Do Cross–Border Listing Firms Manage Earnings? Evidence from Egyptian Stock …

Dr/ Shaimaa Fikry Mehanna Khalil & Dr/ Fatma Mahmoud Ebrahim Eldsouky & Dr/ Elsayd Gamal Mohamed Al–Qazzaz

Do Cross-Border Listing Firms Manage Earnings?
Evidence from Egyptian Stock Exchange

Shaimaa Fikry Mehanna khalil
Assistant professor of accounting
Zagazig university
Fatma Mahmoud Ebrahim Eldsouky
Assistant professor of accounting
Zagazig university
Elsayd Gamal Mohamed Al-Qazzaz
Assistant professor of accounting
Zagazig university

ABSTRACT

Purpose – The purpose of this study is to examine whether cross-listing Egyptian firms in international stock exchanges are associated with improving the quality of reported earnings

Design/Method – Depending on multivariate regression analysis, this study examined the impact of international cross-listing on the earnings management practices of Egyptian firms.

Findings – Using earnings management practices as an inverse proxy for quality of financial reporting, this study found that cross-listed Egyptian firms tend to report larger value of discretionary accruals compared with non-cross-listed Egyptian firms after controlling for several firm-level characteristics that could influence managers' incentives to manipulate earnings.

Key words: International Cross-Listing – Global Depository Receipts –earnings management.

Paper type Research paper

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INTRODUCTION

Cross-border listing is the listing of company's securities on different stock exchange rather than its original or primary stock exchange (Ndirangu, 2016). Kim (2021) defines cross-listing as the case of listing company's securities on more than one international stock exchange.

International cross-listing implies several benefits to domestic companies, the most primary one, is facilitating the accessibility to more liquid stock markets which in turn, implies greater ability to raise funds at lower costs. Other benefits include: investor protection (i.e. protecting minority shareholders' rights); which later has given rise to what is known as "bonding hypothesis"; greater products' market opportunities; and enhanced information disclosure (Ndirangu, 2016). Domestic companies pursue overseas cross-listing looking for such opportunities to benefit from as their common shares become accessible to more global investors (Kim, 2021).

In this vein, Silva et al. (2015) argued that when a company, located in an emerging market, decides to list its common stocks in developed market, two main stream of ben-efits are expected:

- First stream of benefits related to the issuing company; cross-border listing enables companies to access to more

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liquid exchanges, facilitate the accessibility to more international investors and, consequently, raising funds at lower costs, the matter that support potential growth opportunities (Silva et al. 2015).

Stock liquidity, as a primary factor that determine stock's investment risk, is increased by having access to more diverse investors (Kim, 2021). Liquid stocks have lower investment risk and higher values. The liquidity hypothesis developed by Amihud and Mendelson (1986) stipulated that developed markets are very liquid and companies, especially from emerging markets, who cross-list their common shares in these markets, can raise capital at lower cost than at their home financial markets.

- Second stream of benefits related to corporate governance perspective; this stream reflects the expected benefits the international investors of cross-listed securities in developed markets will get from enhanced financial disclosure and transparency as well the investor protection in the host financial market (Silva et al. 2015).

Houlthausen (2003) argued that companies with good economic prospects, operating in emerging markets characterized by weak legal and institutional environments, found cross-listing attractive way to opt out of their home markets' weak legal and

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institutional environment and agree to comply with stricter accounting and corporate governance standards to order to be attractive for foreign investors.

Lopes et al. (2008) and Silva et al. (2015) had confirmed on the views of Houlthausen (2003). Lopes et al. (2008) found that companies with better prospects operating in institutional environment characterized by uninformative accounting disclosure and poor investor protection try to get out of their poor legal and institutional environment by committing themselves to superior governance systems through cross-listing their shares on foreign exchanges. Lopes et al. (2008) indicated that as long as these companies continue to face operating environment that does not introduce adequate incentives to produce credible and informative financial accounting reports, international cross-listing will be the influential way to commit themselves to rigorous regime that support higher investor protection in order to facilitate the accessibility to more diverse investors and increase their ability to raise external capital.

In the same context, Silva et al. (2015) asserted on superior companies from emerging markets that cross-list their common shares in developed exchanges have to comply with rigorous transparency and disclosure standards than non-cross-listed counterparts from home markets have to. Thus, cross-border listing, in line with stringent disclosure standards and superior

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investor protection delivers positive signals to markets and investors, which means, cross-listing possess a positive signaling effect (Kim, 2021).

On the other hand, Silva et al. (2015) found that entering into international stock exchanges generates condensed scrutiny by market participants such as security financial analysts, credit rating agencies, and independent auditors. Ndirangu (2016) argued that high level of market scrutiny increase ease of access to available information about the company, thus, lowering information costs and increasing stock's visibility to investors.

