Management Inducements for cash flows classification shifting in Egyptian companies: an analysis of core operating cash flows inflation strategies—an applied study

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دوافع المديرين لإعادة تبويب التدفقات النقدية بالشركات المصرية: تحليل الاستراتيجيات الأساسية المستخدمة في تضخيم التدفقات النقدية التشغيلية-دراسة تطبيقية

ملخص الدراسة

تبحث هذه الدراسة في إمكانية قيام الإدارة في الشركات غير المالية باستغلال المرونة الممنوحة بموجب معيار المحاسبة المصري رقم 4 (قائمة التدفقات النقدية)، والتي تسمح فقط للشركات غير المالية بتصنيف التدفقات النقدية المتعلقة بالفوائد وأرباح الأسهم على أنها تدفقات من الأنشطة التشغيلية أو الاستثمارية أو التمويلية وفقاً لحكم الإدارة. تقوم الدراسة بتحليل الاستراتيجيات التي تستخدمها الإدارة للتلاعب فى التدفقات النقدية التشغيلية عن طريق إعادة تصنيف التدفقات النقدية الداخلة من الانشطة الاستثمارية والتمويلية على أنها تدفقات نقدية داخلة من الأنشطة التشغيلية، وإعادة تبويب التدفقات النقدية الخارجة من الأنشطة التشغيلية على أنها تدفقات نقدية خارجة من الأنشطة الاستثمارية والتمويلية. علاوة على ذلك، تبحث هذه الدراسة فى العوامل الرئيسية التي من المحتمل أن تتسبب فى مثل هذا السلوك . تم الجمع بين عدد من نماذج انحدار السلاسل الزمنية الثابتة Static Panel Regression Models، والتى شملت كل من نموذج المربعات الصغرى العادية المجمعة (OLS) ، والتأثيرات الثابتة، والتأثيرات العشوائية وذلك بهدف تقييم تطبيق معيار المحاسبة المصري رقم 4 بواسطة الشركات غير المالية المدرجة بالبورصة المصرية خلال الفترة من 2017 إلى 2022. وفى ضوء النتائج، توثق الدراسة لوجود اختلافات جوهرية في تصنيف التدفقات النقدية بتلك الشركات، ودور كل من القطاع الصناعي الذي تنتمي له الشركة ومستوى المديونية بها كمحددات هامة لاختيار المديرين بين تبويب التدفقات النقدية كأنشطة تشغيلية أو غير تشغيلية. بالإضافة إلى ذلك، تشير نتائج التحليل الإحصائي إلى أن ممارسات إعادة تبويب التدفقات النقدية تتأثر بهيكل مجلس الإدارة، وتزيد احتمالات حدوثها في الشركات الأقل ربحية، والأحدث، والتي تزيد بها درجة عدم تماثل المعلومات، بالإضافة إلى تلك التي تشهد تلاعبا في الأرباح من خلال إدارة المستحقات وقد تم تأكيد النتائج من خلال الاختبارات الإضافية للتحقق من جودة النتائج، الأمر الذي يؤكد بشكل كامل مفاهيم نظرية الاختيارات المحاسبية. تقدم الدراسة تقييما شاملا يعكس ممارسات إعادة تصنيف التدفقات النقدية في الأسواق العربية وذلك بالتطبيق على

البورصــة المصـرية. وبوجه عام تعد نتائج الدراسـة ذات أهمية لكل من واضـعي المعايير المحاسبية وواضـعى السياسات والجهات التنظيمية والدائنين والمستثمرين، حيث أن اختيار مكان تبويب التدفقات النقدية يمكن أن يؤثر على تقييم أداء الشــركة ومن ثم على قرارات مســتخدمي القوائم المالية التي تصـدرها. وبشكل عام، تؤكد النتائج على حاجة الجهات المنوط بها إصدار المعايير المحاسبية إلى إعادة تقييم إيجابيات وسـلبيات المرونة الممنوحة للشــركات غير المالية بموجب معيار المحاسـبة المصري رقم 4 (الدولي رقم 7)، وتأثيراتها على جودة التقارير المالية وقابليتها للمقارنة.

الكلمات المفتاحية

4 EAS، IAS 7 ، التدفقات النقدية التشغيلية، EGX، إدارة التدفقات النقدية، إعادة التبويب.

Management Inducements for Cash Flows Classification Shifting in Egyptian Companies: Analysis of Core Operating Cash Flows Inflation Strategies—An Applied Study

Abstract

This study scrutinises the possibility of abusing the flexibility granted under Egyptian Accounting Standard No. 4: Statement of Cash Flows (EAS 4) to only non-financial companies to classify cash flows relating to interests and dividends under operating, investing, or financing activities, according to managerial discretion. The focus lies on analysing the strategies employed by management to manipulate operating cash flows by shifting cash in-flows from investing and financing activities into operating activities section, and by shifting cash out-flows from operating activities into investing and financing activities sections. This study further investigates the main factors that are likely to influence such behaviour during the period from 2017 to 2022. A combination of static panel regression models, including Pooled Ordinary Least Squares (OLS), fixed effects, and random effects models is employed. This study documents a significant diversity in cash flows classification across sectors, suggesting the existence of sector-specific factors and manipulation techniques. Furthermore, findings provide evidence that highly indebted companies are more likely to engage in cash flows shifting to artificially inflate their reported operating cash flows. Hence, leverage is a key determinant of operating versus non-operating cash flows classification choice. Findings further confirmed through robustness checks, and totally support the notions of the accounting choices theory. This study offers unique and comprehensive insights into cash flows reclassification practices in Arab markets. Findings have valuable implications for standard setters, policymakers, regulators, creditors, and investors, as management cash flows classification choice may mislead the decisions of financial statements users. Overall, these results raise the need for accounting standards-setting bodies to reassess EAS 4 (IAS 7) flexibility pros and cons, and its related impact on the quality of financial reports and their comparability.

Keywords: EAS 4, IAS 7, operating cash flows, EGX, cash flows management, classification shifting.

1. Introduction

Cash flows (CF) information significance stems from its value relevance in determining returns on investments, firm earnings generation power, and its dividends payment ability. Although the Egyptian Exchange (EGX) is the oldest and one of the most active in the Arab region, greater efforts should be exerted by organisational bodies to mitigate management practices that cause financial reporting opaqueness (Hassaan and Salah, 2023). This study goes beyond just investigating whether the flexibility given to non-financial firms under the Egyptian Accounting Standard number 4 (EAS 4-Statement of Cash Flows) as equivalent to the International Accounting Standard number 7 (IAS 7), by further scrutinising the incentives behind management CF classification shifting practices. Given that Egypt is one of the early adopters of the International Financial Reporting Standards (IFRS) in the Arab region since the early 2000s, this creates an ideal setting for research in this area. There is a lack of research on this topic, which motivates this study. Relying on insights from the accounting choices theory, this study delves into the practices of reclassifying CF by Egyptian listed companies and provides an interpretation of the main factors that motivate management in non-financial companies to reclassify.

CF related information is gaining importance among external users of corporate financial reports, such as investors, financial analysts, and creditors (Kretzmann et al., 2015; Lee et al., 2012). Many of the recently discovered corporate scandals (e.g., Deutsche Telecom, Worldcom, Dynergy, Satyam, and HealthSouth) incorporated CF classification shifting(Nagar and Sen, 2014, Gordon et al., 2017, Bansal et al., 2021). Compared to income statement classification shifting, cash flows statement classification shifting has no effect on future CF, as well as being easier, of lower-cost, and more difficult to detect by auditors (Nagar and Sen, 2014). This is likely to encourage management to employ CF reclassification strategies to overstate operating CF with a minimum possibility of being detected.

EAS 4, paragraph 13, highlights the significance of operating CF related information in determining the corporate operations' ability to generate CF for various purposes (e.g., loan repayment, maintaining

corporate operating capabilities, dividends payment) without relying on external sources of finance. According to EAS 4-paragraph 4, understanding cash flows facilitates comparisons of companies' performance by eliminating the impact of varying accounting methods used for similar events or transactions(MOF, 2020). This suggests the value-relevance of operating CF for decision-makers, particularly in investing and lending decisions. The Egyptian Accounting Standards' conceptual framework recently updated by Decree No. 833 in 2023 by the Egyptian Prime Minister, maintaining alignment with the IFRSs. It emphasises comparability as a key qualitative characteristic of accounting information that enhances the usefulness of financial reports (IFRS, 2018). This necessitates an examination of whether permitting managerial discretion in non-financial companies to categorise CF as operating, investing, or financing truly maintains comparability.

