financial restatements as corrections made to financial statements resulting from non-compliance or adherence to GAAP. Basically, when financial statements contain material misstatements, consequently, financial restatement's occurrence is expected to happen. Dechow et al. (2011) argued that misstatements reflect a manipulation in financial statements' disclosure, where the items are not reported in accordance to the accounting standards established and did not fairly present the underlying financial position of the firm.

Therefore, prior studies such as Richardson et al. (2003) and Abdullah et al. (2010) used "misstatement" and "restatement" as an interchangeable term. Hasnan et al. (2021) argued that this is due to the assumption that restated firms are involved in deliberate manipulation of their reported earnings as financial restatements only take place when material misstatements are discovered.

Four provisions must be realized for financial statements to be restated. First, occurrence of material misstatement caused either by misapplication of GAAP or aggressive accounting practices. Second, this misstatement is neither discovered no stopped by company's internal control system. Third, external auditor' failure to detect the misstatement, and hence, financial statements are issued. Lastly, this misstatement is discovered latterly and, if it is material, it will require a restatement and reissuance of the financial statements (Eilifsen and Messier, 2000).

Prior literature had revealed huge negative market reactions following earnings restatements. Financial restatements have led to losses in market capitalization and in shareholder wealth destruction, consistent with erosion in investors' confidence in the integrity and reliability of financial reporting following earnings restatements (Richardson et al., 2002; Palmrose et al., 2004; Akhigbe et al., 2005; Efendi et al., 2007). Turner et al. (2001) reported negative abnormal returns ranging from -12.3% to -5% over 8-days around earnings restatements'

announcements of 173 earnings restatements examined during 1997 to 1999. In the same context, Files et al. (2009) reported -5.5% abnormal returns over 3-day around announcements of restatements during 1997 to 2002. Similarly, Desai (2006) reported -11% abnormal returns over 3-day around announcements of earnings restatements.

However, extended literature had examined other consequences, including changes in internal management, auditors or board structure following the restatement of financial statements. Desai et al. (2006) and Burks (2010) found that, following significant financial restatements, firms have higher tendency toward replacing their top executives. Farber (2005) founds that, following fraudulent financial restatements, firms hire more independent directors in their boards over the next three years. Srinivasan (2005) and Hennes et al. (2014) documented that restated firms have higher auditor turnover than non-restated firms. Huang and Scholz (2012) found that well-reputed independent auditors are more likely to resign following fraudulent restatements, presumably due to reputational risk.

Restatements resulting from fraudulent behavior cause shareholders' wealth destruction and lead to reputational penalties for firms' managers (Hennes et al. 2008). When financial frauds are involved, significant concerns are raised about efficacy of corporate governance practices and adequacy of oversighting financial disclosure (Bowen et al., 2018).

Prior research documented an association between corporate governance mechanisms and financial restatements incidence (Abdullah et al., 2010; Hasnan et al., 2021). High profile cases of fraudulent financial restatements (e.g. Enron and WorldCom in USA) resulting from financial irregularities and pervasive accounting, have led to the announcement of SOX Act in 2002 and implementation of new corporate governance rules for listed companies in NASDAQ in 2003.

Persons (2005) argued that the great emphasis that had been placed upon strengthening the standards of corporate governance aftermath preceding major corporate frauds, suggested that regulators regard corporate governance as a pivotal tool in deterring fraudulent financial statements and hence, financial restatements' incidence. In the same context, SEC in USA mentioned that financial restatement is the most notable indicator for inappropriate or aggressive practices. A restatement is an obvious signal that the financial statements that are previously issued were unreliable and prepared at relatively low quality (Anderson and Yohn, 2002).

Implicitly, financial restatements' incidence reflects a serious failure in financial reporting, and distinctly, could significantly affect investors and the market (Chi and Sun, 2014). Consequently, the implementation of corporate governance practices can help to minimize or mitigate the occurrence of fraudulent financial restatement. Therefore, it is necessary for all

publicly listed companies to implement corporate governance as it provides a framework that help companies to mitigate or even prevent undesirable conflicts while achieving their goals (Rasyid and Ardana, 2014).

Taking into consideration the preceding discussion, we expect that managers of firms under financial constraints have higher tendency to engage in opportunistic accounting practices that could lead to financial restatements' incidence. We hypothesized a significant and positive association between financial constraints and the announcement of financial restatements. We formulate our first hypothesis as follows.

H1: Firms under higher level of financial constraints have higher incidence of financial restatements

4. FINANCIAL CONSTRAINTS AND FINANCIAL RESTATEMENTS' INCIDENCE

The moderating (monitoring) role of corporate governance

Extended research such as Abdullah et al. (2010), Hasnan and Marzuki (2017), Shi et al. (2017) and Hasnan et al. (2021) have examined the relation of various corporate governance mechanisms with many financial statement problems (e.g. earnings management, financial restatement and fraudulent financial reporting). Corporate governance could be seen as a pivotal mechanism that protect stakeholders from opportunistic behaviors of corporate managers. Corporate governance

mechanisms help company to ensure balance between owners' interests and other stakeholders' interests (Khan, 2011).