Herein, an interesting question arises: Does cross-border listing in developed markets applying rigorous financial disclosure and corporate governance standards improve the quality of earnings reporting? Using earnings managed as an inverse proxy for the quality of financial information disclosed, the objective of this study is to investigate whether stringent financial disclosure as well the regulatory requirements for Egyptian firms choose to be cross-listed in international stock exchanges (e.g. UK stock exchange) will improve the quality of financial reporting.

To accomplish our purpose, we propose the following question based on the assumption that cross-list Egyptian firms in UK stock exchange will be subject to more stringent disclosure and regulatory requirements than those of their home market:

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"can we predict that this rigorous operating environment will enhance the quality of financial information disclosed relative to their non-cross-listed counterparts?".

Basically, Lopes et al. (2008) presented two different arguments regarding the potential impact of cross-border listing on earnings management: on the pro side, cross-listed firms have adequate incentives to disclose less manipulated earnings and report higher quality of earnings in order to be more attractive to foreign investors; whereas, on the con side, cross-listed firms do not possess, at their home markets, appropriate incentives to report more credible accounting numbers, since those firms continue to confront an institutional environment at their home markets does not provide significant incentives to produce informative and credible financial reports, which makes studying the potential impact of cross-listing on accounting reports quality an interesting question.

The rest of this paper will be organized as follows. Section 2 introduces overview of international cross-listing in Egyptian stock exchange: Global Depository Receipts. Section 3 presents a theoretical framework of international cross-listing. Section 4 presents brief review of prior literature and the development of study hypothesis. Then in section 5 a description of earnings management model is given, Section 6 presents data and method.

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Section 7 discusses the main results of empirical analysis. The final section highlights the study's conclusion.

2. INTERNATIONAL CROSS-LISTING IN EGYPTIAN STOCK EXCHANGE (GLOBAL DEPOSITORY RECEIPTS)

As stated by the Egyptian stock exchange, international cross-listing is based on offering domestic Egyptian securities to be traded on international stock markets through listing and trading of Global Depository Receipts (GDRs) on international stock exchanges. Cross-listing Egyptian securities will be held at international depository banks working as "international intermediaries" in Egypt to cover GDRs. Motivations and benefits of international cross-listing in Egyptian Stock Exchange can be viewed from three perspectives (https://www.egx.com.eg/en/gdrs.aspx):

i)   Form the issuing company's perspective: cross-listing strengthening company's activities in international financial markets, enhancing company's presence and improving its stocks evaluation. Issuing GDRs also widen ownership base (in internal and external financial markets), thus enable trading for a large number of investors, which in turn, will increase stock liquidity.

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ii) Form foreign investors' perspective: cross-listing allowing easily investment in international financial markets, and easily converting GDRs to local shares through depository banks, thus benefiting from prices differences (arbitrage). Cross-listing also allowing diversification of investment through formation of diversified regional or international portfolios which in turn, helping in reducing systemic risk.

iii) Form national economy perspective: cross-listing allowing entering new financial markets thus providing new sources of finance, accordingly, increasing foreign indirect investment in Egyptian securities.

3. THEORETICAL FRAMEWORK OF CROSS-LISTING

Theoretical and empirical triggers for international cross-listing are drawn in literature from three intersecting streams including: (i) motivations and benefits of cross-listing; (ii) quality of a firm's institutional environment in which it operates or what is known as "the bonding hypothesis"; and finally (iii) international corporate governance literature (Silva et al., 2015).

i. Concerning the first stream of benefits, Chemmanur and Fulghieri (2006) introduced an integrated model to understand a firm's decision to be listed abroad on a foreign market as well as the determinants of international listing requirements. Chemmanur and Fulghieri (2006)'s model

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suggested that firms are looking for cross-border listing their shares on foreign stock exchanges with superior governance systems that provide higher level of transparency in order to facilitate ease access to more professional investors beyond their domestic markets.

Li (2005) argued that the motivations and benefits of cross-border listing are well established in literature, both theoretically and empirically. But the most prominent benefit was explained by market segmentation hypothesis. Market segmentation hypothesis stipulates that cross-listing reduces investment barriers, thus enables firms to spread risks across lager base of international investors, which in turn, reduces firms' costs of raising capital. It seems that cross-listing benefit firms from increasing market integration by giving access to foreign investors. In the same vein, Kim (2021) argued that the market segmentation hypothesis, being the oldest hypothesis pertaining to international cross-listing, stated that firms from emerging markets with investment barriers are more likely to cross-list their shares in developed markets to reduce firm's cost of capital.