The study's findings suggest that management in Egyptian non-financial companies engages in CF classification shifting to manipulate CF from operating activities. The significant diversity in CF classification due to EAS 4 classification flexibility contradicts the comparability requirement. Reclassification varies among sectors, suggesting that the extent of management's preference to reclassify CF varies significantly across sectors. This implies the presence of industry-specific factors that impact management reclassification decisions in companies within that industry. The findings indicate that companies with high leverage are more likely to reclassify CF to artificially inflate their operating CF. Management could potentially abuse EAS 4 flexibility by transferring cash-inflows from investing and financing activities sections to operating activities section, and transferring cash-outflows from operating activities section to investing and financing ones. Furthermore, analyses indicate that cash flows reclassification is impacted by board structure, profitability, company age, information asymmetry level, and the existence of earnings management practices. The results support the notions of the accounting choices theory.

This study contributes to the literature on financial reporting, qualitative-characteristics of accounting information, and

determinants of CF management practices in Arab emerging markets, by introducing an evidence based on one of the first empirical investigations on this subject. This study adds to the ongoing discussion regarding improving the comparability of financial reports and consistency of CF classification (Kretzmann et al., 2015, Baik et al., 2016, Gordon et al., 2017, Liang, 2022). The study offers valuable insights into the management of CF in Egypt, an emerging market with unique economic and regulatory characteristics that call for additional scrutiny in this area. The study emphasises the strategies utilised by managers to overstate operating CF. Focusing on re-categorizing strategies across operating, investing and financing activities, it offers valuable insights into the matter. The study's findings enhance the analysis of management CF classification choices in Arab emerging markets by introducing a new dimension related to the key classification drivers in the statement of cash flows. Utilising Panels Corrected Standard Errors (PCSE) enhances the analysis by addressing econometric issues, thereby increasing the trustworthiness of the research results. The findings are expected to be of interest to accounting standards setters at national, regional, and international levels. The flexibility in cash flows classification given to nonfinancial companies under EAS 4, as equivalent to IAS 7, could potentially be misused to manipulate CF. This could mislead users who rely on cash flows information for valuing corporate performance and for comparability purposes. Results also urge policy-makers and regulators to strengthen monitoring over management discretion in CF classification. Moreover, the results of this study hold significant implications for investors and creditors when assessing corporate CF and their influence on firm risk evaluation and financial performance. The study's results challenge past assertions of academics, practitioners and policy-makers regarding the usefulness of financial information, and advocate for prioritising profits over CF when assessing a company's future potential (Sharawi, 2021).

In conclusion, this study provides unique and comprehensive insights into CF reclassification practices in Arab markets. It complements available literature on the implications of adopting IFRS

in developing economies, focusing only on accruals and real earnings management, income statement classification shifting, and accounting conservatism as the main indicators of accounting information quality. The study suggests that accounting standards-setting bodies should reconsider the flexibility given to non-financial companies under EAS 4 (IAS 7) and its effects on the quality of accounting reports and their comparability.

The leftover part of this study goes as follows: Section 2 discusses the relevant theory, reviews existing literature, and formulates research hypotheses. The study methodology is described in Section 3, while the findings are deliberated in Section 4. Section 5 concludes and provides recommendations for future studies.

2. Theoretical background, related literature, and hypotheses development

2.1. The accounting choices theory

The conceptual framework of the Egyptian Accounting standards[1], in compliance with the IFRS, refers to comparability as a qualitative characteristic of accounting information that enhances the usefulness of financial reports(MOI, 2015). Information on CF, as stated in EAS 4 in paragraph 4, enables operating performance comparability among different companies by removing the impact of using varying accounting treatments for similar transactions and events. Consequently, this raises a question regarding the flexibility granted to non-financial companies to classify interests and dividends under operating activities section only[2], or to be classified under investing or financing activities. This accounting choice allows management to determine whether to categorise received interests and dividends as operating cash in-flows or as investing cash in-flows, and whether to classify paid interest and dividends as operating cash out-flows or as financing cash out-flows. Hence, this flexibility can be intentionally employed by management in choosing whether to classify CF items as

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[1] The Egyptian Accounting Standards recently amended by Decree No.833 for the year 2023 by the Egyptian Prime Minister, did not refer to any changes or amendments in comparability definition as a qualitative characteristic of accounting information.

[2] This is the only allowed accounting treatment for firms operating in the financial-sector.

operating or non-operating to portray the desired image of the company. This argument is supported by Maciel et al. (2019), who emphasise the possibility of firm management opportunistically using CF classification flexibility to adapt the presentation of the statement of cash flows to the company's condition. Although the total net CF remains accurate, the subtotals in the statement of cash flows may be misstated. Hence, financial performance measures based on net CF from operating, investing, or financing activities are likely to be misleading. This situation can better be interpreted through the lens of the accounting choices theory, that firstly introduced by Watts and Zimmerman in the 1990s.

The accounting choices theory goes in compliance with the positive theory in accounting introduced by Watts and Zimmermann in 1986 to explain how accounting choices relating to recognition, measurement, presentation, and disclosure affect financial reporting consequences(Watts and Zimmerman, 1986), and the theory of the firm that shows how the demand for accounting is empowered through the existence of firms (Watts, 1992). Hence, the accounting work is likely to be influenced by the incentives deriving preparers of accounting information (Watts and Zimmerman, 1990). As induced by Cabello and Pereira (2015), the accounting choices theory explains the reasoning behind the accounting treatment choice in the case of allowing managerial judgement. These arguments are further reinforced by Maciel et al. (2019), who advocate the difficulty of forecasting or interpreting accounting practices as separate from individuals' stimuli. This explains the employment of the accounting choices theory in many prior empirical studies investigating the determinants of any accounting treatment choice (e.g., Martínez et al., 2011, Maciel et al., 2019).

In this study, the accounting choices arguments are utilised to clarify the rationale for the management to classify interests and dividends under operating or non-operating cash flows, specifically within the Egyptian context. Charitou et al. (2018) suggest that the managerial discretion in CF classification can lead to potential overstatement of operating CF, particularly when incentives are involved.

2.2. **Cash flows classification shifting practices and the possible reasons behind them in Egyptian companies**

Information relating to CF serves as a complement to company-earnings-related information (Charitou et al., 2018). Previous studies have offered evidence on CF management practices in various contexts (Lee, 2012, Kretzman et al., 2015, Baik et al., 2016, Gordon et al., 2017, Maciel et al., 2019, Debbianita et al., 2020). Management's decision to reclassify CF as operating or non-operating is attributed to various reasons beyond the faithful presentation cited by accounting standards setters to justify the classification flexibility allowed under the accounting standard that organises the different matters associated with the statement of cash flows. Researchers (e.g., Gordon et al., 2017, Maciel et al., 2019), emphasise management's aims to alter operating CF forecasts and impact the valuation of a company's accruals as reasons. According to Kretzmann et al. (2015), management may reclassify CF to enhance a firm's financial indicators. Studies by van der Heijden (2015) and Maciel et al. (2019), report that CF reclassification can be misused to mislead users of companies financial reports. This involves reporting an exaggerated operating CF to indicate a strong financial position. Nevertheless, inconsistencies in CF presentation are argued to have significant implications on the users understandability of the financial statement information (Charitou et al., 2018). Based on Gordon et al. (2017), it can impact the comparability of free CF and accruals metrics across companies.

Using the flexibility granted under EAS 4 (IAS 7), non-financial companies can choose between classifying interest and dividends received and paid as operating, or as investing or financing CF, which can significantly affect the operating, investing, and financing subtotals in the statement of cash flows. This flexibility can be subject to management discretion by shifting cash out-flows from the operating CF section to the investing and financing CF sections, while shifting cash in-flows from the investing and financing activities sections to the operating activities section. This in turn increases the opportunity to mislead users of the cash flows statement information, highlighting the serious consequences of abusing CF classification choice flexibility.

Given the increased possibility of employing CF management strategies in emerging capital markets due to the weak enforcement of laws, regulations, and corporate governance rules, beside fragile investor protection systems (Nagar and Sen, 2014), the consequences are likely to be more severe.