As discussed earlier, the opportunistic earnings management perspective suggests that managers are acting in an opportunistic manner to benefit themselves at the expense of other stakeholders, they have incentives to opportunistically manage earnings, which in turn, could trigger GAAP violations and consequently, resulting in restating financial statements. On the other hand, the managerial signaling perspective suggests that managers of firms under financial constraints have higher tendency toward using earnings managed to signal the market positive information about firm's prospects (Bowen et al., 2018). Agency theory stated that managers are driven by self-interest and they are acting in an opportunistic manner to the extent that their actions will increase their wealth at the expense of shareholders' wealth; they have motivations to expropriate firm's resources, by undertaking self-serving activities that could be detrimental to the economic welfare of the shareholders (Jensen and Meckling, 1976).

In this vein, corporate governance is being viewed as a mechanism that could effectively monitor mangers' opportunistic behaviour and safeguard shareholders' interests (Abdullah et al., 2010). Corporate governance ensures an effective check and maintains a monitoring system inducing corporate managers to behave in accordance with shareholders' interests. Hence, corporate

governance acts as a mechanism to scrutinize, discipline and monitor managerial opportunism (Abdullah et al., 2010).

High profile cases of financial restatements, (e.g. Enron and WorldCom in US), that are caused by accounting irregularities, resulting in the announcement of SOX Act in 2002 and led to the implementation of new corporate governance rules for listed firms in NASDAQ in 2003. Actually, aftermath these major financial statements frauds, great emphasis has been placed on strengthening corporate governance standards. Regulators became viewing corporate governance as a pivotal mechanism in preventing or deterring fraudulent financial statements and hence, decreasing the probability of restating financial statements (Persons, 2005).

Limited literature has examined whether managers of financially constrained firms could engage in opportunistic accounting practices to ease the impact of financial constraints however, to our knowledge, none have investigated the moderating role of corporate governance in deterring or mitigating the opportunistic behavior of financially constrained firm managers. Taking into consideration the preceding discussion, we expect that could restrain the managerial opportunistic behavior in financially constrained firms that could results in restating financial restatements. We propose our second hypothesis as follows:

H2: Corporate governance decreases financial restatements' incidence in financially constraint firms

Extended literature such as Klein (2002), Srinivasan (2005) and Marciukaityte et al. (2009) had investigated the impact of corporate governance mechanisms on financial restatements' incidence. Although mixed results were found, it is argued that restating financial statements arises due to weak governance structure. This study investigated the association between corporate governance mechanisms (e.g. CEO duality, board independence, board size and ownership concentration) with financial restatements' incidence.

4.1 Financial Restatements and Board Independence

Directors have specific responsibilities include: reviewing internal control system's adequacy and integrity, management information system, ensuring compliance with applicable rules, laws and regulations, company directives and guidelines. Thus, effective fulfilling of these duties and responsibilities reduces the likelihood of financial statements' frauds (Abdullah et al., 2010).

Prior literature that investigating the role of corporate boards reveal the importance of its independence for its effectiveness. Fama and Jensen (1983) argued that large number of independent / non-executive directors enable boards to be more effective in monitoring managerial opportunistic behavior. Beasley (1996) found that financial frauds incidence is negatively

associated with independence of corporate boards. Klein (2002) and Peasnell et al. (2005) found significant negative association between board independence and the level of discretionary accruals reflecting the fact that board independence can ensure management's transparency and accountability. Marciukaityte et al. (2009) found that board independence is associated with greater effective monitoring activities by board directors, following the issuance of SOX Act in 2002.

Agency theory suggests that boards with large percentage of non-executive / independent) directors enhance effective control. This is because independent directors' existence diminishes (principal-agent) conflict of interests (Al Azeez et al., 2019). In Addition, independent directors' existence can enhance the impartial and fair judgement by firm's managers, ensure balanced decision-making, and help protecting interests of minority shareholders and other relevant parties (Al Azeez et al., 2019). It is assumed that corporate boards with more independent (non-executive) directors can improve quality of financial reporting, which in turn, minimizing the likelihood of financial restatement. Thus, we expect an inverse relation between board independence and financial restatements' incidence.

4.2 Financial Restatements and Board Size

Generally, companies with large boards are expected to have lower level of earnings management practices and

consequently, financial reports with better quality due to high degree of monitoring and inspection exerted by the board (Hasnan et al, 2021). From agency perspective, large boards enhance the effective monitoring of firm's managers through the existence of substantial number of experienced and professional directors as well reducing the dominance of CEO (Al Azeez et al., 2019). Hasnan and Marzuki (2017) examined the association between board characteristics and financial restatements and found a significant association between board size and financial restatement incidence. Thus, we expect that board size is inversely associated with financial restatements' incidence.