ii. The second stream of benefits relating to the quality of operating environment or what is known as "the bonding hypothesis. Bonding hypothesis viewed cross-listing in international markets as a mechanism for domestic companies operating in weak corporate governance

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environments to voluntarily subject themselves to stricter regulatory environment (Silva et al., 2015; Beckmanna et al., 2019). According to bonding hypothesis, international cross-listing is mechanism by which companies incorporated in poor enforcement jurisdictions with weak legal protection for minority shareholders' rights to voluntarily bond themselves to stricter environment to attract foreign investors who might be reluctant to invest (Coffee, 2003). Bonding to stricter environment with higher disclosure standards implies that higher quality of financial reporting is expected from cross-listed firms. Thus, cross-listing is argued to be considered a determinant of accounting quality (Ndirangu, 2016; Beckmanna et al., 2019).

Kim et al. (2007) searched reasons behind domestic companies' decision to cross-listing their securities in developed exchanges through Globally Depository Receipt. One notable interpretation is related to development of the functional convergence hypothesis by Coffee (1999, 2000). In financial markets with weak legal protection for minority shareholders, it is difficult to raise external capital. The functional convergence hypothesis stipulated that companies needing to raise external capital will respond to this difficulty by voluntarily obligating themselves to stricter environment in order to protect their minority shareholders' interests (Coffee, 1999, 2000).

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iii. The third stream of benefits relating to prior literature of corporate governance that has documented many benefits for companies operated in financial markets applying high standards of transparency and disclosure and strong investor protection. For example, Stulz (1999) found that the opacity of information that exists between managers or controlling shareholders and external investors was decreased when the company obligated itself to higher stringent oversight. Stulz (1999) argued that the stringent oversight would prevent firm's insiders from managing earnings to create information opacity and limit scrutiny from outsiders to protect their benefits. Silva et al. (2015) argued that the strong investor protection and rigorous transparency and disclosure requirements limit insiders' ability to expropriate wealth from outsiders.

The overall previous context presented an opportunity to examine an interesting question based on the assumption that cross-border listed firms are subject to rigid disclosure and regulatory requirements relative to their non-cross-border listed counterparts. Using a sample of publicly traded Egyptian firms that decided to be cross-listed in international developed exchanges (e.g. UK stock exchange), we raise a question about whether the rigorous disclosure standards and superior investor protection -supposed to be applied in developed exchanges- reduce incentives and abilities of cross-listed firms' controlling

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insiders and managers to increase information opacity through managing earnings?

4. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Extended literature investigated the association between international cross-listing and the quality of financial reporting. However, mixed results have been provided on the potential impact of cross-border listing on foreign stock exchanges and the quality of a firm's financial reporting in different jurisdictions. For instance, Kim et al. (2007) investigated differences in managers' incentives toward managing earnings between cross-listed non-US firms and US firms surrounding Sarbanes-Oxley Act (SOX) enactment in 2002. The results of Kim et al. (2007) supported the hypothesis that cross-listed firms use more managerial discretion in the reported earnings relative to US firms. Kim et al. (2007) found that cross-listed firms have higher discretionary accruals compared with US firms before SOX was enacted. More interestingly, cross-listed firms did not show any significant differences in discretionary accruals levels after SOX enactment.

The results of Kim et al. (2007) suggested that even cross-listed non-US firms and US firms are operating under same legal and institutional environment, discretionary accruals in non-US cross-listed firms is more pronounced relative to their US

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counterparts. This finding is contradicted with the convergence hypothesis that stipulated on the voluntarily bonding of cross-listed firms in rigid legal environment to protect the rights of minority shareholders.

In the same context, Lopes et al. (2008) investigated the potential impact of cross-listing in United Sates stock exchange and the adherence to U.S. GAAP on earnings management practices of Brazilian firms. However, the results Lopes et al. (2008) indicated that cross-listing in New York stock exchange (NYSE) and the adherence to U.S. GAAP did not significantly affect earnings management practices in cross-listed Brazilian firms. Despite being traded at the NYSE, Brazilian cross-listed firms continued to show most features associated with poor corporate governance practices including poor investor protection and ownership concentration. The results of Lopes et al. (2008) suggested that domestic factors and the institutional environment in home markets seem to be the major factor that influences the preparing of cross-listed firms' financial reporting. Lopes et al. (2008) documented that cross-border listing did not change incentives of firm managers in reporting process.

On the contrary, Silva et al. (2015) found evidence support improving the quality of financial information disclosed for cross-listed firms. Using earnings managed as an inverse proxy for financial disclosure quality, Silva et al. (2015) found that

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Latin American cross-listed firms in the United States stock exchange have lower level of earnings management than non-cross-listed firms. Their results also indicated that firms operating in markets adopting higher governance standards having lower levels of earnings managed. Interestingly, the results of Silva et al. (2015) showing that cross-listing and country governance are complementing each other to improve the quality of financial reporting.

