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CONTENTS

The Impact of Surplus Free Cash Flow and Stock Market Segmentations on Earnings Management in Jordan: Agency - and Institutional - Theory Perspectives

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ABSTRACT

The current research aims at providing evidence concerning the influence of surplus free cash flow (SFCF) and stock market segmentations (SMS) on income-increasing earnings management practices in Jordan. The results, based on a sample of all non-financial companies that were listed on the Amman Stock Exchange (ASE) from 2013 to 2017, confirm the research hypotheses. The Huber-White's sandwich standard errors for random-effects regression was used as the primary statistical tool for this study. The findings revealed a significant and positive association between SFCF and income-boosting discretionary accruals (DAC). As well, the results found that SMS was significantly and positively associated with the positive DAC. This research adds value to scholarship by investigating the impact of SMS variable on earnings management. To the best available knowledge, this relationship has not been examined either in Jordan or elsewhere in the world. Further, this is the first empirical attempt to investigate the effect of SFCF on earnings management in Jordan, which provides meaningful information for companies seeking to understand and reduce agency problems within the Jordanian context.

Keywords: *Earnings management; DAC; surplus free cash flow; SFCF; stock market segmentations; SMS; agency theory; institutional theory; Jordan.*

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INTRODUCTION

Accounting system gives the managers control of the selection and offers opportunities for the managers to use the discretion that is contained in that system to determine earnings in the direction of achieving their objectives (Fang, Huang, & Karpoff, 2016). Earnings management reduces the reliability of the reported earnings which in turn masks the real performance of the company (Soliman & Ragab, 2014), distorts earnings quality, and diminishes trust in the financial reports (Saleem, Alifiah, & Tahir, 2016). As a result, shareholders have been losing the trust in the integrity of accounting figures, which led to growing attention to the quality of earnings among researchers (Barkhordar & Tehrani, 2016).

The earnings management phenomenon became a global issue facing the accounting profession and has grown over the past twenty years and continues to be of interest to scholars (Alves, 2012; Hashim, Salleh, & Ariff, 2013). Corporate collapses like; Enron, WorldCom, HIH Insurance, Satyam Computer Services, and Arthur Anderson have strongly indicated that the many of today's companies are engaging in earnings manipulation (Rani, Hussain, & Chand, 2013). In the Jordanian context, several financial corporate scandals like Shamayleh Gate have occurred (Alzoubi, 2018). Indeed, Zureigat, Fadzil, and Ismail (2014) stated that several Jordanian firms had tricked Jordanian banks to obtain around one billion US dollars as credit facilities, which, in turn, had triggered corporate financial collapses in Jordan. Consistent with this notion, some studies (e.g., Abbadi, Hijazi, & Al-Rahahleh, 2016; Al-khabash & Al-Thuneibat, 2008; Al Qallap, 2014; Alqatamin, Aribi, & Arun, 2017; E. Alzoubi, 2016) have documented that the earnings management of the Jordanian companies listed in the Amman Stock Exchange (ASE) was high compared with an acceptable level of discretionary accruals (DAC).

According to ASE (2018), there was a notable drop in the number of listed companies on ASE, which was attributable to the delisting of 37 non-financial companies by virtue of the listing securities directives during the period of 2013-2017. JSC (2018) stated that 28 of these delisted companies had violated the provisions of Securities Law concerning financial reporting practices. Accordingly, these violations indicate that listed companies are unable to provide accurate financial statements to their shareholders, which,

in turn, points out that earnings manipulation is a matter of concern in the Jordanian context.

In Jordan, two potential variables may lead to engaging in earnings management practices. Public shareholding companies are usually monitored for compliance with regulations, and most of these regulations are linked to financial ratios, which results in creating pressure on managers to manipulate the reported earnings (Habbash & Alghamdi, 2015). Indeed, numerous researchers have documented that these regulations create motivations to manage the financial statements (Kassem, 2018; Pereira & Alves, 2017). Consequently, the first variable revolves around the classification of the listed securities in ASE, along with the distinction granted to a particular market. As of October 1, 2012, the board of directors of ASE issued decision number (33/2012), which stated that the price thresholds of the traded stocks increased to ± 7.5% instead of ± 5% of the last traded price, and this advantage only applied to companies listed in the first market. The price threshold for the companies listed in the second and third market remained at ±5% of the last traded price (ASE, 2017). Based on this new regulation, the first market would be more favourable for shareholders because this indicates that companies listed in that market are profitable and reputable as well as they are differentiated in the allowed stock price movements. Accordingly, listed companies might be interested in being listed in the first market due to its privileges and to preserve the competitiveness, through managing their earnings upwardly so they can satisfy the condition of achieving a particular earnings limit. Thus, the purpose of the current research is to investigate the influence of the stock market segmentations (SMS) on income-increasing earnings management for the initial time in scholarship.

The second variable is the free cash flow that Jordanian companies hold. The substantial growth in cash holdings of corporations across the globe has stimulated the interest of scholars (Moez & Amina, 2018; Nguyen & Nguyen, 2018). Management worldwide has increased their cash holdings during the past twenty years considerably. In a 2014 report, Deloitte noted that the top 1000 global non-financial companies were holding $2.8 trillion in cash. These numbers demonstrate that cash holdings are essential to companies and worthy of being examined (Amess, Banerji, & Lampousis, 2015). In particular, Al-Amarneh (2015) reported that Jordanian firms listed on the ASE were holding cash within the global range. Further, T. Alzoubi

(2016) stated that the non-financial companies listed on ASE hold a large volume of cash and cash equivalents, and he concluded that cash is valued at a discount in Jordan, where the free cash flow and agency problems existed among companies listed on the ASE. Thus. In a state of affairs in which a firm has a surplus free cash flow (SFCF) after all profitable projects have been financed, managers may invest the excess cash in unprofitable projects for their benefits, and then they practise earnings manipulation using accounting discretion to cover up the outcome of their insufficient investments (Chung, Firth, & Kim, 2005; Shadmehri, Khansalar, Giannopoulos, & Dasht-Bayaz, 2017). Therefore, this study aims at examining whether companies listed on ASE with high SFCF are engaged in income-increasing earnings management for the first time in Jordan.

Statistically speaking, the models and statistical techniques used in the present research will add to the extension of literature. Most previous research on earnings management have used cross-sectional or time series analysis, but this research utilizes panel data analysis. Specifically, the major studies that have investigated the influence of SFCF on DAC have not employed panel data analysis especially in developing countries (see, Astami, Rusmin, Hartadi, & Evans, 2017; Bhundia, 2012; Bukit & Iskandar, 2009; Cardoso, Martinez, & Teixeira, 2014).