4.3 Financial Restatements and CEO Duality

Combining the two roles of board chairman and CEO weakens company's internal corporate governance systems. Since the potential conflict of interests that could exist between the board chairman (i.e. the monitor) and the CEO (i.e. the implementer of board of directors' decisions) Abdullah et al (2010). Combining the two roles of CEO and board chairman provides CEO with the opportunity to pursue his own interests rather than shareholders' interests (Abdullah et al., 2010). On the other hand, the separation provides the non-executive chairman the incentive to act in shareholders' interest rather than protecting CEO interests. In other words, separating these two roles avoids placing excessive powers in CEO-cum-chairman hands the matter that renders the board as a whole ineffective.

Rechner (1989) argued that the ideal structure of corporate governance is the one that is dominated by independent (outside) directors and the board chairman is an independent (outside) director, while the weakest structure of corporate governance is the one that is dominated by insider directors and the CEO is the board chairman. Further, Efendi et al. (2004) found that firms that restated their financial statements adopt weaker structure of corporate governance than non-restated firms, whereby CEO more frequently holds the board chairmen position. Thus, we expect an inverse relation between CEO duality and financial restatements' incidence.

4.4 Financial Restatements and Ownership Concentration

The pattern of ownership structure of a firm signals agency costs in the firm and to what extent firm managers are monitored. Diffused or widespread ownership structure increase conflicts of interests between owners (principals) and managers (agents), since managers' behavior do not always in the best of shareholders' interests (Fama and Jensen, 1983). Ownership concentration reflects influences placed on firm's managers exerted by its shareholders or its outside block-holders (Zhang, 2012). Outside block-holders (including institutional investors), who hold substantial shares, play a pivotal role in monitoring management arises due to the fact that their wealth is directly tied to the firm (Abdullah et al., 2010).

Dechow et al. (1996) found that earning manipulators having less presence of outside block-holders. The importance of outside block-holders' role in monitoring arises from their influence on share prices of the firms and their ability, by virtue of shares they possess, to intervene board's decisions. If outside block-holders decided to sell the shares they own, in large quantities, then they can adversely affect the share price. Therefore, outside block-holders' presence provides a pivotal monitoring mechanism to ensure management is acting according to shareholders' interests. Acting in shareholders' interests requires management to provide shareholders financial reports free from errors or irregularities (Abdullah et al., 2010). Thus, financial restatement' incidence is expected to be lower with outside block-holders' presence due to effective monitoring of management.

Thus, ownership concentration will create interest convergence effects and, especially, in highly concentrated ownership, interests of major shareholders (block-holders) are closely related to firm performance; since those major shareholders have strong incentives to set effective accounting and controlling procedures to find out and prevent accounting frauds and errors (Zhang, 2012). Thus, ownership concentration is expected to be negatively correlated with financial restatements' incidence.

5. DATA AND METHOD

5.1 Sample Selection and Data Sources

The sample utilized to examine our hypotheses represents 72 of publicly listed Egyptian companies from year 2014 to 2017 with total observations of 288 (after excluding some missing variables) 30 of which are restated observations while 258 are non-restated observations. The study utilized data from two main sources; Mubasher Misr Database and Egyptian for information dissemination company and to get the published annual reports of publicly listed companies. The annual reports are utilized to gather corporate governance mechanisms data and calculate necessary financial ratios capturing firm-specific attributes. Financial institutions (e.g. insurance companies and banks) are eliminated as well any missing or incomplete data. Financial institutions are excluded from the sample due to their specialized nature.

5.2 The Empirical Model

Since the dependent variable, financial restatement, is a dummy variable, the study used logistic regression to identify what impact financial constraints have on the probability of restating financial statements as well the moderating role of corporate governance in restricting the managerial opportunism of financially constrained mangers that could lead to fraudulent financial statements and hence, restatement.

The following logistic regression models are utilized to test our hypotheses:

Model (1)

$$REST = \beta0 + \beta1\ WW\ IND + \beta2\ GOV\ IND + \beta3 WW\ IND*GOV\ IND + \beta4\ BIG4 + \beta5\ LOG\ SIZE + \beta5\ LEVG + \beta6\ ROA + \beta7\ LIQUID + \varepsilon i$$

Model (2)

$$REST = \beta0 + \beta1\ WW\ IND + \beta2\ B\ SIZE + \beta3 B\ IND + \beta4\ DUAL + \beta5\ OWN\ CON + \beta6\ WW\ IND*B\ SIZE + \beta7\ WW\ IND*B\ IND + \beta8\ WW\ IND*DUAL + \beta9\ WW\ IND*OEN\ CON + \beta10\ BIG4 + \beta11\ LOG\ SIZE + \beta12\ LEVG + \beta13\ ROA + \beta14\ LIQUID + \varepsilon i$$

a. Dependent Variable

(Financial Restatements' Incidence)

REST, is a dummy variable, assigned the value (1) if the firm restated its financial statements, (0) otherwise.

b. Independent Variable

(Financial Constraints level)

Numerous measures have been proposed for measuring the extent to which firms are financially constraints, most of these measures assigned a firm as a financial constrained status based purely on the firm's financial accounting variables (bodnarouk et al., 2015). This study utilized Whited-Wu index (*WW Index*) to identify financially constrained firms.