In the same context, Lin et al. (2015) investigated government officials' role on the effectiveness of audit committees in monitoring process of financial reporting in Chinese cross-listed firms. They identified cross-listing in foreign markets and the appointment of government officials in audit committees as moderating factors affecting their efficacy in detecting earnings management and monitoring overall financial reporting process. Lin et al. (2015) found evidence supporting the association between audit committees' members' expertise and independence with lower levels of abnormal accruals, as measure of earnings management, in cross-listed (CL) Chinese firms.

Ndirangu (2016) investigated the effect of cross-border listing on the quality of financial reporting using a sample of cross-listed firms in East African stock exchanges. Ndirangu (2016) used three metrics to assess the quality of financial accounting reports for cross listed firms in East Africa exchanges including: earnings

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management, value relevance of information, and timely loss recognition. The accounting quality metrics were tested three-years prior cross listing and three-years after cross listing. Results of Ndirangu (2016) found that earnings management practices had not been detected around cross listing dates. Ndirangu (2016) also found no significant change prior and after cross-listing concerning timely loss recognition relating to bad news or better prudence in reporting good news. Results also indicated that the value relevance of accounting information disclosed by cross-listed firms did not affect, meaning that the accounting measures' ability to accurately reflect the underlying economic value of cross-listed firms still the same as before cross listing. Generally, the results of Ndirangu (2016) documented that cross listing did not affect the quality of financial accounting reports of cross-listed firms within East African Securities Exchanges.

On the contrary of the results of Ndirangu (2016), Beckmanna et al. (2019) investigated the existence of accrual and real earnings management practice during the periods of firm cross-listings in foreign exchanges. Their results indicated that firms manage their earnings during cross-listing times using accrual and real earnings management. Beckmanna et al. (2019) also found that, from cross-listed firms' perspective, real earnings management is more favorable method than accrual earnings management in managing earnings.

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Generally, companies decided to list their shares in foreign exchanges are likely to provide higher disclosure quality than non-cross listed firms for three main reasons (Coffee, 2003; Silva et al., 2015; Ndirangu, 2016; Kim, 2021): (i) cross-listed firms are required to meet the minimum transparency and disclosure requirements set by the regulation authorities of the foreign exchange; (ii) increased market participants' scrutiny from financial analysts and credit agencies as well as press coverage induce cross-listed firms to enhance quality of financial disclosure in order to deliver positive signals to the market and give more confidence to reluctant investors; and (iii) enhancing information disclosure quality helps reducing agency problems.

Firms whose common shares are listed on their domestic exchanges, and same time, are listed on a secondary foreign exchange are required to comply with the regulatory requirements of their domestic markets and the foreign markets. Those firms have to comply with the international disclosure standards and to meet international investors' needs. This compliance is expected to enhance the quality financial reporting of cross-listed firms compared to non-cross listed firms (Ndirangu, 2016).

Taking into consideration the preceding discussion, we predict a statistically significant association between cross-border listing in foreign exchanges and earnings managed as an inverse

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proxy for financial reporting quality. Using the magnitude of discretionary accruals as a proxy for earnings management practices, we propose the following hypothesis.

H: Cross-listed Egyptian firms are less likely to manage their reported earnings than non-Cross-listed Egyptian firms.

5. MEASUREMENT OF EARNINGS MANAGEMENT

Earnings management is related to the quality of reported earnings. Schipper (1989) defined earnings management as an intentional intervention in financial reporting process in order to provide some private gains for firm's managers. Burgsthaler and Dichev, (1997) argued that managing earnings to decrease earnings fluctuations or losses and to send positive signals to the market is considered another trigger affecting managers' opportunistic behavior, hence, managing earnings clearly decreases the quality of reported earnings

Managers would prefer to choose accounting methods that help avoid breaching earnings-based-contracts, maximizing cash-bonus compensation, and meeting market's expectations (Kim et al., 2007). To achieve managers' personal goals, mangers rely on accrual component of earnings. Since accruals contain accounting estimates based on predictions and forecasts, accruals are subject to manipulation more than cash flows (Kim et al., 2007). Managerial judgment used in determining accruals

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provide firm managers the opportunity to manipulate earnings, hence, the magnitude of discretionary accruals could be used as useful measure of the quality of financial reporting (Myers et al., 2003; Kim et al., 2007).

Myers et al. (2003) and Kim et al. (2007) argued that abnormal accruals are the most representative of managerial discretion in preparing financial reports. The magnitude of discretionary accruals (abnormal accruals) reflects to what extent managers opportunistically practice the managerial discretion in picking up accounting choices beyond non-discretionary accruals. In the same context, Lin (2015) argued that abnormal accruals are often used, in prior literature, as a proxy for managerial discretion. Following this line, this study will use the magnitude of discretionary accruals as a proxy for earnings management.