The review of available findings of Gordon et al. (2017) applying to a sample from 13 European countries show how the flexibility in CF classification under IFRSs is abused to inflate operating CF resulting in 60% of sample companies classify interest received as operating cash in-flow, and 57% of them classify dividends received as operating cash in-flow. Similar conclusions reached applying to the Korean market by Baik et al. (2016) and the UK market by Charitou et al. (2018). In Brazil, Costa et al. (2019) and Maciel et al. (2019) offer insights on the presence of CF reclassification practices. In another emerging market, India, a study by Nagar and Sen (2014) demonstrates that management in Indian companies manipulates CF by shifting in-flows and out-flows between operating, and investing or financing sections. The cash-flows intentional misclassification in the Indian context is further supported by a more recent study (Bansal et al., 2021). Finally, applying to the Egyptian context, as a prominent Arab and African emerging market, the sole available study at the time of submitting this research paper is by Mahmoud (2023) who examines CF shifting in Egyptian companies to explore the relationship between earnings management and financial analysts' forecasting accuracy. The study analyses a sample of 21 Egyptian listed companies during the period 2013-2021. Findings reveal that Egyptian companies engage in CF classification shifting.

Based on the above discussion, the first two hypotheses of this study can be articulated as follows:

H1: Ceteris paribus, Egyptian companies tend to shift their operating cash out-flows to either investing or financing cash out-flows.

H2: Ceteris paribus, Egyptian companies tend to shift their investing or financing cash in-flows to operating cash in-flows.

Regarding the association between company industry-sector and CF classification shifting practices, several studies have investigated in

various foreign contexts, such as those by Hollie et al. (2011), Kretzmann et al. (2015), Gordon et al. (2017), and Maciel et al. (2019). Industry characteristics impact management discretionary practices (Wasiuzzaman, 2018). The industry to which a company belongs is likely to influence management cash flow classification choices on the grounds that companies belonging to a specific industry-sector are keen to enhance their comparability with peers operating in the same industry (Gordon et al., 2017). Therefore, the decision to classify interests and dividends as operating or non-operating CF may be influenced by the need for consistency with industry-sector classification to ensure comparability with industry peers. The results reported by Kretzmann et al. (2015) support the company industry-sector influence on management decisions regarding CF reclassification. In a similar vein, Nobes and Stadler (2013) report that accounting treatment choices vary across industries. In addition, Hollie et al. (2011) indicate that companies operating in retail sector have incentives to overstate their operating CF, emphasisng the influence of industry on management CF classification choice. In contrast, the results of Gordon et al. (2017) and Maciel et al. (2020) demonstrate an insignificant association. This inconsistency applying to foreign contexts prompts a closer examination of its relevance in the Egyptian context, given the lack of national investigation on the matter to the best of our knowledge. Accordingly, the third hypothesis is articulated as below:

H3: The magnitude of CF reclassification does not significantly vary across industry-sectors.

Finally, regarding the association between firm indebtness and intentional operating CF discretionary classification, management in highly leveraged companies, is likely to overstate reported operating CF. This behaviour might be driven by a desire to enhance a company's financial credibility. Therefore, companies with significant debt may strategically manage their CF to present a less alarming financial situation to stakeholders, particularly creditors and investors. They may need to show that being highly leveraged is not a fatal threat that can hinder timely payment of company's financial obligations, or shade its future with the risk of going into a bankruptcy (Maciel et al., 2019).

This argument is further supported by Gordon et al. (2017) and Kretzmann et al. (2015), who attribute the increased probability for reclassifying cash-flows in highly leveraged companies to meeting debt covenants requirements. Moreover, Charitou et al. (2018) claim that companies with high levels of leverage tend to misuse classification strategies to artificially boost operating CF in order to prevent breaching debt contract restrictions.

The review of prior literature demonstrates that the majority of available studies investigating the motives to operating CF management report leverage as a major incentive for manipulating operating CF (e.g., Lee, 2012 applying to US companies; Kretzmann et al., 2015, applying to German companies; Baik et al., 2016 applying to Korean companies; Gordon et al., 2017 applying to European companies; Charitou et al., 2018 applying to UK companies; and Maciel et al., 2020 applying to Brazilian companies). However, Costa et al. (2019) applying to Brazilian publicly listed companies, report an insignificant association between the two variables. Given, the inconsistent results reported by prior researchers, and the absence of evidence regarding the association between the level of leverage and CF reclassification within the Egyptian context to the best of our knowledge, the fourth hypothesis is articulated as follows:

H4: There is no statistically significant influence of company leverage on management reclassification of cash flows for the purpose of overstating operating cash flows.

This hypothesis is further extended into the following two sub-hypotheses:

H4a: There is no statistically significant influence of company leverage on management reclassification of cash out-flows for the purpose of overstating operating cash flows.

H4b: There is no statistically significant influence of company leverage on management reclassification of cash in-flows for the purpose of overstating operating cash flows.

3. Methodology

3.1. Data sources

The 2011 revolution in Egypt and the subsequent currency devaluation since November 3, 2016, had several implications on the Egyptian context including the capital market (El Baradei, 2019). The economic consequences of such events in addition to COVID pandemic on the Egyptian capital market in the following years are likely to motivate management to abuse the flexibility granted under accounting standards in order to window-dress companies' performance. Hence, this study covers the period from 2017 to 2022 (the latest available data at the time of the study), a six-year period with the aim of delivering valuable insights on the contemporary landscape of CF reclassification practices in Egypt, serving as crucial evidence for corporate financial statement users, accounting standards setters, and policymakers. As EAS 4 grants flexibility in classifying cash flow relating to interest and dividends as operating or non-operating, this study targets only non-financial companies listed on the EGX. Excluding sectors with less than 10 companies in each industry-year ensures an accurate estimation of reclassified operating CF. This has resulted in the exclusion of a total of 10 companies. Four companies with missing observations were excluded. Finally, for each fiscal year, all variables are winsorised at the 1% and 99% levels to mitigate outlier effects. The final sample ends up with a total of 164 companies (984 firm-year observations). The data set is structured as a balanced panel. Table 1 presents information regarding the number and percentage of companies in each sector.

To examine the use of CF classification shifting in the Egyptian context, the details of CF items were hand collected from corporate annual reports. This process has involved considering the details of the magnitude of different CF items, as well as the section they are classified under in the statement of cash flows. In addition, information on board size has also been hand-collected from the annual reports. The remaining financial data is sourced from the Refinitiv Eikon database.

Table 1: The Sector distribution of sample companies

Sector	Number of companies	Observations	Percent
Basic-Materials (BM)	37	222	22.6
Consumer-Cyclicals (CC)	34	204	20.7
Consumer-Noncyclical (CNC)	29	174	17.7
Real-Estate (RE)	25	150	15.2
Industrials (IND)	24	144	14.6
Healthcare (HC)	15	90	9.1
Total	164	984	100 percent

Source: Developed by the authors.

3.2. Empirical Models and Variables measurements

Table 2 lists and define the study variables. If managers shift cash out-flows from operating activities to financing or investing activities and shift cash in-flows from financing or investing activities to operating activities, the CF from operating activities may deviate from the expected amount (unexpected operating cash flows), hence operating CF will be overstated. It is likely to detect a positive correlation between unexpected operating CF and cash out-flow from investing or financing activities, beside a negative correlation between unexpected operating CF and cash in-flow from investing or financing activities, in case of the existence of CF classification shifting (McVay, 2006).

This study employs the two-stage regression model proposed by Roychowdhury (2006) and McVay (2006) to categorise CF from operating activities into expected and unexpected elements as indicated below:

$$\frac{OCF_{it}}{TA_{it-1}} = \beta_1 + \beta_2 \left(\frac{1}{TA_{it-1}}\right) + \beta_3 \left(\frac{SA_{it}}{TA_{it-1}}\right) + \beta_4 \left(\frac{\Delta SA_{it}}{TA_{it-1}}\right) + \varepsilon_{it} \quad (1)$$

Where all the variables are scaled by lagged total-assets (TA_{it-1}); OCF represents the operating cash flows; SA stands for sales revenue; ΔSA represents the change in sales revenue; the subscripts i and t denote the firm and year, respectively; $\beta_1, \beta_2. \ldots. \beta_n$ represent the regression

coefficients; and ε_{it} denotes the error term. Model 1 is applied to each sector-year, requiring a minimum of 10 firm-year observations. The UE_OCF is derived from the residual of model 1 and reflects the variance between disclosed CF from operating activities and expected CF from operating activities.