Whited-Wu index (WW Index)

The Whited-Wu index is calculated through the following equation:

$$WW = (-0.091*CF) - (0.062*Dividend\ Dummy) + (0.021*TLTD) - (0.044*LNTA) + (0.102*ISG) - (0.035*SG)$$

Where,

- *CF is the ratio of cash flow from operation divided by total assets;*
- *Dividend Dummy, a firm is assigned a value of (1) if it pays dividends, (0) otherwise;*
- *TLTD represents the ratio of long-term debts to total assets;*
- *LNTA is the logarithm of total assets;*
- *ISG represents three digit SIC industry sales growth; and*
- *SG represents the firm's sales growth.*

Higher values of Whited-Wu index (WW index) imply that the firm is under greater levels of financial constraint.

c. Moderating Variable

(Corporate Governance Index)

Extended literature such as Abdullah et al. (2010), Rasyid and Ardana, (2014) and Shi et al. (2017) examined the potential influences of adopting corporate governance mechanisms to related-financial statements various issues, such as earnings management practices and managerial opportunistic behavior, fraudulent financial statements and restating financial statement.

This study utilized a corporate governance index composed of four mechanisms (board independence, Board size, CEO duality and ownership concentration), it is an aggregated index that takes values from (0) to (4). The governance index will

be used to examine corporate governance's prominence in mitigating the potential managerial opportunism of financially constraints managers.

- *Board Independence (B IND): ratio of non-executives' (independent) directors to the total number of directors, assigned (1) if greater than industry average, (0) otherwise.*
- *Board Size (B SIZE): The Log of number of board of directors, assigned (1) if greater than industry average, (0) otherwise.*
- *CEO Duality (DUAL): is a dummy variable assigned the value of (1) or (0).*
- *Ownership Concentration (OWN-CON): shareholders (Block-holders) own 5% or more.*

d. Other Explanatory Variables
(Quality of External Audit and Firm-specific Attributes)

In addition to the preceding governance characteristics, several elements capture external audit quality and specific firm attributes worth further investigation include (big 4, firm size, firm profitability, financial leverage and short-term liquidity). These elements are expected to have an influence the relationship between level of financial constraints and restatement's probability.

- ***Quality of External Audit***

The confirmation made by the external auditor enhances financial statements' integrity (Alzoubi, 2018). Numerous studies documented association between external audit quality and quality of financial reporting. Chen et al. (2016) found that firms engaged with non-Big 4 auditors had a higher probability of financial restatements than firms engaged with Big 4 due to the accounting errors. Alzoubi (2018) found that earnings management practices are significantly lower among firms audited by Big 4 auditors compared to firms audited by non- Big 4 auditors. Based on prior studies, we suggest that firms with higher quality of external audit are less likely to have fraudulent financial statement, which, consequently, lower restatements incidence. Quality of external audit is a dummy variable, which is coded (1) for firms audited by Big 4 auditor, (0) otherwise.

- ***Firm Performance***

Numerous studies investigated the association between firm performance and financial restatements. However, mixed results are yielded. The agency theory suggests that opportunistic managers maximize their compensations and stabilize their positions, consequently, they will exploit the available information for their benefits (Waweru and Riro, 2013). This claim suggested that higher performance's firms had a higher

tendency toward managing their earnings, and hence higher probability to restate their financial statements.

On the other hand, based on the Fraud Triangle Theory, Amara et al. (2013) argued that profitability issues exerted on managers are one of the pressure factors that increase the probability of committing frauds in preparing financial statements, and consequently, increasing the probability of restating their financial statements. Amara et al. (2013) asserted on the fact that low level of profitability induces managers to defraud their financial results in order to enhance the overall firm performance. Ratio of net profit to total Assets is used to measure firm performance

- ***Financial Leverage***

Firm financial leverage is measured by the ratio of firm's total debts to total assets. Higher levels of financial leverage increase the likelihood of getting default since opportunistic managers can use aggressive accounting practices in order to avoid breaching debt covenant (Bowen et al., 2018).