Several models have been used to estimate a firm's discretionary accruals (Dechow et al., 1995). The most widely models used to estimate discretionary accruals in literature include the Jones model (1991) and the modified Jones model (Dechow et al., 1995). Jones (1991) designed a model to estimate discretionary accruals (abnormal accruals) as residuals of time series regression between a firm's total accruals and changes in its revenues and property plant and equipment. Dechow et al. (1995) had modified the Jones Model by including changes in account receivables and found better empirical results. Therefore, modified Jones model will

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be utilized in this study to estimate discretionary accruals as used in prior studies (Kim et al., 2007; Beckmanna et al., 2019; lin et. al., 2015; Ismail, 2017; Kjærland, 2020).

The Modified Jones Model

i.   First, total accruals ($TACC_{it}$) of firm i in year t are calculated as the difference between a firm's operating earnings (earnings before extraordinary items and discontinued operations) and its cash flow from operations (CFO_{it}):

$$TACC_{it} = EBXT_{it} - CFO_{it} \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ \textit{(1)}$$

ii.   Next, total accruals ($TACC_{it}$) of firm i in year t are scaled by lagged total assets ($TA_{i,\,t-1}$) and regressed against its variables (change in revenues, change in account receivables, and property plant and equipment,) including an intercept as follows:

$$TACC_{it} / TA_{i,\,t-1} = \beta_0 + \beta_1(1/TA_{i,\,t-1}) + \beta_2(\Delta\,REV_{it} - \Delta\,REC_{it})$$
$$/TA_{i,\,t-1} + \beta_3(PPE_{it}/TA_{i,\,t-1}) + \varepsilon_{it} \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ \textit{(2)}$$

Where,

- $TACC_{it}$ represents total accrual for firm i in year t (calculated as earnings before extraordinary items and discontinued operations minus cash flow from operating for firm i in year t).

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- $TA_{i,\,t-1}$ represents total assets for firm i at end of year t-1.
- ΔREV_{it} represents the change in revenues for firm i in year t from year t-1 scaled by total assets at year t-1.
- ΔREC_{it} represents the change in account receivables for firm i in year t from year t-1 scaled by total assets at year t-1.
- PPE_{it} represents gross property plant and equipment in year t scaled by total assets at year t-1.
- ε_{it} represents the estimated residuals.

It is important to mention that firm managers may increase current-year earnings by early recognition of revenues, consequently, without taking this into consideration, changes in sales revenues would lead to an endogenous bias. Therefore, Dechow et. al. (1995) suggested that an adjustment in the previous equation by including the change in accounts receivables in order to overcome this endogenous bias.

iii. Third, the estimated coefficients β, β_1, β_2, β_3 and β_4 for each industry (obtained from equation 2) are used to calculate a firm's non-discretionary accruals (NDACC it) as follows:

$$NDACC_{it} = \beta_0 + \beta_1 (1/TA_{it-1}) + \beta_2 (\Delta REV_{it} - \Delta REC_{it})/TA_{it-1} + \beta_3 (PPE_{it}/TA_{it-1}) \ldots\ldots\ldots\ldots (3)$$

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iv. Finally, a firm's discretionary accruals are calculated by subtracting non-discretionary accruals (obtained from equation 3) from total accruals (obtained from equation 2):

$$DACC_{i,t} = TACC_{i,t} - NDACC_{i,t} \dots\dots\dots\dots\dots\dots\dots\dots\dots$$
$$(4)$$

6. DATA AND METHODOLOGY

6.1 Sample Selection and data sources

The sample constructed to examine the study hypothesis represents 36 of publicly traded Egyptian companies from year 2015 to 2018 with total observations of 144 (after excluding the missing variables), 60 of which are cross-listed observations, while 84 are non-cross-listed observations. We have identified cross-listings in Egyptian stock exchange as the Egyptian securities that are traded on another international stock markets (London Stock Exchange) in addition to the domestic stock markets.