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Earnings management

Earnings management originated when commercial exchanges commenced (Ramírez-Orellana, Martínez-Romero, & Marino-Garrido, 2017). Healy (1985) originated the study of managing earnings by means of the usage of accruals. He concluded that accruals modified the timing of reported earnings. Further, changes in accounting procedures and accrual policies that managers use can be influenced by earnings-based bonus schemes, which managers used to improve their remunerations. Subsequently, studying "accruals" has been become the focus of many scholars (Dechow, Sloan, & Sweeney, 1995; Jones, 1991; Sayari & Omri, 2017).

Franceschetti (2018) noted that finding a clear definition of the term "earnings management" was challenging in the practical literature. According to Ramírez-Orellana et al. (2017), Healy and Wahlen (1999) provided the most widely cited definition of earnings management. They said that "earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers" (p. 368).

With respect to the types of earnings management, Based on their review of the extant literature, Al-khabash and Al-Thuneibat (2008) classified earnings management into several kinds of such management based on different perspectives, including its legitimacy, direction, the effect on cash flow, and management intent. The challenge for scholars is not only unveiling earnings management but also documenting it convincingly. To meet this challenge scholars have to begin with identifying the conditions and causes, which block motivations channels and therefore eliminate earnings manipulation practices (Healy & Wahlen, 1999; Kighir, Omar, & Mohamed, 2013; Toumeh & Yahya, 2019). The literature of earnings management strives to grasp why managers are manipulating earnings (McNichols, 2000).

In this line, research on earnings management motivations is divided into two groups; the first group of researchers (Chen & Sheng, 2013; Hashim et al., 2013; Ming-Chia, 2012) contended that the incentives of earnings management could stem from attitudes and convictions. They have studied three motivations that lead to earnings management from the perspective of behaviour, namely, altruistic motivation (resulted from the intention to benefit the company), speculative motivation (resulted from the intention to obtain personal gain), and pressure from affiliated parties (generated by the desire of meeting external expectation). A second group of researchers (Habbash & Alghamdi, 2015; Rani et al., 2013; Yanqiong, 2011), who followed Healy and Wahlen's (1999) classification scheme, concluded that four types of motivations might induce managers to exercise earnings management. These motivations are capital market motivations, lending contract motivations, management compensation contracts motivations, and regulatory motivations.

Measuring managerial discretion over earnings is an essential factor for detecting earnings management (Dechow et al., 1995; McNichols, 2000) because managers depend on their ability to utilize the applications of discretionary accounting regarding certain accruals to manage earnings (Arkan, 2015). Many previous empirical studies have used discretionary (abnormal) accruals as a proxy to detect earnings management (Chowdhury, Mollah, & Al Farooque, 2018; Dechow et al., 1995; Jones, 1991; Teoh, Welch, & Wong, 1998).

Relationship between Stock Market Segmentations and Earnings Management

The ASE comprises two basic markets: the primary market, in which securities are issued; and the secondary market, in which securities are traded. The secondary market contains three sub-markets: the first, second, and third market. This segmentation is similar to many other countries that have separated their exchange market via various listing requirements. For example, United States (Ward, Yin, & Zeng, 2018), United Kingdom (Khurshed, Kostas, Mohamed, & Saadouni, 2018), Malaysia (Sulong, Gardner, Hussin, Mohd Sanusi, & McGowan, 2013), Singapore (Nguyen, Locke, & Reddy, 2014), Japan (Honjo & Nagaoka, 2018), and China, (Sarkar, 2016).

Chen and Yuan (2004) highlighted that listed firms in China are mandated to follow guidelines for IPOs, right issues, and delisting. Particularly, the China Securities Regulatory Commission (CSRC) requires listed companies to satisfy specific requirements before permitting them to issue additional shares to the existing shareholders. One requirement is to reach a minimum of 10% return on equity (ROE) yearly in the preceding three years. They found that Chinese firms utilized earnings management practices to achieve the accounting threshold value. Haw, Qi, Wu, and Wu (2005) documented that the management of listed Chinese companies employed income-increasing accounting accruals to satisfy regulatory requirements of the stock rights issues. Comparable results were published by previous research such as Yu, Du, and Sun (2006), Yang (2015), and Lento and Yeung (2017).

Jaggi, Chin, Lin, and Lee (2006) indicated that a regulation that the Taiwan Securities and Futures Exchange Commission (TSFEC) issued mandated IPO firms to report annual earnings forecasts for two years before stock rights offerings with a 20% forecast error threshold. The results revealed that the managers of IPO firms manipulate their earnings, so they do not deviate from the predicted earnings. Further, similar results have been found in France (Cormier & Martinez, 2006) and Malaysia (Ismail & Weetman, 2008). Based on a comparative analysis of 571 IPOs of United Kingdom firms listed on Alternative Investment Market and Main Market, Alhadab, Clacher, and Keasey (2016) highlighted that the Main Market of London Stock Exchange requires IPO companies to have a minimum of 75% of their business must report earnings records. The study showed that the regulatory environment in the United Kingdom influenced management accounting choices through both real activities and accruals manipulation. In the Middle East, Makhaiel and Sherer (2017) indicated that the Egyptian regulatory requirements produce pressure on companies that seek to satisfy listing and delisting rules. They found that the Egyptian Stock Exchange regulatory requirements were influential incentives for management to adjust the reported earnings in financial statements upwardly to remain listed in the stock market.

In the Jordanian context, listing requirements of ASE differ depending on whether a company will be listed on the first, second or third market. The first market in which trading takes place in shares of the listed companies has listing requirements as stipulated in regulations. Companies listed in ASE are confronted with specific listing criteria. Under the provisions of "Article (72) of the Securities Law No. 76 of 2002" and the provisions of "Article (24.B.1) of the Internal Bylaw of the ASE of 2004," the requirements of the first market in terms of earnings are the following. The listing of the company's shares is transferred to the first market if a company has net profits before tax for a minimum of two years of the three years before the transfer of listing, provided the company's average net pre-tax profit for the latest three years are at least 5% of the company's paid-in capital. According to decision number 33/2012 of ASE`s board of directors; companies listed in the first market have the privilege of being allowed more flexible stock price thresholds, which is ±7.5% of the last traded price, while other listed companies are allowed with only ±5% of the last traded price (ASE, 2017).

In the same vein, Yanqiong (2011) stated that Chinese firms that have received special treatment (ST) or particular transfer (PT) would lose some of their reputations and competitiveness with other listed firms, and shareholders will view them unfavourably. Also, Zhang et al. (2012) indicated that, when the shares of a listed Chinese firm were labelled with special treatment (ST) status, the trading and financial activities of that firm's shares will be restricted, and it will be not permitted to have more than a 5% of their stock price thresholds in either direction and also they will be prohibited from issuing additional shares. In the same manner, Cheng, Aerts, and Jorissen (2010) and Zhang, Mahenthiran, and He Huang (2012) concluded that loss makers are induced to manipulate their reported earnings using DAC to remove (ST) status. Likewise, the present study assumes that Jordanian companies that are transferred from the first market to the second/third market will suffer from the same issues. Most importantly, those companies will also be allowed with only 5% movement in their daily share prices.