On the other hand, agency theory suggested that firms with high levels of financial leverage have higher motives to increase the level of voluntarily disclosure to their stakeholders via their conventional financial reports (Jensen and Meckling, 1976). Disclosure of financial information help in reducing agency costs since the disclosure level acts as a control tool or

mechanism restraining the tendency toward manipulating earnings and conflict of interests. Thus, with lower probability toward managing earnings, firms with higher levels of financial leverage are expected to have a lower tendency to restatement.

Echobu et al. (2017) found a significantly positive association between financial leverage and quality of financial reporting. In addition, Swai (2016) evidenced that ratio of financial leverage has a significant positive correlation with earnings management based on accrual basis, thereby, Swai (2016) suggested that the increase in financial leverage induces firm managers to manipulate earnings and, hence increase the probability to restate their financial statements. The finding of Swai (2016) is consistent with the empirical finding of Nalarreason et al. (2019), they found that financial leverage has a positive and significant influences on earnings management. This empirical finding suggested that financial leverage provide incentives for firm managers to manipulate earnings.

- ***Firm Size***

It is difficult to exactly determine the potential impact of firm size on the probability of financial restatement. Zhang (2012) argued that small firms are more likely to announce financial restatements; while, large firms use financial restatements as a tool to signal company information to outside. Natural logarithm of firm's total assets in used to measure firm size.

- ***Short-term Liquidity***

Short-term liquidity acts as an indication of the healthy financial performance of a firm and sends signals to investors and creditors about its continuity in the future. (Hasnan et al., 2021). Agency theory suggested that firms suffers from liquidity issues are anticipated, voluntarily, to reveal more financial information to investors, particularly, creditors in order to justify their liquidity position (Hasnan et al., 2021). Such firms are expected to be associated with low probability of financial restatement since the voluntarily disclosure acts as a control mechanism help in reducing the tendency toward manipulating earning (Lakhal, 2015).

However, extend literature reported different findings for the interactions between short-term liquidity and quality of their financial reporting, e. g. Amara et al. (2013) did not find significant relation between short-term liquidity and financial frauds, the findings of Amara et al. (2013) are inconsistent with the findings of Ferdinand and Santosa (2019) that reported a significant association between firm liquidity and fraudulent financial statements. Short-term liquidity is proxied by ratio of firm's current assets to its current liabilities.

Table (1)
Variable Measurement

Variable		*Description*
Independent variable	*Financial constraints*	*WW Index* *WW= (−0.091*CF) –(0.062* Dividend Dummy) + (0.021*TLTD) – (0.044*LNTA) + (0.102*ISG) – (0.035*SG)*
Moderating variables (corporate governance index)	*Board Independence (B IND)*	*Non-executives' (independent) directors to the total number of directors*
	Board Size (B SIZE)	*Log of number of board of directors*
	CEO Duality (DUAL)	*Dummy variable assigned the value of (1) or (0)*
	Ownership Concentration (OWN-CON)	*Shareholders (Block-holders) own 5% or more*
Other explanatory variables (firm specific characteristics and quality of external audit)	*BIG 4*	*Dummy variable assigned the value of (1) when a firm engages with one of the big 4 auditors, (0) otherwise*
	Firm Size (LOG SIZE)	*Natural logarithm of firm's total assets*
	Firm Performance (ROA)	*Net Profit/Total Assets*
	Financial Leverage (LEVG)	*Total Liability/Total Assets*
	Short-term Liquidity (LIQUID)	*Current Assets/Current Liabilities*

6. RESULTS AND DISCUSSION

6.1 Descriptive Statistics and Correlation Analysis

Table (2) presents summary for the key descriptive statistics for the independent variable (level of financial constraints proxied by WW IND), and moderating variable (governance index) and the other explanatory variables (LOG SIZE, LEVEG, ROA and LIQUID) capturing firm attributes used

in the logistic regression analysis. Dummies variables are excluded from the descriptive analysis. Descriptive analysis provides general idea about the characteristics of variables utilized in this study. WW index as a proxy for financially constrained firms (WW IND) has a mean of (-0.4179373) indicating that sampled firms are under a relatively low level of financial constraints with minimum and maximum values of (-0.8124042) and (0.586605) respectively.

Concerning the other explanatory variables, firm size (LOG SIZE) has a mean of (8.819756) with minimum and maximum values of (7.492153) and (11.16228) respectively. For Financial leverage (LEVG) variable, the mean is (0.0733963) with minimum and maximum values of (0) and (0.8114572) respectively, showing that capital structure of sampled firms consists of equity more than debts. Firm performance (ROA) has a mean of (0.0756136) with minimum and maximum values of (-0.1838326) and (0.703697) respectively, suggesting that the sampled firms are not high profitable. For Liquidity variable (LIQUID), it has a mean of (4.4913), suggesting an average current ratio of 4:1 with minimum and maximum values of (0.3501) and (53.790) respectively. This means, on average, the sampled firms' current assets are less than their current liabilities indicating probable liquidity difficulties.