6.2 Model Specification

We use multivariate regression analysis to investigate whether managerial discretion used in managing reported earnings, measured by firm discretionary accruals, a recognizable feature of cross-listed firms:

Discretionary Accruals $_t$ = f (Cross-listing $_t$, Control Variables $_t$)

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6.3 The Empirical Model

The following multivariate regression model is constructed to test the study's hypotheses:

$$DACC_{it} = a_0 + a_1\,CX\,LIST_{it} + a_2\,F\,SIZE_{it} + a_3\,SAL\,GROW_{it} + a_4\,ASSETURN_{it} + a_5\,ROE_{it} + a_6\,LEV_{it} + a_7\,BIG4_{it} + \varepsilon_{it}$$

a. *Dependent variable:*

Firm discretionary accruals (DACC), the absolute values of Modified Jones-model, is the dependent variable. The study posits that higher levels of DACC are associated with higher levels of managerial discretion exercised in preparing financial reports.

b. *Independent variable:*

International Cross-listing (CX-LIST) is the independent variable. CX-LIST is a dummy variable equals one if the Egyptian firm is cross-listed on a secondary foreign stock exchange in addition to the Egyptian stock exchange (usually London stock exchange), zero otherwise.

c. *Explanatory variables:*

In addition to our main experimental variable, prior research is used to identify and control for other variables that are

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expected to motivate managers' incentives to manipulate earnings, including:

i) Firm size (FSIZE):

It represents the natural logarithm of firm's total assets at year end. Due to the large market capitalizations of large firms, they have more influence on stock market, consequently, they are subject to more scrutiny from financial analysts and professional investors than other firms. They are also subject to various types of governance controls such as debt covenants, management compensation, and dividend policy than other firms (Ji, 2005; Kim et al. 2007; lin et al., 2015; Silva et al. 2015; dirangu, 2016; Beckmanna et al., 2019; kim 2021). We expect earnings manipulation is less in larger firms as they are under greater scrutiny.

ii) Sales growth ratio (SALGROW):

It represents firm sales in year t less sales in year t-1. Ji (2005), Kim et al. (2007), and Ndirangu (2016) argued that high growth firms have more incentives to meet earnings benchmarks by using discretionary accruals, implying a positive relationship between firm growth and discretionary accruals level. Kim et al. (2007) argued that firms with high growth opportunities would like to cross-list their shares to bond themselves to more rigorous regulations that protect

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minority shareholders' interests in order to attract more investors. For high growth firms, cross-listing facilitates financing their growth opportunities which boosting their share values.

iii) Total asset turnover (ASSETURN):

It reflects a firm's efficiency to generate revenues from assets, it represents the annual sales divided by total assets at year end. Silva et al. (2015) and Ndirangu (2016) posited a positive relationship between firms with high asset turnover ratio and the discretionary accruals level.

iv) Firm profitability (ROE):

Return on equity is net income divided by total value of shareholders' equity. Ji (2005), Silva et al. (2015), lin et al. (2015) and kim (2021) argued that firms may manipulate their earnings in order to meet specific ROE targets or to avoid losses. Therefore, they posited that the coefficient of ROE is positively associated with discretionary accruals value.

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v) Firm financial leverage (LEV):

It represents total liabilities divided by total assets at year-end. Firms with high financial leverage ratios are more probably prefer accounting methods that help avoid violating debt covenants than low leverage firms. Therefore, a positive association is predicted between high leverage and value of discretionary accruals (Ji 2005; Kim et al. 2007; lin et al., 2015; Silva et al. 2015; Ndirangu, 2016; Beckmanna et al., 2019; kim 2021)

vi) Quality of the external audit (BIG4):

It is dummy variable equals one if the firm's auditor is one of Big 4 auditors, zero otherwise. Cross-border listed firms are more likely to engage with big 4 auditors. Kim et al. (2007) and Ndirangu (2016) argued that Big 4 auditors are more likely to restrict opportunistic behaviors of firm managers. Lin et al. (2015) found that firms audited by one of Big 4 auditors have lower levels of earnings management, suggesting that Big 4 auditors help to restrict managers from manipulating earnings.

7. RESULTS AND DISCUSSION

7.1 Descriptive Statistics and Correlation Analysis

Table (1) presents a summary for key descriptive statistics for the dependent (discretionary accruals) and independent

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variable (cross-listing) and our explanatory variables used in the regression analysis. Descriptive statistics gives us a general idea about the characteristics of the study variables.

The absolute value of discretionary accruals has higher mean for cross-listed firms than non-cross-listed firms, indicating that the managerial discretion exercised in preparing financial reports is little high, for cross-listed than for non-cross-listed firms, which is inconsistent with our hypothesis. Turning to the other explanatory variables, cross-listed firms have lower mean values for firm profitability, growth potentials, sales growth, and financial leverage than for non-cross-listed firms, whereas, mean value of firm size is higher in cross-listed firms than in non-cross-listed firms.