To test the first and second hypotheses, the relationship between the dependent variable, unexpected CF from operating activities, and investing and financing out-flows (in-flows) have been analysed using the following econometric model used by Bansal et al. (2021).

$$\text{UE\_OCF}_{it} = \lambda_1 + \lambda_2 FIN_{it} + \lambda_3 FIO_{it} + \lambda_4 INI_{it} + \lambda_5 INO_{it} + \varepsilon_{it} \quad (2)$$

UE_OCF represents the dependent variable, unexpected CF from operating activities, while FIN and INI refer to cash inflows from financing and investing activities, respectively. FIO and INO represent cash out-flows from financing and investing activities. Coefficients for λ_2 and λ_4 (λ_3 and λ_5) that are negative (positive) and significant suggest the presence of CF shifting. Model 2 is adopted for each sector to scrutinise the third hypothesis, which suggests that the magnitude of CF reclassification does not significantly vary across industry-sectors.

Embedding cash in-flows and out-flows from investing, and financing activities in model 2 helps in capturing management CF reclassification practices more deeply compared to only relying on the value of unexpected CF from operating activities. This can be attributed to the inability of unexpected CF from operating activities to sufficiently account for performance control(Lee, 2012; Nagar and Sen, 2014).

Next, to examine the hypotheses H4a and H4b, model 2 is extended by incorporating the leverage regressor as indicated below:

$$\text{UE\_OCF}_{it} = \lambda_1 + \lambda_2 FIN_{it} + \lambda_3 FIO_{it} + \lambda_4 INI_{it} + \lambda_5 INO_{it} + \lambda_6 LV_{it} + \lambda_7(LV_{it} * FIN_{it}) + \lambda_8(LV_{it} * FIO_{it}) + \lambda_9(LV_{it} * INI_{it}) + \lambda_{10}(LV_{it} * INO_{it}) + \varepsilon_{it} \quad (3)$$

Firm leverage, represented by LV, is calculated as the ratio of total liabilities to total assets. All other variables are as defined in model 2. If high firm-indebtness, is likely to motivate management to overstate operating CF to meet debt covenants requirements, analysis should reveal presence of CF classification shifting practices (Kretzmann et al., 2015, Gordon et al., 2017). Accordingly, LV is incorporated into model 3, assuming positive coefficients for λ_8 and λ_{10}, and negative coefficients for λ_7 and λ_9, as representing a scenario in which leverage motivate management to manipulate CF through classification shifting. To mitigate multicollinearity in a moderated multiple-regression analysis including an interaction term, the CF and leverage variables are mean centered. In addition, the natural logarithm is utilised to improve the normality of other continuous variables(Blackwood, 1995).

Finally, model 3 is further extended by incorporating the control variables. Following prior studies (Zhang, 2006, Bansal et al., 2021, Chiang et al., 2021, Usman et al., 2022), this study controls for earnings management, profitability, firm age, stock price volatility, information asymmetry, board size, sector, and year as follows:

$$UE\_OCF_{it} = \lambda_1 + \lambda_2 FIN_{it} + \lambda_3 FIO_{it} + \lambda_4 INI_{it} + \lambda_5 INO_{it} + \lambda_6 LV_{it} + \lambda_7(LV_{it} * FIN_{it}) + \lambda_8(LV_{it} * FIO_{it}) + \lambda_9(LV_{it} * INI_{it}) + \lambda_{10}(LV_{it} * INO_{it}) + \lambda_{11}DAC_{it} + \lambda_{12}ROE_{it} + \lambda_{13}Age_{it} + \lambda_{14}Volatility_{it} + \lambda_{15}Float_{it} + \lambda_{16}Bsize_{it} + \sum_{j=17}^{21} \lambda_j Sector + \sum_{n=22}^{26} \lambda_n Year + \varepsilon_{it} \quad (4)$$

Management may employ CF reclassification to conceal accruals-management or as an alternative to accruals-management(Zhang, 2006). This research uses a modified Jones model to account for the management of earnings (DAC), which is claimed by Dechow et al. (1995), as effective in detecting earnings management. Following Hassaan and Salah (2023), it is quantified as the discretionary accrual's absolute value. Next, this study controls firm performance and employs return on equity (ROE) as a proxy for profitability. Although the results of Gordon et al. (2017) demonstrate a positive association between firm profitability and the level of CF from operating activities, the majority of researchers including Kretzmann et al. (2015), Maciel et al. (2019), and Chiang et al. (2021) argue that less profitable companies have a motive to overstate their operating CF in order to boost their reported

performance. The study also controls for company age (Age). Unlike old compannies that are well- known in the market, more experienced in the industry and with a long credit history, young ones with limited industry experience, face more challenges to secure loans from banks and/or to negotiate favourable terms with suppliers. Thus, young companies are more likely to misuse CF classification shifting to window-dress the image of their business before external parties(Bansal, 2021). Additionally, this study controls for stock price volatility (Volatility). Higher stock price volatility may motivate management manipulation practices to reduce stock price fluctuations, meet market expectations, and to show a stable performance of company reported earnings (Mayberry et al., 2021). Accordingly, companies with high stock price volatility are motivated to reclassify CF. This study also controls for information asymmetry (Float). According to Rapp (2010), reported CF value-relevance increases as the information gap between insiders and outsiders' upsurges. Furthermore, a greater percentage of shares being publicly traded can enhance scrutiny over the company's financial reporting including accounting choices. This study suggests that companies facing significant information asymmetry may employ CF reclassification as a strategy to overstate their reported operating CF. Following Kretzmann et al. (2015), this research assesses information asymmetry (Float) using a binary variable. The variable is assigned a value of 1 if the company's free float is less than 50%, and 0 otherwise. Finally, the study controls the board size (Bsize). Charitou et al. (2018) highlight the role of the board of directors as an effective monitoring tool that restrain management opportunistic reclassification of CF for the purpose of overstating operating CF. Previous studies report that larger boards are associated with improved reporting quality and improved level of scrutiny, resulting in limited likelihood of management engagement in manipulation practices (Peasnell et al., 2005, Usman et al., 2022). Additionally, large boards typically consisting of independent directors can exert more effective control over company management thanks to diverse expertise of board members (Elmagrhi et al., 2017). Furthermore, larger boards are likely to have members with financial qualification (Elnahass et al., 2022). According to de Andres et al. (2005) on average the

board should be within range from 5 to 9 members to best meet power and diversity considerations.

Table 2: Study variables definition and measurement

Variables	Measurements
Independent variables	
OCF_{it}	Cash flows from operating activities for firm i at year t
UE_OCF_{it}	unexpected cash flows from operating activities
Dependent variables	
TA_{it-1}	lagged total assets
SA_{it}	sales revenue
ΔSA_{it}	the change in sales revenue
FIN_{it}	cash inflows from financing activities
INI_{it}	cash inflows from investing activities
FIO_{it}	cash outflows from financing activities
INO_{it}	cash outflows from investing activities
$NFCF_{it}$	net financing cash flows
$NICF_{it}$	net investing cash flows
LV_{it}	the firm leverage (the ratio of total liabilities to total assets).
Control variables	
DAC_{it}	the absolute value of discretionary accruals derived by modified jones model.
ROE_{it}	net income divided by shareholder's equity.
Age_{it}	the firm's age, measured in years since its establishment.
$Volatility_{it}$	the standard deviation of firm's daily stock- return in a year.
$Float_{it}$	a dummy variable equal to 1 if a firm's free float is greater than or equal to 50%, and zero otherwise.
$Bsize_{it}$	the number of directors sitting on firm-board.
Sector	a dummy variable used to control for sector fixed effect
Year	a dummy variable used to control for year fixed effect

4. Empirical results and discussion

4.1. Descriptive statistics

Table 3 presents the descriptive statistics for the study variables. The results reveal that, on average, companies listed on the EGX are employing classification shifting strategies, as indicated by the mean (Std. Dev) of UE_OCF being 0.025 (.0742). This finding aligns with those of Bansal et al. (2021), indicating that the average UE_OCF is around 0.001. The mean value of INI (3.387) is greater than that of FIN (2.680), which indicates the higher magnitude of cash-in-flows

generated from companies' investment activities. Meanwhile, the average value of INO (4.114) exceeds that of FIO (3.841), hence, on average, Egyptian companies have a higher level of cash out-flows relating to their investment activities. The Age mean value is 39, indicating that, on average, the sample companies are old and hence well-experienced. The board size ranges from a minimum of 3 members to a maximum of 20 members, with an average of 8 board members indicating that boards in Egyptian companies are relatively large and within the board size range suggested by De Andres et al. (2005) to preserve power and diversity. Regarding the dummy variable Float, the study sample has 86% (852 observations) with free float greater than or equal to 50%, demonstrating relatively low levels of information asymmetry.