Table (2)
Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
WW IND	-0.417937	0.084751	-0.81240	0.58660
WW IND *GOV IND	-0.741688	0.454898	-1.92040	0
LOG SIZE	8.819756	0.693269	7.49215	11.1622
LEVG	0.073396	0.121821	0	0.81145
ROA	0.075613	0.089111	-0.18383	0.70369
LIQUID	4.4913	11.91363	0.3501	53.790

Following the preceding descriptive analysis of the variables used in our study, Table no. (2) shows Pearson's correlation matrix. The Pearson's correlation matrix showed that most of correlations' degrees between independent variables are either low or moderate. However, the highest significant correlation is existing between (WW IND*GOV IND) variable and (GOV IND) variable (-0.6582) at the 1% level, suggesting that the multi-collinearity problem is unlikely to be serious problem in our regression model. The existence of multi-collinearity problem between independent (explanatory) variables could create threats to the interpretations of regression coefficients. Therefore, Pearson's coefficient between each pair of independent / explanatory variables should not be higher than 80%; otherwise, any two independent variables have a coefficient exceed 80% are probable to be suspected to the exhibiting of multi-collinearity problem.

Correlation analysis is conducted to examine whether the level of financial constraints is correlated to financial restatements. Table no. (3) presents the correlation coefficients between financial restatements with financial constraints (the independent variable), governance index (the moderating variable) captures some internal mechanisms that represents specific corporate governance mechanisms and other financial ratios (the explanatory variables) representing specific firm's attributes. Pearson correlation matrix showed that financial constraints (WW IND) has positively significant correlations with financial restatements (RES) as well governance index has inversely significant correlation with financial restatements incidence. The interaction between financial constraints (WW IND) and corporate governance (GOV IND) has significant association with financial restatements.

Turning to the other explanatory variables that representing specific-firm characteristics, the Pearson correlation matrix showed that firm size (LOG SIZE) has significant correlation with restatements (RES). Financial leverage (LEVG) has significant correlation with restatements (RES), on the other hand, Pearson correlation matrix showed insignificant correlation between Financial restatements (RES) with firm performance (ROA) and short-term liquidity (LIQUID).

Table (3)
Pearson Correlations Matrix

	RES	WW IND	GOV IND	WW IND* GOV IND	LOGSIZE	BIG4	LEVG	ROA	LIQUD
RES	1.0000								
WW IND	0.3782 (0.0006)**	1.0000							
GOV IND	-0.2374 (0.0071)**	-0.1058 (0.0735)*	1.0000						
WWIND *GOV IND	0.2193 (0.0444)**	0.2852 (0.0000)***	-0.6582 (0.0000)***	1.0000					
LOG SIZE	0.1116 (0.0585)*	-0.4206 (0.0000)***	-0.0301 (0.6111)	-0.1235 (0.0365)**	1.0000				
BIG4	-0.0459 (0.4374)	-0.0926 (0.1176)	0.3103 (0.0000)***	-0.3175 (0.0000)***	0.1324 (0.0247)**	1.0000			
LEVG	-0.1010 (0.0871)*	-0.0579 (0.3286)	-0.0370 (0.5314)	-0.0158 (0.7902)	0.1436 (0.0147)**	0.0389 (0.5111)	1.0000		
ROA	0.0473 (0.4243)	-0.1191 (0.0437)**	0.0128 (0.8288)	-0.0546 (0.3563)	0.1190 (0.0436)**	-0.1412 (0.0165)*	-0.0955 (0.1056)	1.0000	
LIQUID	0.0808 (0.1717)	0.0202 (0.7329)	-0.2067 (0.0004)**	0.2080 (0.0004)***	-0.1942 (0.0009)**	-0.2010 (0.0006)**	-0.1415 (0.0163)**	0.0688 (0.2446)	1.0000

Note: (*), (**) and (***) indicate significance at 10%, 5% and 1% respectively.
P-values are shown in parenthesis.

6.2 Regression Analyses

In order to generalize the results of logistic regression model, the following underlying cross-validating assumptions (e.g. normality for distributed errors, multi-collinearity and auto-correlation) are checked in order to affirm that they have been met. Table (4) represents the logistic regression results for model (1) that examined the potential impact of financial constraints on financial restatements' incidence as well the moderating role of corporate governance (proxied by combined index composed of four mechanisms) in mitigating the opportunistic behavior of management.

The value of chi-square from Omnibus Test of Model Coefficients showed that the overall indication of the goodness-of-fit test is highly significant at 18.316, $p < 0.05$, meaning that our model is able to distinguish between restated and non-restated firms.