According to institutional theory, earnings management motivations might be derived from the formal or informal pressures that may lead a company to make changes to shape itself compared to other companies (Habbash & Alghamdi, 2015). In this theory, requiring listed companies to reach a particular earnings limit is called coercive pressure, and this pressure may push the managers to use income-boosting earnings management to achieve legitimacy. Further, the institutional theory argues the mimetic pressures, which means that when companies fail to achieve the required earnings; they may manipulate their earnings to preserve competitiveness with their peers so they can be more reputable and favourable to their shareholders (Makhaiel & Sherer, 2017).

In view of the foregoing, the study assumes that companies listed in the other markets (second and third markets) are induced to obtain the 5% average net pre-tax profit of its paid-in capital in order to boost their ranking to the first market. In conclusion, this process may lead to incentivizing the managers of companies listed on the ASE to opt income-increasing earnings management practices. Therefore, the present study adds to the extant literature by formulating SMS as an independent variable in the research model, and hence develops the following hypothesis:

Hypothesis 1: Stock market segmentation is positively related to income-increasing discretionary accruals.

Relationship between surplus free cash flow and earnings management

Jensen and Meckling (1976) proposed influential work in introducing a theory of the firm based upon the conflicts of interest between shareholders and corporate managers. Subsequently, Jensen (1986) developed the agency cost of free cash flow. He defined free cash flow as a "cash flow in excess of that required funding all projects that have positive net present values when discounted at the relevant cost of capital" (p. 323).

Cash holding is significant because it supplies companies with liquidity and the opportunity to grow their sales (Al-Amarneh, 2013). As well, free cash flow is also considered a significant resource for companies to maximize shareholders value (Shadmehri et al., 2017). Often, cash is employed, for example, in increasing dividends, developing new products, maintaining assets, reducing company's debt, buying back stocks, or acquiring other companies (Alnawaiseh, Alomari, Al-Rawashdeh, and Alnawaiseh, 2017). Conversely, management may tend to hold the surplus cash flow under their control to preserve their power (Mansourlakoraj & Sepasi, 2015).

Agency theory posits that if managers and shareholders goals are not aligned, then managers are stimulated to invest free cash flow in projects at less than the cost of capital or waste the free cost flow on organizational inefficiencies (Habib, 2011; Jensen, 1986). In the absence of appropriate investment opportunities and presence of low-growth opportunities (Chung et al., 2005; Lehn & Poulsen, 1989), an over-investment is likely to arise (Nekhili, Amar, Chtioui, & Lakhal, 2016). Cheng and Wang (2014) and Wang, Zhu, and Hoffmire (2015) stated that firms with overinvestment activities have an increased probability of agency problem. In fact, if free cash flow is not utilized in the way to maximize the interest of shareholders, then the agency problem will exist (Fakhroni, Ghozali, Harto, & Yuyetta, 2018).

Scholars have been investigated the earnings management practices in the situation of SFCF. For example, a research conducted by Jones and Sharma (2001) documented a positive relationship between free cash flow and earnings management in companies that were listed on the Australian

Securities Exchange. Using a large sample of 22,576 firm-year observations for companies listed in USA during 1984 and 1996, Chung et al. (2005) examined the relationship between SFCF and DAC. They reported that management used their discretion in choosing income-boosting DAC to hide the negative effects that resulted from their insufficient investments in negative NPV projects. Previous research by Bhundia (2012) (for India), Barkhordar and Tehrani (2016) (for Iran), Cardoso et al. (2014) (for Brazil), Bukit and Nasution (2015) (for Indonesia) have also found that the SFCF situation leads managers to engage in upward earnings management to obscure the consequences of their poor investments.

Low growth companies are more likely to invest their free cash flow in unprofitable projects (Jensen, 1986). This will lead to non-wealth-maximizing activities, which will be reflected on company performance (Yaari, Nikiforov, Kahya, & Shachmurove, 2016), and these inefficient investments may lead to fire managers and a decline in the reported earnings (Bukit & Iskandar, 2009). Hence, management may seek to mask these negative consequences by employing accounting discretion and accounting procedures (Chung et al., 2005). Strictly speaking, managers of low growth companies may utilize income-boosting earnings management to hide the real picture and provide better performance of a firm (Bhundia, 2012; Shadmehri et al., 2017). Using this argument, this research posits the following hypothesis:

Hypothesis 2: Surplus free cash flow is positively related to income-increasing discretionary accruals.

METHODOLOGY

Sample data and population

The number of listed companies on the ASE in 2017 was 194 listed companies, and they were categorized under two main sectors; financial and non-financial sectors, where the later includes two categories of industries (services and industrial). All companies in the financial sector are eliminated from the study for three reasons. First, this sector has a different working capital structure (Abed, Al-Attar, & Suwaidan, 2012).

Second, financial institutions have unique financial statements that contain different components from those in the non-financial sector (Soliman & Ragab, 2014). Third, companies that are categorized under this sector are administered by different regulatory requirements (Noor, Sanusia, Heang, Iskandar, & Isa, 2015), which, in turn, may unduly affect the DAC (Rusmin, Astami, & Hartadi, 2014).

The study selects all non-financial companies listed on the ASE, considering that the financial reports of the selected companies must be available on the website and cover the period of 2013-2017. The non-financial sector included 95 companies drawn from 18 different types of industries as they existed in the ASE website in December 2017.

The period of the study spanned from 2013 until 2017, since the announcement of the decision number (33/2012) of the board of directors of the ASE that promulgated the directives of the new market segmentations and stock price thresholds for the listed companies in ASE was released specifically on 30-09-2012. So, the time frame should not start before the year of 2013.

The data of this study were considered as a balanced panel data, in which the observations for each entity is the same. All the needed data in this study came from secondary data sources. Data related to earnings management, SFCF, and the control variables were gathered manually from the annual reports of the non-financial listed companies on the ASE. The data for measuring SMS variable were obtained from the ASE website which can be accessible at https://www.ase.com.jo/en.

Proxy for Earnings Management, Stock Market Segmentations, and Surplus Free Cash Flow

Earnings can be managed by using different means like DAC, that is a component of the total accruals, where it is used to capture the earnings management (Jones, 1991). To estimate the DAC, total accruals should be firstly calculated. Then, a specific model generates the nondiscretionary component of total accruals that leads to separate the two components of total accruals; discretionary and non-discretionary accruals of the reported earnings. The later reflects the non-manipulated accounting accruals items

because they are out of managers` control and they are expected to change with firms` underlying business activities (Dechow et al., 1995).