Table 3: Descriptive statistics

Variables	Minimum	Maximum	Mean	Std. Dev
ROE	-10.283	156.678	.268	5.118
Age	9	120.	37.	19.952
Volatility	0	5.227	.303	.457
DAC	-.08	.54	0	.084
Bsize	3	20	7.89	2.924
FIN	-.19	7.09	2.680	2.578
FIO	-.06	6.86	3.841	2.065
INI	-.12	8.05	3.387	1.820
INO	-.09	8.04	4.114	1.559
FD	-.22	2.25	2.146	.085
OCF	18.00	19.89	19.194	.078
ΔSA	-2.086	20.387	.234	1.463
SA	-.888	79.656	.769	5.340
UE_OCF	-1.047	.579	0.025	.0742
LV	0	13.071	.575	1.230
TA	6.06	9.95	7.786	.759

Source: Developed by the authors.

4.2. **EAS 4 flexibility and management cash flows classification choices**

Table 4 displays management classification choices for different CF items, in line with the guidelines of EAS 4. The observed classification diversity among Egyptian companies reflects the consequences of standard flexibility and raises concern regarding the comparability requirement. It is recognised that 45.7% of the sample classify interest paid as operating CF. Meanwhile, (23.8%) classify them under financing activities. This finding aligns with paragraph 33 of EAS 4, which refers to the possibility of classifying interest paid under operating CF as it can be used in determining firm profit or loss, or to classify them as financing CF by considering them as costs associated with obtaining financial resources (MOF, 2020). However, classification variation among companies threats comparability. For interest received, it is recognised that sample companies primarily report under the investing CF, representing a significant portion, 59.1%. However, 28.7% of the sample classify interest received as operating CF. Again, although the variation in classification that has been observed is consistent with the guidance and flexibility granted under the EAS 4 as indicated in paragraph 33, it raises an issue regarding comparability. Likewise, dividends received, classified by 7.22% of the sample as operating cash flows, with 14.23% of the sample report under CF from investing activities. Finally, results reveal that dividends paid are primarily classified under financing CF, with a significant portion, 96.9%. This classification is likely to be in line with the argument that these payments belong to financing activities, as they represent the costs of getting financial resources. Yet, only 1.12% of the sample, classify dividends paid under operating CF in consistency with paragraph 34 of EAS 4 that allows companies to classify dividends paid under CF from operating activities, as this enables financial statements users to evaluate the firm's capacity to distribute dividends from operating CF. Based on the reported findings, it is claimed that EAS 4 classification choice flexibility results in companies' financial statements comparability being questionable. These findings shed light on the need for the accounting standards setters to reconsider the CF classification

flexibility granted to non-financial companies. Management classification choice has crucial consequences, as it affects the determination of company profit/loss, denotes cost of obtaining financial resources, and affects return on investment. These findings support those reported in prior research (Lee, 2012, Kretzmann et al., 2015, van der Heijden, 2015, Baik et al., 2016, Gordon et al., 2017, Charitou et al., 2018, Debbianita et al., 2020, Mahmoud, 2023).

Surprisingly, 77.64% of the companies ignore reporting the dividends received under any of the CF sections. The same unexpected absence is recognised for information relating to interest paid (19.5%), interest received (3.7%), and dividends paid (1.18%). Despite the explicit requirement of the Egyptian Accounting Standard 4 paragraphs 31 to 34, this information is not disclosed. This may be attributed to the possibility that companies have not received dividends during the study period, or that the amount of dividends received is insignificant. The same for payment or receipt of interest, as there is a possibility that companies have not been involved in payment or receipt of interest during the study period, or may be such items are insignificant. However, it is worth mentioning that there may be a possibility of it being done intentionally. Ignoring disclosure of such items increases the infeasibility for cash flows statement users to identify the criteria applied by management in classifying different types of CF (Liang, 2022). Additionally, it is also evident that, the EAS 4 interest and dividends classification flexibility not only encourages management of CF to abuse the allowed classification choices according to EAS 4 guidelines, it seems also that it encourages some managers to completely deviate from the explicit alternatives allowed under the accounting standard, as the total net CF remains unaffected. For instance, around 0.80% of the sample companies report dividends paid under the investing CF section, 11% categorise interest paid as CF from investing, and 15.9% of them classify interest received under the financing CF section. This violation of the requirements of the EAS 4 raises concerns regarding the consequences of EAS 4 flexibility as it may further paves the way to opportunistic managers to manipulate CF,

not only by abusing the flexibility allowed under EAS 4, but also through non-compliance with EAS 4 guidelines.

Overall, the findings confirm the abuse of CF classification flexibility under EAS 4 by corporate management to opportunistically manipulate reported performance, especially with reclassification not affecting the total value of net CF.

Table 4: Variation in management CF classification choices

	Operating cash flows	Investing cash flows	Financing cash flows	None
Interest paid	45.7%	11%	23.8%	19.5%
Interest received	28.7%	59.1%	15.9%	3.7%
Dividends received	7.2%	14%	1.2%	77.6%
Dividends paid	0.91%	1.01%	96.9%	1.18%
Observations	984	984	984	984

Source: Developed by the authors.

4.3. Bivariate analysis

Table 5 displays the Pearson correlation among the study variables. In line with these study hypotheses, UE_OCF has positive and significant associations with FIO, INO, LV, and volatility and negative ones with FIN, INI, ROE, and BSIZE. Remarkably, DAC and Age have a non-significant correlation with UE_O.CF. The magnitude of associations between variables is low. Results show a correlation of 0.689 between INI and INO (below 0.8). This demonstrates that multicollinearity is not evident (Gujarati and Porter, 2009). This is further confirmed with a VIF value that is below 5 and with tolerance values above 0.25(Miles, 2014).

Table 5: Pearson correlation analysis

	UE_O.CF	FIN	FIO	INI	INO	LV	DAC	ROE	Age	Volatility	BSIZE
UE_O.CF	0										
FIN	-.431**	0									
FIO	.274**	.447**	0								
INI	-.128**	.025	.326**	0							
INO	.148**	.068*	.369**	.689**	0						
LV	.057*	.216**	.117**	-.030	-.018	0					
DAC	.004	-.032	-.024	-.001	-.007	.014	0				
ROE	-.021*	-.016	.001	.001	.001	-.012	.024	0			
Age	-.008	-.089**	-.013	.087**	.082*	.026	.127**	.045	0		
Volatility	.029*	-.046	-.065*	-.031	-.038	.009	-.001	-.023	-.022	0	
BSIZE	-.100**	.041	.100**	.048	.061	.086**	-.119**	-.050	-.117**	-.046	0

*, ** denote Significant at 0.05, and 0.01, respectively.

4.4. Multivariate regression results

The most frequently hired static panel models are pooled OLS (PM), fixed effects (FM), and random effects (RM) regression models (Tleubayev et al., 2021). FM considers time-invariant intercepts in each company, permitting the examination of associations at the individual company level. It differs from RM in that FM assumes fixed-model parameters. On the other hand, RM treats model parameters as random variables. It also allows the inclusion of time-invariant factors as explanatory variables. The FM can capture relationships on the company level as well as consider unobserved heterogeneity that fixed intercepts fail to detect. The RMs measure random and uncorrelated variations among different companies. However, a number of checks need to be conducted to decide whether to apply for FM or RM.

This study uses the Hausman (HS), Breusch-Pagan Lagrange multiplier (LM), and likelihood ratio (LR) tests, as recommended by Baltagi and Baltagi (2008) and Greene (2008), to identify the most appropriate model to employ in our analyses. Regarding model 1 (full

sample), exhibited in Table 6, the HS is conducted to determine the appropriateness of either FM or RM. The p-value of the Hausman test is less than 0.05 ($\chi2 = 81.54$, *df* = 4, and *p−value* = 0.000), leading us to reject the null hypothesis and support the use of the FM (Greene, 2008). Secondly, the LM test is used to determine the appropriateness of either RM or PM in the regression model. The p-value of the test is found to be less than 0.05, leading us to reject the null hypothesis and use the RM as more suitable than the PM for data analysis in the current study. Finally, the LR test is utilised to compare FM and PM. The p-value of the LR test is found to be less than 0.05, leading to the rejection of the null hypothesis and the support of the use of the FM. Accordingly, the FM is found to be more appropriate to the study data in Model 1 (full sample). Researchers follow the same procedure for all study models to identify the most suitable ones to run.