Omnibus Test of Model Coefficients

chi-square	*Sig*
18.316	***0.045***

Our set of explanatory variables explained 22.6% (Nagelkerke R2) of the variance in the dependent variable (financial restatements' incidence). In addition, the model, as a whole, correctly classified 89.6% of restated and non-restated cases.

Classification Table

	Non-restated	*Restated*	*Percentage correct*
Non-restated	***258***	***0***	***100***
Restated	***30***	***0***	***0***
Overall percentage			***89.6***

The result of Hosmer and Lemeshow's test supports that our model is worthwhile since chi-square value for the test is 4.668 with significance level of 0.792 (values larger than 0.05 support the model).

Hosmer and Lemeshow's test

chi-square	*Sig*
4.668	***0.792***

Referring to Table (4), financial constraints' level, measured by (WW Index), is statistically significant at 5% and has a positive coefficient with the probability of financial restatements' incidence (RES). This means that we accepted our first hypothesis that suggested that firms under greater levels of financial constraints have higher financial restatements' incidence. The positive coefficient of financial constraints variable suggested that managers of publicly listed Egyptian firms under considerable level of financial constraints have higher tendency toward engaging in opportunistic accounting practices that could lead to financial restatements' incidence. These results are consistent with the results of Bowen et al. (2018) who found a positive and significant impact of financial constraints on the likelihood of financial restatements.

The coefficient of corporate governance index is positive and statistically significant at 10% with financial restatements' incidence. The interaction of financial constraints and corporate governance index (WW IND*GOV IND) is statistically significant at 10% and reflects that corporate governance mechanisms had pivotal role in moderating the hypothesized relationship between financial constraints and financial restatements' incidence. This result is consistent with H2, which posited that corporate governance mechanisms could restrain the managerial opportunistic behavior in financially constrained firms that could result in in aggressive accounting practices

which distort financial statements, hence, the probability of restating financial statements will exist.

Turning to other explanatory variables that capturing specific-firm characteristics, significant positive association is found between firm size (LOG SIZE) and financial restatements' incidence (RES). Financial leverage (LEVG) has significantly negative association with restatements (RES). This result is inconsistent with the results of Abdullah et al. (2010) and Hasnan et al, (2021) that found a significant positive relation between firm leverage and financial restatement's occurrence. This result is contradicted with what was suggested that high leverage increases the likely of financial restatements' incidence, since high ratio of leverage increases managerial incentives to manipulate their earnings which may distort their financial statements.

Insignificant associations are existed between firm performance (ROA) and restatements' incidence as well insignificant associations are existed between firm short-term liquidity (LIQUID) and restatements' incidence, suggesting that firm liquidity did not have the capacity to influence financial restatement's incidence. Moreover, the insignificant association between quality of external audit BIG-4 and restatements, indicates that whether the firm' financial statements are audited by one of Big 4 or non-Big 4 audit firm, financial restatement's incidence could occur. This result is consistent with the results of Hasnan et al. (2021).

Table (4)
Logistic Regression Results for Model (1)

*REST= β0 + β1 WW IND + β2 GOV IND+ β3WW IND*GOV IND + β4 LOG SIZE + β5 BIG4+ β5 LEVG+ β6 ROA+ βLIQUID+ εi*			
	B	WALD	SIG.
CONSTANT	-10.250	4.760	0.029**
WW IND	9.772	5.243	0.004***
GOV INDEX	-4.250	4.948	0.061*
WW IND*GOV IND	-٧.796	5.106	0.085*
BIG 4	-0.399	0.750	0.386
LOG SIZE	0.679	3.830	0.050*
LEVG	-6.599	3.250	0.081*
ROA	-0.606	0.069	0.793
LIQUID	0.898	1.001	0.317
Nagelkerke R2	0.226		
Hosmer and Lemeshow test	0.792		
*, ** and *** indicate significance at 10%, 5% and 1% respectively.			

Table (5) presents the logistic regression results for model (2) concerning the potential impact of financial constraints on financial restatements' incidence as well the moderating role of corporate governance in mitigating the opportunistic behavior of management. Our set of explanatory variables explained 18.7% (Nagelkerke R2) of the variance in the dependent variable (financial restatements' incidence). In addition, the model, as a whole, correctly classified 89.5% of restated and non-restated cases. In addition, result of Hosmer and Lemeshow's test

supports that our model is worthwhile since chi-square value for the test is 12.787 with significance level of 0.119 (values higher than 0.05 support the model).

Referring to Table 5, level of financial constraints proxied by WW Index is statistically significant at 5% and has a positive coefficient with financial restatements' incidence. Other corporate governance variables –ownership concentration has a significant relationship with the likelihood of restatements, while an insignificant relationship found between the likelihood of financial restatements and the other variables board independence (B IND), board size (B SIZE) and CEO Duality (DUAL). These results are consistent with Hasnan et al. (2021).