The modified Jones model (Dechow et al., 1995) is viewed as the most powerful model to detect earnings management (Islam, Ali, & Ahmad, 2011), and it has been used by the majority of previous researchers (Abed et al., 2012; Bukit & Iskandar, 2009; Chung et al., 2005; Litt, Sharma, & Sharma, 2013; Rusmin et al., 2014). Sekaran and Bougie (2016) recommend that when a particular variable has many measures, it is better to use the most frequent measure in the literature. Thus, this study employed cross-sectional modified Jones model to gauge the DAC as a proxy for earnings management.

There are two approaches to calculate the total accruals; balance sheet and cash flow statements. The later calculates total accruals as the difference between net income and cash flows from operating activities. However, the study used the balance sheet approach over the cash flows approach because the later excludes the accruals associated to the initial capitalization of property plant and equipment, which in turn makes it biased and incomplete (Larson, Sloan, & Zha Giedt, 2018).

As stated earlier, total accruals should firstly be calculated as a starting point. The study calculates total accruals using the balance sheet approach as the following:

$$TAC = \Delta CA - \Delta Cash - \Delta CL + \Delta DCL - DEP \quad (1)$$

Where:

TAC = Total accruals in year t,
ΔCA = Change in current assets in year t,
ΔCash = Change in cash and cash equivalents in year t,
ΔCL = Change in current liabilities in year t,
ΔDCL = Change in short term debt included in current liabilities in year t,
DEP = Depreciation and amortization expense in year t.

Second, the cross-sectional modified Jones model with constant for every industry is defined below to estimate the non-discretionary accruals:

$$\frac{\mathrm{TAC_t}}{\mathrm{TA_{t-1}}} = \alpha_0 + \alpha_1 \frac{1}{\mathrm{TA_{t-1}}} + \alpha_2 \frac{(\Delta\mathrm{REV_t} - \Delta\mathrm{REC_t})}{\mathrm{TA_{t-1}}} + \alpha_3 \frac{\mathrm{PP\&E_t}}{\mathrm{TA_{t-1}}} + \varepsilon_t \quad (2)$$

Where:

TAC_t = Total accruals in year t divided by the lagged total assets,
TA_{t-1} = The Lagged Total Assets,
α_0 = A Constant,
ΔREV_t = Change in Revenues,
ΔREC_t = Change in Accounts Receivables,
$PP\&E_t$ = Gross of property plant and equipment,
ε_t = Residuals.

As shown above, each variable included in the model was standardized by the book value of total assets in order to mitigate heteroscedasticity. Also, the constant term was added to the model as Kothari, Leone, and Wasley (2005) recommended to alleviate the misspecification problems that the heteroscedasticity issue caused as they dicovered that the notion that a constant enhances the power of the model.

Third, after estimating alphas (α_1, α_2 and α_3) in the second equation, the non-discretionary accruals will be estimated as below:

$$\frac{\mathrm{NDAC_t}}{\mathrm{A_{t-1}}} = \hat{\alpha}_1 \frac{1}{\mathrm{A_{t-1}}} + \hat{\alpha}_2 \frac{(\Delta\mathrm{REV_t} - \Delta\mathrm{REC_t})}{\mathrm{A_{t-1}}} + \hat{\alpha}_3 \frac{\mathrm{PP\&E_t}}{\mathrm{A_{t-1}}} \quad (3)$$

Where:

NDAC = Non-discretionary accruals divided by the lagged total assets.

Finally, discretionary accruals will be calculated as the following:

$$DAC_t = TAC_t - NDAC_t \quad (4)$$

The SMS variable in this study is a dummy variable and takes 1 if a company is listed in other markets (second and third market), and 0 if a company is listed in the first market. The study included the second and third market as other markets for three reasons. First, both markets have no listing requirements in respect of earnings. Second, both markets have the same stock price thresholds (±5 %). Third, on 16th of April 2017 the third market was cancelled by the provisions of Article (29) of the Listing Directives for the year 2016.

So far, no unanimity exists among the scholars on how to measure free cash flow (Bhandari & Adams, 2017). It can be noted that most of the researchers who examined the effect of SFCF on earnings management have adopted the Lehn and Poulsen (1989) model to measure free cash flow (Bhundia, 2012; Bukit & Iskandar, 2009; Cardoso et al., 2014). Following these empirical studies, the current study measures free cash flow by deducting expenses like tax expense, interest expense, and dividends on ordinary and preferred shares from operating income before depreciation, standardized by dividing it with total assets as in the following formula:

$$FCF_{it} = \frac{(INC_{it} - TAX_{it} - INTEXP_{it} - PSDIV_{it} - CSDIV_{it})}{TA_{it-1}}$$

Where:

FCF_{it} : is free cash flow of company (i) at year (t)
INC_{it} : is operating income before depreciation of company (i) at year (t)
TAX_{it} : is income tax of company (i) at year (t)
$INTEXP_{it}$: is interest expense of company (i) at year (t)
$PSDIV_{it}$: is a preferred dividend of company (i) at year (t)
$CSDIV_{it}$: is the total amount of ordinary dividends of company (i) at year (t)
TA_{it-1} : is total assets book value for company (i) at year t-1.

In the scholarship, the free cash flow problem is commonly aligned with low growth opportunities (Jensen, 1986; Lehn & Poulsen, 1989). Companies with low growth opportunities and high free cash flow are more likely to invest in negative NPV projects that only maximize the wealth of

managers while ignoring the interests of shareholders (Habib, 2011; Nouri & Gilaninia, 2017). In this way, the current study determines SFCF situation by employing two proxies, which are the free cash flow and the growth opportunities of the firm identified by price to book ratio (Shadmehri et al., 2017). The SFCF is a dummy variable and takes 1 if the free cash flow of the companies is above the sample median for the year and the price to book ratio is below the sample median for the year; otherwise, SFCF takes 0.

Control variable proxies

This research includes a number of control variables in order to reduce their confounding effects. Prior researchers have stressed that large companies tend to reduce their results by using accounting methods (Nekhili et al., 2016). Company size (CSIZE) is measured using the natural logarithm of the company`s total assets (Fakhroni et al., 2018; Jones & Sharma, 2001). Agency theory assumes that dividends will reduce the agency problem of free cash flow. Paying dividends to shareholders in the situation of excess cash flow may constrain the overinvestments that management makes in NPV projects (Jensen, 1986). Following the empirical work of Nekhili et al. (2016) and Noor et al. (2015), the current study computes the dividend yield (DIYD) by dividing the dividend per share on the market value per share. The return on assets (ROA) is considered to be an indicator for the company`s performance, which is included as a control variable in this study. Nekhili et al. (2016) stated that growing performance results in increasing the cash flow, and Fakhroni et al. (2018) supported this argument. Thus, ROA is calculated in this study as net income scaled by total assets (Al Qallap, 2014; Alzoubi, 2018; Nawaiseh, 2016). According to Becker, DeFond, Jiambalvo, and Subramanyam (1998), the association between absolute value of total accruals (ATAC) and earnings management is significantly negative. The study includes ATAC as a control variable measured as absolute value of total accruals divided by lagged total assets (Bukit & Iskandar, 2009). Finally, the influence of the industry type (IDUS) is controlled in this study, where it is a dummy variable coded as 1 if a listed company is under the industrial sector, and 0 if the listed company is under the service sector (Alhadab, 2018).