Additionally, Pesaran (2004) cross-section dependence (CD) test companies the existence of cross-sectional dependence among the companies (p-value <0.05). According to De Hoyos and Sarafidis (2006), panel-data models may suffer from the problem of cross-sectional dependence in the error terms. There is a greater probability of this problem occurring in panels when the time is shorter than the cross-sectional observations. The standard errors may be underestimated, leading to unreliable p-values. Accordingly, to handle this, we employ panel-corrected standard error due to its superiority in repelling heteroscedasticity, cross-panel correlations, and autocorrelation in the model (Beck and Katz, 1995).

To test H1 and H2, Table 7 shows model 2 regression results for the full sample. The findings indicate that the adjusted R^2 value is 61%, suggesting that the model can explain 61% of the unexpected CF variation. Besides, the coefficients of INO ($\lambda_5 = 1.95$, p < 0.05) and FIO ($\lambda_3 = 7.10$, p < 0.05) are statistically positively related to UE_OCF at 0.01 level of significance. Hence, H1 is supported, suggesting that management in Egyptian companies practices CF reclassification by shifting operating cash out-flows to either the investing or financing sections of the cash flows statement. In a similar vein, the results reveal

that the coefficients of INI (λ_4 = -1.89, p < 0.05) and FIN (λ_2 = -8.01, p < 0.05) are statistically negatively associated to UE_OCF at 0.01 significance level. This finding supports the H2 that Egyptian companies to inflate their operating CF, may engage in CF reclassification by shifting cash in-flows from investing and financing activities to operating activities. The results suggest the employment of CF classification flexibility allowed under EAS 4 (IAS 7) to manage reported operating CF. These findings support those of Lee (2012), who claims that companies reclassify their CF to manipulate their operating CF for the purpose of smoothing fluctuations over time and/or to meet analysts' cash flows predictions. The findings also agree with those reported by Nagar and Sen (2014) and Bansal (2021), applying to the Indian context, and reveal that management's tendency to reclassify cash flows is influenced by inadequate investor protection and governance in developing capital markets. This, in turn, supports the notions of the accounting choices theory. Findings also support those of Mahmoud (2023), applying to the Egyptian context, suggesting the possibility of the presence of some motives that influence management CF classification choices.

4.4.1. Cross-sector analysis

Table 6 summarises the results of running regression model 2 across different industry sectors to test H3. The results demonstrate a variety of sector-specific CF classification shifting strategies. While evidence of reclassification is evidenced across all industries, the magnitude and strategy are significantly different. Particularly, investing CF reclassification is most recognised in consumer cyclicals, illustrated by the highest negative coefficient for INI (λ_4 = -6.09, p < 0.05), and the highest positive coefficient for INO (λ_5 = 7.02, p < 0.05). This reflects aggressive manipulation behavior by company management in the consumer cyclicals sector, shifting investing cash in- flows to the operating CF section and operating cash out- flows to the investing CF

section resulting in overstating operating CF. In contrast, the healthcare sector has proven to show a limited reliance on investing CF reclassification. This is indicated by its lowest significant negative coefficient for INI (λ_4 = -0.28, p < 0.05), and its lowest positive coefficient for INO (λ_5 = 0.27, p < 0.05). This implies limited shifting to or from investing activities in the healthcare sector. To examine the difference between two regression coefficients (consumer cyclicals and healthcare), a z-test is conducted (Paternoster et al., 1998). The INI and INO coefficients demonstrate significant differences, with z-values of 2.805 and 4.496, respectively. The rejection of the null hypothesis H3 (p < 0.05), indicate the influence of sector-specific variations on management investing CF shifting behaviour. Finally, regarding the investing CF shifting practices in the industrial sector, INI and INO coefficients are insignificant, suggesting the lack of reliance on such a strategy in that sector. This implies the accuracy of the reported CF from the investing activities in the industrial sector.

Table 6. Panels Corrected Standard Errors (PCSE) Regression Model across sectors (Model 2)

Dependent Variable = UE_OCF	BM	CC	CNC	IND	RE	HC
INI	-2.08***	-6.09***	-0.814***	8.31	-2.37***	-0.28***
	(0.589)	(2.070)	(0.269)	(4.60)	(0.493)	(0.061)
INO	1.68***	7.02***	0.876***	1.87	3.70***	0.27***
	(0.629)	(1.500)	(0.271)	(2.010)	(0.404)	(0.061)
FIN	-8.61***	-3.34***	0.541	-7.86***	-4.52***	-0.18***
	(0.541)	(0.985)	(0.274)	(1.150)	(0.743)	(0.045)
FIO	6.12***	2.15*	-0.743	-0.303	5.06***	0.13***
	(0.634)	(1.250)	(0.677)	(1.137)	(0.862)	(0.049)
C	0.610	5.973	0.209	29.199**	-0.326	0.06***
	(5.044)	(4.852)	(0.435)	(14.583)	(2.149)	(0.196)
Adjusted R-squared	55%	26%	80%	40%	56%	21%
Observations	222	204	174	144	150	90
Hausman test χ^2	66.42***	1.86	148.33***	13.15**	145.86***	4.52
likelihood ratio F-test	3.59***	0.39	10.76***	0.75	6.65***	0.91
Breusch-Pagan LM	33.35***	6.91***	19.67***	2.44	21.21***	0.28
Model	FM	RM	FM	PM	FM	PM

*; ** and *** represent statistical significance at the 0.1,0.05 and 0.01 levels in a two-tailed test. Panel corrected standard errors are reported in parentheses.

Regarding financing CF reclassification practices in non-financial companies listed on the EGX, the results demonstrated in Table 6 support the influence of sectoral diversity. The financing CF reclassification is highly recognised in the Basic Materials sector, as demonstrated by the highest negative coefficient for FIN (λ_2 = -8.61, p < 0.05) and the highest positive coefficient for FIO (λ_3 = 6.12, p < 0.05). This highlights an aggressive financing CF reclassification, shifting financing cash in- flows to operating CF section and shifting operating cash out-flows to financing CF section. Once again, it is recognised that healthcare has a minimal reclassification, as evidenced by its statistically significant low levels of both FIN (λ_2 = -0.18, p < 0.05) and FIO (λ_3 = 0.13, p < 0.05). Z-tests further reinforce this claim, emphasising highly significant differences in FIN and FIO slopes between basic materials and healthcare sectors (z = 15.53 and 9.42, respectively). Applying to the consumer noncyclical sector, FIN and FIO coefficients are shown to be insignificant, suggesting a lack of reliance on financing CF reclassification in that sector; hence, re-emphasise the quality of financing CF information in the statement of cash flows of companies that belong to the industrial sector. Based on the above discussion, contrary to the expectation of H3, the results of heterogeneity across sectors confirm that the extent and means of management CF reclassification choice are influenced by industry-specific factors. This finding are in line with that of Hollie et al. (2011). Additionally, it supports that of Nobes and Stadler (2013) and Kretzmann et al. (2015). This supports the notions of the accounting choices theory, assuming that company industry-sector is one of the motives that influence management CF classification choice. Given that the pervasiveness and materiality of the magnitude of CF from interests and dividends are likely to be homogenous among industry peers (Liang, 2022), management of companies operating in the same industry is likely to reclassify CF as operating or non-operating in order

to keep a consistent classification choice with that applied by peers operating in the same industry-sector. As suggested by Gordon et al. (2017), this is likely to improve cross-sectional comparability among companies operating in the same industry. Furthermore, the variation in the magnitude of employing CF shifting among different industry-sectors seems to go in line with the macro economic conditions such as currency devaluation followed by COVID pandemic, that severely affected some sectors such as the consumer cyclical, leading management of companies operating in such sectors to heavily rely on shifting strategies to window-dress their financial performance, through the reporting of overstated operating CF. This behaviour is enabled by EAS 4 flexibility, which makes it difficult to detect intentional reclassification, especially, the CF classification choice does not affect the total net CF amount. On the contrary, the minimal reliance on CF reclassification in some sectors, such as the health care sector indicates that this sector is not severely affected by the macro economic conditions, moreover the COVID increased the demand on its services, and hence, management is not incentivised to manage the reported CF. This argument is further supported by the lack of reliance on CF shifting strategies in some sectors such as consumer cyclical as the demand on the products of that sector is always high regardless of the status of the economy.