Table (1)
Descriptive Statistics

Variable	Cross-Listed Firms (60 Observations)				Non Cross-Listed Firms (84 Observations)			
	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum
DACC	.3917437	.3122894	-3.304853	1.160268	.3009222	.2485416	-1.675953	1.135845
F SIZE	20.62243	1.703803	17.25132	25.20514	19.92275	1.309885	17.04227	22.52722
SALGROW	.1542542	.4594039	-.7412773	3.065995	.2110919	.2626996	-.2375908	1.047395
ASSETURN	.6146552	.4588397	.0207129	1.394096	.8395259	.4014344	.0795888	2.081537
ROE	.0667775	.1435329	-.5750341	.3157146	.1631195	.3365477	-.8715501	2.457604
LEV	.4017051	.3261364	.0034092	2.217422	.5299039	.7406029	.0632364	4.792665

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Following the descriptive analysis of the study variables, Table no. (2) presents Pearson's correlation matrix. The correlation matrix shows that most of the degree of correlations between the independent variables are either low or moderate, suggesting that the multi-collinearity problem that make threats to the interpretations of regression coefficients is unlikely to be serious problem in our regression model. Pearson's coefficient between each pair of independent variables should not exceed 80%; otherwise, any two independent variables have a coefficient exceed 80% may be suspected of exhibiting multi-collinearity problem (Abdelsalam et al., 2008).

Regarding the correlation coefficient between the value of discretionary accruals (DACC) and the independent variable cross- listing (CX LIST), the Pearson correlation matrix shows that cross- listing is statistically significant with the value of discretionary accruals.

The Pearson correlation matrix shows that the correlation coefficient between the value of discretionary accruals (DACC) and the other explanatory variables: Sales growth (SALGROW); Asset turnover (ASSETURN); Firm profitability (ROE); and Quality of the external audit BIG4 are statistically significant. On the other hand, the Pearson correlation between discretionary accruals (DACC) with firm size (F SIZE) and financial leverage variable (LEV) are statistically insignificant.

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Table (2)
Pearson Correlations Matrix

	DACC	CX LIST	F SIZE	SAL GROW	ASSE TURN	ROE	LEV	BIG4
DACC	1.000							
CX LIST	0.4780 (0.0028)**	1.000						
F SIZE	0.1308 (0.1181)	0.2276 (0.0061)**	1.000					
SAL GROW	0.6528 (0.0002)***	-0.0786 (0.3489)	0.1393 (0.0459)*	1.000				
ASSE TURN	-0.2424 (0.0034)**	-0.2534 (0.0022)**	-0.3500 (0.0000)***	0.0984 (0.2407)	1.000			
ROE	0.7270 (0.0000)***	-0.1723 (0.0389)*	-0.0145 (0.8629)	0.1047 (0.2118)	0.1416 (0.0904)*	1.000		
LEV	-0.1236 (0.1401)	-0.1048 (0.2113)	-0.1515 (0.0699)*	-0.4520 (0.0412)**	-0.0610 (0.4679)	0.1173 (0.1614)	1.000	
BIG4	0.5151 (0.0000)***	0.1573 (0.0597)*	0.4901 (0.0000)***	-0.1405 (0.0931)*	-0.1324 (0.1136)	-0.1209 (0.1489)	-0.0570 (0.4974)	1.000

Notes: (*), (**) and (***) indicate significance at P< 10%, P< 5% and P<1% respectively.

P-values are shown in parenthesis.

7.2 Regression Analyses

To generalize the multivariate regression model, the following underlying cross-validating assumptions (i.e., normality for distributed errors, auto-correlation, and multi-collinearity) are checked in order to assure that they have been met. Table (3) presents the regression results concerning the potential impact of the managerial discretion exercised in reporting earnings in cross-listed Egyptian firms compared with

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non-cross-listed Egyptian firms. For our regression model, Pseudo R2 is (0.164) and the p-value is significant at (0.000).

Cross-listed Egyptian firms is statistically significant at 1% level and has a positive coefficient with the magnitude of discretionary accruals (DACC). The positive coefficient of cross-listing variable suggested that cross-listed Egyptian firms tend to report larger value of discretionary accruals compared with non-cross-listed Egyptian firms. Inconsistent with the study hypothesis, our results suggested that managers of cross-listed Egyptian firms possess larger flexibility in choosing between the available accounting choices. They use more managerial discretion in reporting earnings relative to managers of non-cross-listed Egyptian firms.

The preceding regression results contradict with the functional convergence hypothesis developed by Coffee (1999, 2000) which stated that firms opt out their weak legal and institutional environment by voluntarily listing their equities in developed stock exchanges and agreeing to follow more rigorous regulations applied in those markets.

This result is consistent with the results of Kim et al. (2007) that found the absence of enforcement concerning foreign firms represents an incentive for managers of cross-listed firms to exercise more latitude in selecting accounting choices compared

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with domestic firms, and also consistent with the results of Lopes et al. (2008) that found the domestic factors and the institutional environment in home markets seemed to be the major factor that influences the preparing of cross-listed firms' financial reporting. The result is also consistent with the findings of Beckmanna et al. (2019) who found evidence indicated that firms manage their earnings during cross-listing times using accrual and real earnings management.