Data Analysis

The study employs panel data analysis. Panel data has many advantages compared to purely cross-sectional or purely time-series data because it provides much informative data, further variability, minor collinearity across the variables, more efficiency, and more degree of freedom (Baltagi, 2008). The Regression analysis technique is utilized to investigate the relationships between the variables of the study. Initial steps were taken before regression analysis. First, the Hausman, Wald, and Breusch-Pagan Lagrange multiplier tests were used to choose the most appropriate estimation method. Then, the assumptions of panel data were diagnosed for multicollinearity, heteroscedasticity, serial correlation, and panel unit root. Subsequently, the random-effects model or error components model was run, and it is defined in the following equations:

$$DAC_{it} = \beta_1 + \beta_2 SMS_{it} + \beta_3 SFCF_{it} + \beta_4 CSIZE_{it} + \beta_5 DIYD_{it} + \beta_6 ROA_{it} + \beta_7 ATAC_{it} + \beta_8 IDUS_{it} + \varepsilon_i + u_{it}$$

Where:

DAC = Discretionary Accounting Accruals
SMS = Stock Market Segmentations
SFCF = Surplus Free Cash Flow
CSIZE = Company Size
DIYD = Dividend Yield
ROA = Return on Assets
ATAC = Absolute Value of Total Accruals
IDUS = Industry
ε_i = Error component
u_{it} = Combined time series and cross-section error component

FINDINGS AND DISCUSSION

Descriptive Statistics

This section shows the descriptive statistics through reporting the mean, median, standard deviation, minimum, maximum, frequency, and percentage values. In Table 1, summary statistics of the sample for both continuous and dichotomous variables are provided. Panel A of Table 1 shows that the mean of the DAC was -0.021 and varied from -0.579 to 0.567, which implies that on average, the sample companies engaged in earnings management downwardly. This is consistent with previous studies in Jordan (Alhadab, 2018; Azzoz, Abdel, & Khamees, 2016). The value of the CSIZE variable ranged from 12.677 to 21.310 with an average of 17.196, which is similar to the Jordanian research of Abbadi et al. (2016), who found that a mean of the company size was 17.034 with a minimum value of 13.060 and a maximum value of 21.292.

The DIYD had a minimum value of 0.000, which means that some companies did not pay dividends, the average of DIYD was 2.708, which is consistent with Nekhili et al. (2016) who reported an average of dividend yield of 2.780 among French companies. The mean of ROA was 1.818, which explains how efficient management is employing a firm`s assets in order to make a profit. A lower average was reported by Fakhroni et al. (2018), which was 0.485. Finally, the mean of ATAC was 0.090 with a minimum and maximum value of 0.000 and 2.751, respectively.

Panel B presents the descriptive data of the dichotomous variables. 40.42 % of the observations were listed in the first market, and 59.58 % of them were listed in the other markets (second & third market). This finding indicats that much effort from the companies is needed to be listed in the first market, and this may be attributed to the earnings condition set by ASE. Approximately, 20% of the observations were categorized as having the potential for the SFCF agency problem, which is harmonious with the percentage reported by Chung et al. (2005) of 19% for listed US firms, and Astami et al. (2017) of 24% for companies listed in 9 countries in the Asia-Pacific region.

Table 1: Descriptive statistics of all variables

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
Panel A: Continuous variables					
DAC	-0.021	-0.018	0.110	-0.579	0.567
CSIZE	17.196	17.180	1.455	12.677	21.310
DIYD	2.708	0.000	3.194	0.000	11.628
ROA	1.818	2.964	13.386	-195.296	38.668
ATAC	0.090	0.058	0.163	0.000	2.751
Panel B: Dichotomous Variables					
		Frequency		**Percentage**	
SMS					
Other markets		192		40.42 %	
First Market		283		59.58 %	
SFCF					
Low SFCF		379		79.79 %	
High SFCF		96		20.21 %	
IDUS					
Service Sector		230		48.42 %	
Industrial Sector		245		51.58%	

Correlation Analysis

This section presents the Pearson correlation analysis which was used to reveal the size and direction of bivariate correlation among all the variables. As shown in Table 2, the correlation coefficients between the variables ranged from to -0.500 to 0.394, in which the highest correlation was between DIYD and SMS. As expected, the independent variables SMS and SFCF were positivity correlated with DAC at the 5% and 1% significance level, respectively. With respect to the control variables, CSIZE had a negative relationship with DAC at the 5% significance level, and the ROA had a positive association with earnings management also at the 5% significance level. None of the other control variables was highly correlated with DAC.

On the other hand, Pearson correlation analysis is able to reveal the multicollinearity problems. Based on prior literature, the threshold of ± 0.80 correlation coefficient between two regressors indicates for possible

multicollinearity (Gujarati & Porter, 2009). In this case, as shown in Table 2, all the correlation coefficients among the independent variables are less than the ± 0.80 threshold, which means that the multicollinearity was not a serious issue in interpreting the results of the regression model.

Table 2: Bivariate Pearson correlation between variables

Variables	DAC	SMS	SFCF	CSIZE	DIYD	ROA	ATAC	IDUS
DAC	1							
SMS	0.109 *	1						
SFCF	0.173**	0.105*	1					
CSIZE	-0.107*	-0.390**	0.015	1				
DIYD	0.023	-0.500**	0.110*	0.206**	1			
ROA	0.104*	-0.312**	0.056	0.290**	0.394**	1		
ATAC	-0.020	-0.013	-0.059	0.083	0.016	-0.117*	1	
IDUS	-0.069	0.086	0.026	-0.161**	-0.084	-0.062	-0.002	1

* significance level at P 0.05, and ** Significance level at P 0.01

Univariate Analysis

It is recommended to check the assumption of homogeneity of variance by conducting the Levene's test for equality of variances prior to the t-test of independent samples (Pallant, 2013). Thus, the Levene's test was performed for the variables SMS and SFCF to see whether the variation of scores for the two groups was the same or not. As reported in Table 3, the significance level of the Leven`s test was larger than the cut-off of 0.05 for the variables SMS and SFCF with F (191, 282) = 1.090, F (378, 95) = 0.868, respectively. This result means that the assumption of equal variances was not been violated, and, thus, the independent samples t-test with equal variance was selected for those variables.