4.4.2. *Impact of Leverage*

To test H4, Table 7 reports the regression findings of models 3 and 4 applying to the whole sample. The regression outcomes of model 3 demonstrate highly leveraged companies to be more likely to reclassify CF for the purpose of overstating operating CF. The adjusted R^2 value is 62%, demonstrating the ability of model 3 to explain 62% of the variation in unexpected cash flows. The coefficients of LV* INO (λ_{10} = 1.83, p < 0.05) and LV* FIO (λ_8 = 1.58, p < 0.05) are positively and significantly associated with UE_OCF at the 0.01 significance level. This finding does not support H4a, as the analysis reveals that managers

of highly leveraged companies are more likely to reclassify operating cash out-flows as either investing or financing cash out-flows. Similarly, the results reveal that the coefficients of LV* INI ($\lambda_9 = -1.45$, $p < 0.05$) and LV*FIN ($\lambda_7 = -2.10$, $p < 0.05$) are negatively related to UE_OCF at a statistically significant level of 0.01. This also does not lend support to H4b as evidence generated from our analysis indicates that managers of highly leveraged companies are motivated to shift cash in-flows from investing and financing activities to the operating activities section to inflate operating CF.

In conclusion, the evidence provided by running the regression models sheds light on the role of company leverage as a major motive for company management to abuse the CF classification flexibility granted by the EAS 4 for the purpose of overstating operating CF. The findings support those of Nagar and Sen (2014), suggesting that companies suffering from financial difficulties are motivated to manipulate operating CF. The findings also support those of Kretzmann et al. (2015), Gordon et al. (2017), and Maciel et al. (2019), which claim that highly leveraged companies use CF reclassification strategies to inflate their operating CF reported in the cash flows statement. These findings further confirm the notions of the accounting choices theory by showing how management in highly leveraged companies conceals such unfavourable status by choosing the classification option that inflates the reported operating CF. This is further supported by Charitou et al. (2018), who claim that the reclassification motives become stronger in companies with risky financial status that threaten compliance with debt covenant conditions.

Table 7 demonstrates model 4 regression results, considering the control variables. The findings confirm those generated from running model 3. The coefficients of LV* INO and LV* FIO show positive signs, while the coefficients of LV* INI and LV* FIN show negative ones. This further supports the above conclusion that opposite to H4 expectations, analysis shows that highly leveraged Egyptian companies are more likely to reclassify CF for the purpose of overstating operating CF.

With respect to the study control variables, the findings demonstrate the presence of a significant positive association of

UE_OCF with DAC ($\lambda_{11} = 6.38$, $p < 0.05$). Hence, supports the findings of (Zhang, 2006).This highlights the possibility of abusing of EAS 4 CF classification flexibility by company management to conceal management of company accruals, or as an alternative manipulation technique to accruals management. Regarding company profitability, the results reveal that there is a significant negative association between UE_OCF and ROE ($\lambda_{12} = -0.353$, $p < 0.05$). Hence, this supports the findings of Kretzmann et al. (2015), Maciel et al. (2019), and Chiang et al. (2021). We can infer that companies with lower ability to generate profit may employ CF reclassification to overstate operating CF, as opposed to companies generating higher profits. Regarding company age, results demonstrate a significant negative association of UE_OCF with Age ($\lambda_{13} = -0.02$, $p < 0.05$). Hence, supports the findings of (Bansal, 2021). Accordingly, we conclude that younger companies have a higher tendency to engage in CF classification shifting. This may be attributed to their need to build a favourable image of their company in the market. Regarding company's stock return volatility, the results reveal that there is a significant positive association between UE_OCF and Volatility ($\lambda_{11} = 2.44$, $p < 0.05$). This implies that management in companies with high stock return volatility has a greater tendency to EAS 4 flexibility to practice CF management as a way to mitigate stock price fluctuations and meet market expectations. For the information asymmetry, free float is used to measure the extent of information asymmetry between managers and shareholders. The results show a significant negative association between UE_OCF and Float ($\lambda_{15} = -2.554$, $p < 0.05$). Hence, supports that of Kretzmann et al. (2015).This induces that companies with a high level of free-float, are not likely to engage in CF reclassification practices due to improved monitoring that mitigate management manipulation opportunities. Finally, regarding board size, similar to Usman et al.(2022), results show a significant negative relationship between UE_OCF and BSIZE ($\lambda_{16} = -0.603$, $p < 0.05$). This emphasises that having a reasonable number of directors sitting on boards helps in improving Egyptian companies reporting quality due to enhanced monitoring. This in turn is likely to limit management opportunities to engage in CF classification shifting practices.

Table 7. Panels Corrected Standard Errors (PCSE) Regression Model

Dependent Variable = UE_O.CF	Model 2	Model 3	Model 4
INI	-1.89*** (0.274)	-1.40*** (0.304)	-1.46*** (0.355)
INO	1.95*** (0.280)	1.75*** (0.214)	1.72*** (0.250)
FIN	-8.01*** (0.280)	-2.44*** (0.177)	-2.26*** (0.155)
FIO	7.10*** (0.389)	2.07*** (0.205)	1.95*** (0.194)
LV	---	0.24 (0.157)	0.20 (0.170)
LV* INI	---	-1.45*** (0.507)	-1.69*** (0.440)
LV* INO	---	1.83*** (0.328)	1.90*** (0.367)
LV* FIN	---	-2.10*** (0.197)	-2.23*** (0.178)
LV* FIO	---	1.58*** (0.279)	1.63*** (0.254)
DAC	---		6.38** (2.724)
ROE	---		-0.35*** (0.096)
Age	---		-0.02** (0.010)
Volatility	---		2.44*** (0.714)
Float	---		-2.55*** (0.831)
Bsize	---		-0.60*** (0.080)
C	0.27 (1.475)	1.64* (0.872)	-1.46 (1.254)
Year fixed effect	Included	Included	Included
Sector fixed effect	Included	Included	Included
Adjusted R-squared	61%	62%	63%
Observations	984	984	984
Hausman test χ^2	81.54***	102.96***	109.97***
likelihood ratio F-test	3.23***	2.88***	2.82***
Breusch-Pagan LM	132.03***	101.63***	93.57***
Model	FM	FM	FM

*; ** and *** represent statistical significance at the 0.1,0.05 and 0.01 levels in a two-tailed test. Panel corrected standard errors are reported in parentheses.

4.5. **Robustness test**

To ensure the robustness of our findings, additional analyses are carried out to enable further validation of the study results. Following Nagar and Sen (2014), FIO and FIN are replaced by net financing CF (NFCF). Additionally, the INO and INI are replaced by net investing CF (NICF). We examine the shift between operating CF and investing or financing CF without formulating any assumptions relating to the direction of cash out-flows or cash in-flows. Accordingly, the econometric model is formulated as follows:

$$UE\_O.CF_{it} = \lambda_1 + \lambda_2 NFCF_{it} + \lambda_3 NICF_{it} + \lambda_4 LV_{it} + \lambda_5(LV_{it} * NFCF_{it}) + \lambda_6(LV_{it} * NICF_{it}) + \lambda_7 ROE_{it} + \lambda_8 AGE_{it} + \lambda_9 Volatility_{it} + \lambda_{10} Float_{it} + \lambda_{11} DAC_{it} + \lambda_{12} Audit_{it} + \lambda_{13} Bsize_{it} + \sum_{j=14}^{18} \lambda_j Sector + \sum_{n=19}^{23} \lambda_n Year + \varepsilon_{it} \quad (5)$$

It is expected that as managers engage in CF reclassification to overstate operating CF, the coefficients for λ_2 and λ_3 will show negative and statistically significant values. Similarly, it is expected that the coefficients for λ_5 and λ_6 will show negative and statistically significant values as management in heavily indebted companies are likely to practice CF shifting.

The findings generated from running Model 5 are displayed in Table A-1 in the study Appendix. Those findings are closely in line with those reported in the primary analyses. The coefficients for λ_2, λ_3, λ_5 and λ_6 are negative and statistically significant. Findings suggest that firm management is likely to abuse the flexibility granted under EAS 4 to reclassify CF between the operating CF section and the financing/investing CF sections, for the purpose of intentionally manipulating operating CF. Accordingly, any reduction in financing or investing cash flows is accompanied by an increase in operating CF. Regarding the influence of leverage, the robustness test confirms the previously acquired conclusion that management in highly leveraged companies is prone to engaging in CF management. Regarding the control variables, the analysis indicates that they are statistically significant, with their coefficients aligning with the finding of the main study analyses.