Turning to other control variables, sales growth ratio (SGROWTH), firm profitability (ROE), and the quality of the external audit (BIG4) are significantly associated in the predicted direction with the magnitude of discretionary accruals, whereas the coefficient estimates of asset turnover (ASSTURN) and financial leverage (LEV) indicating an insignificant association with the magnitude of discretionary accruals.

The positive coefficient that is statistically significant of sales growth (SGROWTH) with the value of discretionary accruals (DACC) suggested that managers in firms with high growth have more incentives to achieve earnings benchmarks by using discretionary accruals. This result is consistent with Ji (2005), Kim et al. (2007), and Ndirangu (2016) who documented a positive association between firm growth opportunities and discretionary accruals level. The significant association between firm profitability (ROE) and the value of discretionary accruals

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(DACC) suggested that managers in cross-listed firms have higher tendency toward manipulating reported earnings to meet specific ROE targets. This result is consistent with Ji (2005), Silva et al. (2015), lin et al. (2015), and kim (2021).

The positive coefficient that is statistically significant of the quality of the external audit (BIG4) with the value of discretionary accruals (DACC) suggested that Cross-listed Egyptian firms are more likely to engage with big 4 auditors, and engaging with big 4 auditors restrict the opportunistic behaviors of firm managers. This result is consistent with Kim et al. (2007), Lin et al (2015), and Ndirangu (2016) that documented that Big 4 auditors help to restrict managers from manipulating earnings.

Table (3)
Multivariate Regression Results

DACC $_{it}$ =a_0 + a_1 CX LIST $_{it}$ + a_2 FSIZE$_{it}$ + a_3 SAL GROW $_{it}$ + a_4 ASSETURN $_{it}$ + a_5 ROE $_{it}$ + a_6 LEV $_{it}$ + a_7 BIG4 $_{it}$ + ε $_{it}$						
Independent Variables	Expected sign	Coef.	Std. Err.	z	P>|z|	VIF
CX LIST	_	.2319745	.0718735	3.23	0.002***	1.13
F SIZE	+	1.68505	1.318077	1.28	0.201	1.57
SAL GROW	+	.3333787	.0702964	4.74	0.000***	1.04
ASSE TURN	+	-1.269152	1.951964	-0.65	0.516	1.24
ROE	+	.3774913	.1247586	3.03	0.003***	1.09
LEV	+	-5.450111	3.491978	-1.56	0.119	1.07
BIG4	+	.2404589	.085047	2.83	0.005**	1.36
Presudo R^2 0.1640						
Prob > chi2 0.0000						
Wald chi2(7) 28.62						
*, ** and *** indicate significance at P< 10%, P< 5% and P< 1% respectively.						

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8. CONCLUSION

International cross-listing occurs when a company lists its equities on foreign stock exchange rather than its original stock exchange (Ndirangu, 2016; Kim, 2021). Companies pursue overseas cross-listing looking for several benefits comes in two main streams (Silva et al. 2015; Kim, 2021): i) first one, concerning the issuing company, cross-border listing enables the accessibility to more liquid markets and, consequently, raising funds at lower costs: ii) second stream reflects the expected benefits the international investors will get from enhancing financial transparency and disclosure as well investor protection in the host financial market.

Since domestic companies in emerging markets that are cross-listed in foreign stock exchanges have to comply with rigorous regulations, consequently, these companies are subject to high level of market scrutiny from security financial analysts, credit rating agencies, and independent auditors (Ndirangu, 2016). An interesting question arises: Does cross-border listing in a developed market with more rigorous financial disclosure and corporate governance standards improve the quality of financial reporting?

Using earnings management detecting model as an inverse proxy for quality of financial information disclosed, this study examines whether stringent financial disclosure and regulatory

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requirements for cross-listed companies in international stock exchanges will improve the quality of financial reporting.

The purpose of this study is to examine whether cross-listing Egyptian firms in international stock exchanges are associated with improving the quality of reported earnings. Using the magnitude of discretionary accruals as proxy for the practices of earnings management, the study found that cross-listed Egyptian firms tend to report larger value of discretionary accruals compared with non-cross-listed Egyptian firms after controlling for several firm-level characteristics that could influence managers' incentives to manipulate earnings. This result is consistent with the results of Kim et al. (2007), Lopes et al. (2008), and Beckmanna et al. (2019). The study also found that sales growth ratio, firm profitability, and the quality of the external audit have a significant association with the magnitude of discretionary accruals, whereas asset turnover and financial leverage have an insignificant association with the magnitude of discretionary accruals.

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