Table 3: Leven`s tests for equality of variance

Variable	F value	p
SMS	1.090	0.512
SFCF	0.868	0.361

Table 4 provides the findings of the t-test of independent samples for differences in DAC between sub-samples on the basis of SMS and SFCF. Panel A illustrates that the mean of earnings management of the sub-sample under the other markets (second & third markets) was significantly larger than those companies under the first market at the 0.05 level. This result is in alignment with the first hypotheses, which suggests that companies listed in the second or third markets are more apt to engage in income-increasing earnings management to meet the earnings condition of the first market. In panel B, the sampled companies with high SFCF had a higher mean of DAC than those with low SFCF, where these differences were at the 0.01 significance level. As expected, managers with a high SFCF situation tend to manage reported earnings upwardly, which aligns with the second hypothesis.

Table 4: Univariate test differences in DAC between sub-samples

Panel A: SMS Sub-Samples – First Market (SMS = 0) and Other Markets (SMS = 1)					
	First Market (SMS = 0)	**Other Markets (SMS = 1)**	**Mean Difference**	**t**	**p**
Mean of DAC	-0.035	-0.011	-0.024	-2.382	0.018
Observations	192	283			
Panel B: SFCF Sub-Samples – Low SFCF (SFCF = 0) and High SFCF (SFCF = 1)					
	Low SFCF (SFCF = 0)	**High SFCF (SFCF = 1)**	**Mean Difference**	**t**	**p**
Mean of DAC	-0.030	0.017	-0.047	-3.812	0.000
Observations	379	96			

Multivariate Analysis and Findings Interpretation

Selecting the estimation method

In accordance with panel data analysis, the study utilized the Hausman test, Wald analysis for testing time-fixed effects, and the Lagrange Multiplier (LM) test to choose the most suitable estimation method. The results of Table 5, 6, and 7 show that the random-effects model was superior to the fixed-effects and pooled OLS models for the present study.

Table 5: Hausman Specification Test

Variable	Fixed Coefficients (b)	Random Coefficients (B)	Differences (b-B)	S.E.
SMS	0.044	0.026	0.018	0.019
SFCF	0.046	0.043	0.003	0.013
CSIZE	-0.018	-0.010	-0.009	0.024
DIYD	0.001	0.002	-0.001	0.002
ROA	0.001	0.001	0.000	0.000
ATAC	0.006	-0.001	0.007	0.017
IDUS	Omitted			
	Prob>Chi2	**1.74 (0.942)**		

Table 6: Time-fixed effects test

Wald Test	F value	P Value
	1.26	0.285

Table 7: Breusch-Pagan Lagrangian Multiplier test

	Var	sd = sqrt(Var)
DAC	0.012	0.110
e	0.011	0.103
u	0.001	0.030
Test: Var (u) = 0		
chibar2(01) = 3.37		
Prob> chibar2 = 0.033		

Panel Data Assumptions

Consistent with panel data analysis, there are number of assumptions (no multicollinearity, homoscedasticity, no autocorrelation, and no panel unit root) that must be met prior to performing regression analysis. The section below provides the tests of these assumptions:

Multicollinearity test

Multicollinearity arises when the independent variables in a regression model are highly correlated with each other (Kothari, 2004). As previously discussed in section 4.2, the Pearson correlation analysis revealed that no bivariate correlation among the independent variables exceeded the ± 0.80 thresholds. However, Sekaran and Bougie (2016) indicated that this approach might not be able to effectively detect a multicollinearity problem, especially when complex relationships are present among several

explanatory variables. Thus, Sekaran and Bougie (2016) recommended employing the variance inflation factor (VIF) and tolerance (1/VIF) indicators, in which multicollinearity is present if the VIF is more than 10 and the tolerance value is less than 0.10.

Table 8: Multicollinearity Test

Variable	Variance Inflation Factor (VIF)	Tolerance Value (1/VIF)
SMS	1.58	0.634
SFCF	1.06	0.946
CSIZE	1.26	0.793
DIYD	1.51	0.661
ROA	1.28	0.782
ATAC	1.03	0.973
IDUS	1.03	0.970
Mean VIF	1.25	

The outcome as in Table 8 shows that the maximum VIF among the variables was 1.58 which is not greater than 10, and the minimum value of the tolerance was 0.634 which is well above the cut-off value of 0.10. As a result, all the variables are in the acceptable range, concluding that the multicollinearity assumption was not violated.

Heteroscedasticity test

The assumption related to homoscedasticity means that the variance of the predictor variables around the regression function is similar (Stockemer, 2018). Three tests have been used to detect heteroscedasticity. Under these tests, the null hypothesis is that the error variances are all constant assuming homoscedasticity. As illustrated in Table 9, according to White`s and modified Wald tests, the null hypothesis of homoscedasticity was rejected, indicating the presence of heteroscedasticity. In contrast, the Breusch-Pagan/ Cook-Weisberg test shows a contradictory result because the probability was more than 0.05, leading to the conclusion that the data are homoscedastic. In this case, Greene (2007) explains that the Breusch-Pagan has less power when the errors are not normally distributed, where it works well for the linear forms of heteroscedasticity. White`s test is more generic and could be carried out without making any specific assumptions about the nature of heteroscedasticity.

Table 9: Heteroscedasticity tests

Tests	Chi-Square (2)	df	p
Breusch-Pagan / Cook-Weisberg Test	0.38	1	0.540
White`s Test	190.24	32	0.000
Modified Wald Test for Groupwise Heteroscedasticity	4.8e+05	95	0.000

However, the White`s test result as in Table 9 shows that the data suffer from the heteroscedasticity problem, where it confirms the result of the modified Wald test. Figure 1 provides further evidence that the residuals show a pattern against the fitted values, implying heteroscedasticity.

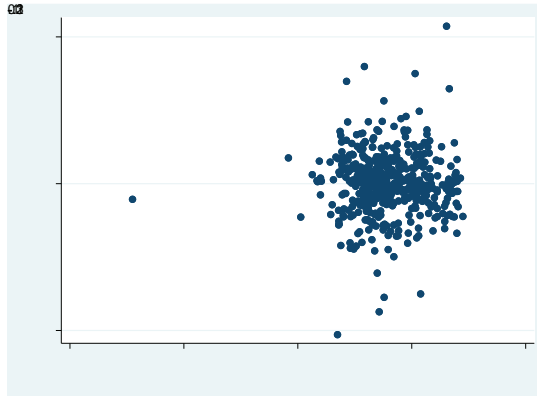

Figure 1: Residuals versus fitted values

Accordingly, the current study assumes that the data is heteroscedastic; thus, the robust standard errors for random-effects regression was used to solve the issue of heteroscedasticity.