To further validate the study findings, we employ a one-stage regression technique following Chen et al. (2018), as they refer to the possibility of a two-stage regression to incorporate bias in coefficients. The main study adopts a two-stage regression following Roychowdhury (2006) and McVay (2006) to estimate UE_OCF. Hence, following Chen et al. (2018) , the study further adopts a one-stage regression model as an alternative to models 1, 2, 3, and 4 to rigorously examine the robustness of the findings reported by the primary study. Accordingly, an econometric model is formulated as follows:

$$\frac{O.CF_{it}}{TA_{it-1}} = \beta_1 + \beta_2 \left(\frac{1}{TA_{it-1}}\right) + \beta_3\left(\frac{SA_{it}}{TA_{it-1}}\right) + \beta_4 \left(\frac{\Delta SA_{it}}{TA_{it-1}}\right) + \lambda_2 FIN_{it} + \lambda_3 FIO_{it} +$$
$$\lambda_4 INI_{it} + \lambda_5 INO_{it} + \lambda_6 LV_{it} + \lambda_7(LV_{it} * FIN_{it}) + \lambda_8(LV_{it} * FIO_{it}) + \lambda_9(LV_{it} *$$
$$INI_{it}) + \lambda_{10}(LV_{it} * INO_{it}) + \lambda_{11}DAC_{it} + \lambda_{12}ROE_{it} + \lambda_{13}Age_{it} +$$
$$\lambda_{14}Volatility_{it} + \lambda_{15}Float_{it} + \lambda_{16}Bsize_{it} + \sum_{j=17}^{21} \lambda_j Sector +$$
$$\sum_{n=22}^{26} \lambda_n Year + \varepsilon_{it} \tag{6}$$

Table A-2 in the Appendix demonstrates the findings of Model 6. Those findings emphasise the accuracy of our main study findings, even with alternative specifications being considered. Finally, to double-check if the OLS regression findings are influenced and potentially biassed, the Durbin-Wu-Hausman (DWH) test is used to assess the endogeneity between variables (Davidson and MacKinnon, 1993). Accordingly, this study employs DWH test to assess if the study model suffers from the presence of endogeneity between unexpected operating CF and leverage. The findings of the test confirm that the model employed is not threatened by the endogeneity problem (t = 0.561, p-value = 0.755). Hence, firm leverage is confirmed to be an exogenous variable.

5. Conclusions, limitations, and avenues for future research

The study reveals that management in non-financial companies listed on the EGX inflates operating CF by adopting CF classification strategies (i.e., shifting cash in-flows from investing and financing activities sections to operating activities section, and shifting cash out-flows from operating activities section to investing and financing sections). The findings also show that several motives influence such discretionary behaviour. The analyses provide evidence that the extent of CF reclassification differs across sectors, implying the presence of sector-specific drivers. Additionally, managers of highly leveraged companies are more likely to manipulate the operating CF. The level of unexpected CF increases in companies that manipulate earnings through the management of accruals, are less profitable, young, and have high levels of information asymmetry. However, unexpected CF is more controllable in companies with more members sitting on boards, as larger boards are likely to have more independent members, and to include members with financial qualification. Study results are further

confirmed through robustness checks. The study findings are in line with the accounting choices theory, as managers in Egyptian companies seem to intentionally classify CF as operating or non-operating based on some incentives. Hence, this conclusion adds to the theoretical and scientific contribution of this study, as it confirms the validity and reliability of the accounting choices theory in a new context. This also adds to the exogenous validity of the findings of the current study, given that EAS 4 is in compliance with IAS 7. Then, in line with the results of prior research applying to other contexts (e.g., Kretzmann et al., 2015 applying to Germany; Baik et al., 2016 applying to Korea; Gordon et al., 2017 applying to 13 European countries, Charitou et al., 2018 applying to the UK; Sousa et al., 2019 and Maciel et al., 2020 applying to Brazil), we induce that the harm consequences of CF classification flexibility on the comparability of financial statements information, seem to be common among many IFRS adopters.

The study findings have valuable implications for standard setters, regulators, and financial statement users. Standards setters need to reassess the pros and cons of the flexibility offered to non-financial companies under EAS 4 (IAS 7), and its impact on the quality of accounting reports and their comparability. The findings urge rethinking about revising EAS 4 (IAS 7) as abusing the flexibility granted under EAS 4 (IAS 7) for CF manipulation purposes can mislead financial statement users' decisions. Regulators must consider the negative effects of CF management on the reputation of the Egyptian market, which is striving to gain the trust of foreign investors. The Financial Regulatory Authority needs to enforce more stringent monitoring over non-financial companies to diminish management opportunities to manipulate CF subtotals. Identifying the factors that influence management CF classification choices can help financial statement users, such as investors, creditors, and financial analysts, consider the possibility of such information being intentionally deceived by management. Hence, they need to verify subtotals in the different sections of the statement of cash flows to make sure management is not abusing the accounting standard flexibility to mislead the financial analysis and risk assessment by financial statement users.

Based on the study findings, we recommend carrying out the same research applying to other capital markets in the region, such as those in the Gulf States, and comparing the findings. The current study investigates the association between several incentives, mainly sector and leverage, and CF reclassification for the purpose of overstating operating CF, hence, future research can examine the impact of other motives not incorporated in our model. In particular, we recommend investigating the impact of audit committee characteristics and the quality of internal and external audits on CF management practices. Further analysis to identify industry-specific factors that influence management reclassification decisions in different contexts seems justified. We also recommend investigating the impact of ownership structures such as institutional ownership, foreign ownership, managerial ownership, and governmental ownership. It will also be of interest to investigate whether income statement classification shifting is a substitute or a complement to cash flows classification shifting. Future research can also investigate the consequences of cash flows shifting on corporate performance or stock price.

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Appendix

Table A-1 Regressions analysis using net investing and financing cash flows

Dependent Variable = UE_OCF	Model 5
NFCF	-0.024*** (0.002)
NICF	-0.015*** (0.002)
LV	0.668 (0.073)
LV* NFCF	-0.020*** (0.001)
LV* NICF	-0.018*** (0.002)
DAC	1.051*** (0.198)
ROE	-0.319*** (0.079)
Age	-0.068** (0.012)
Volatility	3.988*** (0.605)
Float	-2.207*** (0.713)
BSIZE	-0.547*** (0.162)
C	0.315*** (0.054)
Year fixed effect	Included
Sector fixed effect	Included
Adjusted R-squared	69%
Observations	984
Hausman test χ^2	50.02***
likelihood ratio F-test	2.04***
Breusch-Pagan LM	34.14***
Model	FM

*; ** and *** represent statistical significance at the 0.1,0.05 and 0.01 levels in a two-tailed test. Panel corrected standard errors are reported in parentheses.

Table A-2 One-stage regression analysis

Dependent Variable = OCF	Model 6
1/TA	$0.048^{***}(0.018)$
SA	$0.246(0.671)$
ΔSA	$1.080(1.380)$
INI	$-0.003^{**}(0.001)$
INO	$0.006^{***}(0.001)$
FIN	$-0.005^{***}(0.000)$
FIO	$0.001^{***}(0.000)$
LV	$0.004(0.000)$
LV* INI	$-0.006^{***}(0.003)$
LV* INO	$0.001^{***}(0.000)$
LV* FIN	$-0.008^{***}(0.001)$
LV* FIO	$0.001^{***}(0.000)$
DAC	$0.002(0.001)$
ROE	$0.845(1.110)$
Age	$-0.010^{**}(0.008)$
Volatility	$0.003^{**}(0.001)$
Float	$-0.020^{***}(0.001)$
Bsize	$-0.009(0.005)$
C	$0.081(0.051)$
Year fixed effect	Included
Sector fixed effect	Included
Adjusted R-squared	60%
Observations	984
Hausman test χ^2	190.17^{***}
likelihood ratio F-test	3.65^{***}
Breusch-Pagan LM	131.67^{***}
Model	FM

*; ** and *** represent statistical significance at the 0.1,0.05 and 0.01 levels in a two-tailed test. Panel corrected standard errors are reported in parentheses.