The interaction of financial constraints and board independence (WW IND* B IND) are statistically significant at 10% with the probability of financial restatements, suggesting that high number of independent (non-executive) directors enable corporate boards to be more effective in monitoring the opportunistic behavior of managers. This result is consistent with the results of Nugroho and Eko (2011) and Al Azeez et al. (2019). Also, the interaction of financial constraints and ownership concentration (WW IND* CON CEN) are statistically significant at 10% with the likelihood of restatements, suggesting that outside shareholders (block-holders), who hold substantial shares, play a pivotal role in monitoring management, since those major shareholders have strong incentives to set effective

accounting and controlling procedures to find out and prevent accounting frauds and errors. This result is consistent with the results of Abdullah et al. (2010) and Zhang (2012). Other explanatory variables that capturing specific-firm characteristics and quality of external audit showed an insignificant relationship with the likelihood of financial restatement.

Table (5)
Logistic Regression Results for Model (2)

*REST= β0 + β1 WW IND + β2 B SIZE+ β3B IND+ β4 DUAL+ β5 OWN CON+ β6 WW IND*B SIZE + β7 WW IND*B IND + β8 WW IND*DUAL + β9 WW IND*OEN CON + β10 LOG SIZE + β11 BIG4+ β12 LEVG+ β13 ROA+ β14 LIQUID+ εi*			
	B	WALD	SIG.
CONSTANT	-8.170	5.492	0.019**
WW IND	8.955	4.06	0.047**
B SIZE	-0.059	0.014	0.906
B INDE	-3.511	6.277	0.189
DULITY	-1.267	0.131	0.717
OWN CON	-2.137	5.368	0.095*
WW*B SIZE	-0.285	0.059	0.807
WW*B INDE	-3.806	8.316	0.084*
WW*DULITY	-3.557	0.196	0.658
WW*CONCENT	-4.585	7.502	0.079*
BIG 4	-0.281	0.364	0.546
LOG SIZE	0.552	2.245	0.134
LEVERAGE	-5.281	2.206	0.137
ROA	0.042	0.000	0.985
LIQUID	1.238	2.004	0.157
Nagelkerke R2	0.187		
Hosmer and Lemeshow test	0.119		
*, ** and *** indicate significance at 10%, 5% and 1% respectively.			

CONCLUSION

Two competing perspectives interpreting the relationship between financial restatements' incidence and the extent to which firms are financially constrained (Bowen et al., 2018). The conventional perspective, known as "opportunistic earnings management", suggests that firms under higher levels of financial constraints have higher incentives to manipulate earnings. Managers of financially constrained firms have higher tendency toward engaging in aggressive accounting practices to improve firm's financial appearance and meet short-term objectives including debt covenants, earnings, and share price (Jensen 2005). They opportunistically practice the managerial discretion in picking up accounting choices that semblance their firm appearance. During this process, some financially constrained firms may violate GAAP, the matter that lead to restating their financial statements (Bowen et al., 2018).

On the other hand, managers of financially constrained firms would pick up accounting choices that help achieving short-term objectives and meeting market's expectations in order to convey positive signals to the market "managerial signaling". Such carefully orchestrated managerial signaling used here is working as a communication tool intended to inform rather than misleading firm's investors (Shivakumar, 2000). However, corporate managers facing such situations are more likely to use discretionary accruals to semblance the firm appearance and

make their financial reports more informative, which in turn, trigger restatements (Linck et al., 2013; Kurt, 2018).

These two competing perspective, the opportunism earnings management perspective versus the managerial signaling perspective, about how financial constraints could affect managerial behavior worth further investigation and make it interesting to investigate the relationship between the extent to which firms under higher levels of financial constraints and the announcement of financial restatements as well the moderating role of corporate governance mechanisms in mitigating opportunistic behavior.

The aim of this study is to examine to what extent corporate managers under considerable financial constraints engage in opportunistic accounting practices that could lead to restating their financial restatements as well the role of corporate governance in monitoring the opportunistic behavior of those managers.

Using logistic regression analysis, the study examined the direct relationship between the level of financial constraints levels and financial restatements' incidence as well the moderating role of corporate governance in mitigating the managerial opportunism after controlling firm-specific characteristics that potentially affect this relationship. The study found a significant and positive impact of financial constraints on the probability of financial restatements. Then, we examine

moderating factor (governance) that potentially influence the relation between financial constraints and restatement probability. The interaction of financial constraints and corporate governance is statistically significant and reflects that corporate governance mechanisms had pivotal role in moderating the hypothesized relationship of financial constraints and financial restatements' incidence.

Finally, our results indicated that firms under greater levels of financial constraints have higher tendency toward restating their financial statements as well corporate governance mechanisms could restrain the managerial opportunistic behavior in financially constrained firms that could results in financial restatements. Also, we found that financially constrained firms with larger size and lower leverage are associated with higher restatement probabilities.

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