Autocorrelation test

One of the most important panel data assumptions is that the error terms should be uncorrelated and independently distributed; otherwise, a serial correlation problem is present (Field, 2013). An autocorrelation problem in panel data leads to obtaining biased standard errors and less efficient results (Drukker, 2003). Accordingly, the study used the Wooldridge test for autocorrelation in panel data, in which the null hypothesis is that there is no first-order autocorrelation. As shown in Table 10, the p value

was 0.454, which means that the null hypothesis cannot be rejected and concludes that the assumption of no serial correlation was not violated.

Table 10: Autocorrelation test

	F	df	p
Wooldridge Test for Autocorrelation in Panel Data	0.319	1,94	0.573

Panel unit root test

Panel data econometrics focus mainly on the non-stationarity of the macro panels with large observations (N) and large length of the time series (T) more than the micro panels with large N and small T (Baltagi, 2008). Further, if a panel has a small time-series dimension (T) and large cross-section dimension (N), then conducting the usual panel data procedures is recommended (Levin, Lin, & Chu, 2002). Actually, for large time-series dimension (T); panel root tests enjoy with a high power, while for small time-series dimension (T), these tests have low power and a potential risk of assuming that the entire panel is non-stationary although when the panel has a large proportion of stationary series (Karlsson & Löthgren, 2000).

Several panel root tests are available with various characteristics and assumptions. According to Baltagi (2008), both the Levin-Lin-Chu and Im-Pesaran-Shin tests are suitable for macro panels (N=10- 250, and T=5-25), but they have size distortions and low power for micro panels when N is large relative to T, which was the case in the current research (N = 475, T= 5). Moreover, Maddala and Wu (1999) found that the Fisher-type test suffers from size distortions for a large N. In conclusion, the asymptotic properties of the tests mentioned above assume that T trends to infinity, which could lead to erroneous inference when the panel data is micro. However, Hlouskova and Wagner (2006) and Baltagi (2008) highlighted that the Harris-Tzavalis test is suitable for the micro panel with a small T.

Based on the above argument, the Harris-Tzavalis test was used for panel roots diagnostics, where the null hypothesis is that the panels contain unit roots. In Table 11, the p-value for the all main variables was above the significance level, concluding that the panels are stationery at the 0.01 level.

Table 11: Panel unit root test (Harris-Tzavalis)

Variables	Statistic	p
DAC	-0.241	0.000
SMS	0.264	0.000
SFCF	0.019	0.000

Outliers and normality

In the current research, outliers were intentionally not removed because observations with extreme values of DAC may comprise management discretion. Eliminating either the highest positive or negative observations might lead to exclude earnings management cases that are the focus of this study (Alzoubi, 2018). Thus, outliers may provide convincing evidence of earnings management.

With regard to the normality assumption, four different tests were executed, where the null hypotheses of these tests were that the data were normally distributed. As shown in Table 12, the Skewness/Kurtosis, Jarque-Bera, Shapiro-Wilk W, and Shapiro-Francia W' tests indicate a departure from normality. The small p-values of all the tests suggest rejection of the null hypothesis that the residuals have a normal distribution.

Table 12: Normality tests

Test	p
Skewness/Kurtosis	0.000
Jarque-Bera	0.000
Shapiro-Wilk W	0.000
Shapiro-Francia W'	0.000

In conjunction with prior numerical tests, Figures 2, 3 and 4 provide graphical methods to assess the normality. In Figure 2, the frequency histogram is not perfectly bell-shaped, some deviations from the normal curve are present. Figure 3 shows that the observed values do not fall entirely along the straight line of the expected values. Finally, as shown in Figure 4, the probability plots indicate that most error terms are not close enough to the diagonal line. Nevertheless, dots in Figure 3 and Figure 4 are not very distant from the normal distribution line.

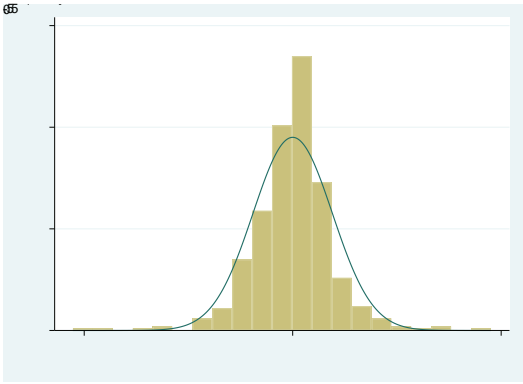

Figure 2: Histogram

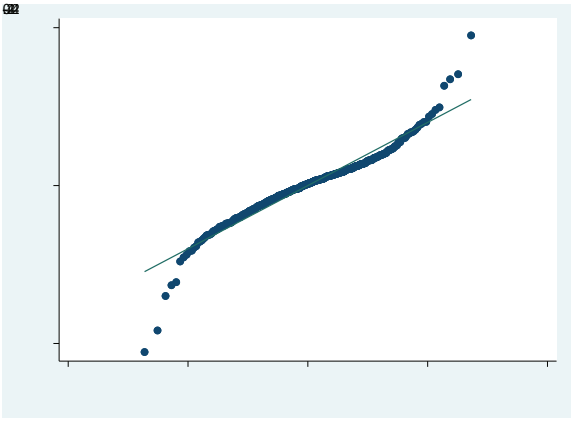

Figure 3: Normal quantile plots

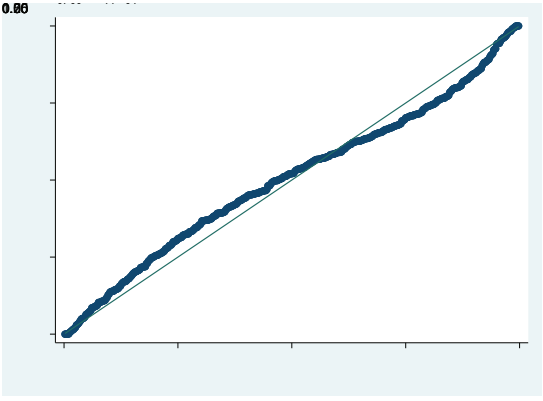

Figure 4: Normal probability plots

In this vein, Tabachnick and Fidell (2013) and Field (2013) argued that if large data sets with more than 200 observations give rise to minor standard errors, then criterion should not be applied because the null hypothesis is likely to be rejected from even minor deviations from normality. Gujarati and Porter (2009) pointed out that in a large sample (N>100) the normality assumption may not be a critical issue, in which the assumption that the error term has a normal distribution could be still valid. In accordance with the central limit theorem, the distribution of the data can be ignored with a large sample of more than 100 observations, where the distribution of the sample tends to be normal in any case (Altman & Bland, 1995; Field, 2013; Mishra et al., 2019).

Based on the above discussion, the current research investigated data form a large sample; thus, the deviation from normality may be negligible with such a sample size, and this deviation may not affect the findings.

The Robust Standard Errors for Random-effects Regression

This section presents the regression analysis utilized to test this study's hypotheses. Based on the reported findings of different tests reported before, the most appropriate estimation method is the random-effects model. Further, Given that the absence of homoscedasticity, Huber-White's sandwich standard errors was used in this study as a reliable solution in order to be robust against the heteroscedasticity issue, and to obtain unbiased standard errors of the regression coefficients (Froot, 1989; Wooldridge, 2010).

Table 13 reports that the F value of the model is significant at the 0.01 level, which means that the results as a whole are statistically significant. The model showed that the predictor variable SMS was positively and significantly related to DAC at the 0.10 level, suggesting that the association between SMS and DAC was positive and significant. This finding means that companies listed in other markets (second and third markets) are more apt to opt income-boosting DAC. Here, a boost in reported earnings may lead these companies to achieve the earnings criteria of the first market so that they can then transfer their shares to that market. This result aligns with Hypothesis 1.

The result of the random-effects model indicated that SFCF had a positive and significant association with DAC at the 0.01 level. This finding supports Hypothesis 2. That is, companies with a high SFCF are more likely to manage their reported profits upwardly to conceal the results of their non-optimal investments in negative NPV projects. The regression finding corroborates the univariate finding presented in Table 4. Prior research that showed consistent results of the SFCF and income-increasing DAC are Chung et al. (2005), Nekhili et al. (2016), Sharma, Sharma, and Ananthanarayanan (2011), and Bhundia (2012).

Table 13: The Robust standard errors for random-effects regression

Variable	Random-Effectse Regression	
	Coefficient	z value
Intercept	0.129	1.73*
SMS	0.026	1.87*
SFCF	0.042	3.00***
CSIZE	-0.010	-2.45**
DIYD	0.001	0.44
ROA	0.001	3.13***
ATAC	-0.001	-0.02
IDUS	-0.020	-1.83*
R-squared	0.075	
F-statistics (p-value)	45.12***	
N	475	

*Note: *, **, and *** denote the significance level at 0.1, .05, and 0.01 respectively.*

In respect of the control variables, the coefficient of the CSIZE had a negative sign and significant at the 0.05 level as predicted by El Moslemany and Nathan (2019). This means that the size of the firm was negatively related to DAC, and this could be justified by the fact that big firms are less apt to engage in earnings management as they are under pressure from investors and financial analysts. The ROA variable had a positive and significant impact on DAC at the 0.01 level, meaning that companies

with high ROA were more likely to manage their reported earnings. This is contrary to some studies conducted in Jordan. For example, E. Alzoubi (2016) offered evidence that ROA was significantly and negatively related to DAC, while Al Qallap (2014) found no significant relationship between ROA and earnings management. IDUS variable was negatively and significantly associated with DAC, which indicates that companies under the industrial sector had a lower positive DAC than those companies categorized under the service sector. Similar findings are also shared by Abed et al. (2012), who reported a negative and significant association between industrial companies and DAC in Jordan.

The results of the control variables, DIYD and ATAC were not related to DAC. For the DIYD variable, the result had a positive but insignificant relationship with DAC. This result was Unlike Noor et al. (2015), who observed that dividend payment is significantly increased the levels of DAC. For the ATAC variable, the sign of the coefficient was negative but insignificant. This was unlike Becker et al. (1998), who discovered a negative and significant relationship between ATAC and DAC, while Nouri and Gilaninia (2017) found that the ATAC was positively and significantly related to DAC.

Finally, the finding of the regression model reported an R square of 0.075 for DAC, leading to the conclusion that all the independent and control variables explained about 7.5% of the change in the dependent variable. As well, the F statistic of the model was significant at the 0.01 level, which provides sufficient evidence that the regression model fits the data of the study well.

CONCLUSIONS

The earnings management phenomenon remains controversial, but this phenomenon is an interesting field of research but lacks reference on Jordanian context. From the incentive perspective, two variables deserve attention in Jordan that may lead management to manipulate their reported earnings, which make the current study original and valuable. The results found a significant and positive relationship between earnings management and SFCF. As well, the results provided conclusive evidence that SMS was significantly and positively associated with earnings manipulation.

The results of this study provide valuable information for several parties. For government policy-makers and regulators in the ASE, the study found that companies listed in the other markets (second and third markets) are more likely to choose for income-increasing DAC than companies listed in the first market. To emphasize, the findings of studying the managerial behaviour towards the segmentation of the stock market in the ASE provide them with clues to handle the positive DAC that may resulted from the earnings-based criteria of the first market. For shareholders and investors, the earnings figure is the most potent aspect of the decision-making process that depends mainly on the financial statements (Barkhordar & Tehrani, 2016; Tutino & Pompili, 2018). Since earnings management practices distort these reports, the results of the study may assist shareholders and investors to grasp those unpleasant practices. Notably, the study documents that the SFCF situation leads management to opt income-boosting DAC, and shows how the free cash flow holding by the low growth companies harm the interests of shareholders and investors. This will make them more cautious when they are making investment decisions and when they sell or buy the shares of a particular company. For external auditors, the results may function as a guide for these auditors who audit the financial statements of the listed companies. The study reveals new situations that lead management to manipulate the reported earnings. Accordingly, the study recommends that external auditors pay an extra attention to those companies that are applying to move up to the first market and also to low growth firms with high free cash flow.

Despite the substantial contribution of the present study, it has a twofold limitation. First, this study included five control variables and there are some other control variables which were not utilized in the current empirical study. This means that some variables that could influence the levels of the DAC in the sample of the study which were not examined. This study did not use causality tests. For example, Gujarati and Porter (2009) mentioned that the regression analysis technique deals with the dependence of a particular variable on other ones, where the causation cannot logically be implied. Therefore, the reported findings provide evidence for only for relationships between the positive DAC and the attributes of the independent variables instead of causality. Second, in the earnings management literature, there are number of accrual-based models to estimate DAC, and there is no consensus in previous empirical work about any particular model. This

may lead to inconsistency between the results of the model used in this study and the prior studies.

Several recommendations can be considered for future research. The replication of the research methodology of this study in other countries is encouraged to determine the consistency in empirical results of the same variables among different contexts that have different environments and legal systems. This allows other countries to better understand the earnings management phenomenon and to examine important factors that may lead to earnings management. This study introduced SMS variable for the first time in the literature. Thus, one strong recommendation is to discover another measurement of this variable in future research. Likewise, the study employed the modified Jones model to reveal earnings manipulation. Future research may consider different accrual models to enrich the framework of the current research. Finally, it would be useful and an opportunity for future scholars to investigate the role of corporate governance mechanisms on the links between SMS, SFCF, and earnings management in Jordan.

Overall, this study is the first of its kind for both developed and developing economies that have studied the association between SMS and earnings management. In Jordan, this study extends previous research by examining the impact of SFCF on income-increasing DAC in the non-financial companies listed on ASE.

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