Master Thesis Accounting and Auditing

The effect of sports sponsorships on a firm's earnings management

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Abstract

This study examines the effect of football sponsorships on a firm's earnings management, and the difference between firms sponsoring a football club stated and not stated in the Deloitte Football Money League. All data has been hand-collected by using the annual reports of the sponsors. The research question and hypotheses in this study will be investigated by using several diff-in-diff regressions models. These models show an effect of sponsoring on a firm's earnings management, leading to less engagement in earnings management when excluding the control variables. They also show a difference between sponsoring a football club stated and not stated in the Deloitte Football Money League. When including control variables, there is no significant effect.

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1. Introduction

This study examines the effect of football sponsorships on a firm's earnings management, and the difference between firms sponsoring a football club stated and not stated in the Deloitte Football Money League.

Firms could have multiple reasons to invest in sports(football) sponsorships. Sponsorships could create brand awareness, reach a larger audience, expand the market to new regions more efficiently, or introduce new products and services. Sports excite people; therefore, customers will associate the brand with the sports club (Anand, 2016). Firms see sponsorships as a cost-effective alternative to the traditional way of advertising. A firm's association with a sports club is an essential factor because it enhances its corporate image (Lee, 1997). Several factors should be present to enhance the firm's appearance best, like the fit (that the customer thinks there is a link between the sponsors and sponsored events) and the involvement (that the sponsor should show a substantial interest in the sponsored event) (Grohs, 2005). A low involvement level could even be harmful to the sponsor (Simmons, 2006).

There are four common earnings management patterns: taking a bath, income smoothing, income maximization, and income minimization. Firms could use the patterns to give reasons why a firm will engage in earnings management. Some of these patterns are more related to sports sponsorships. Section 2 of this thesis will discuss all patterns.

Monitoring could affect firms' incentives negatively to engage in earnings management which could occur in various ways, like institutional ownership, the use of specific accounting standards, the board of directors' independence, the audit committees' presence, and external monitoring. External monitoring is the link to sponsorships. The engagement in sports sponsorships could lead to more publicity for firms. The publicity could lead to more scrutiny and more external monitoring because these firms that sponsor a massive sports club will lie under a magnifying glass. This thesis developed the following research question to examine if sports sponsorships have a monitoring effect:

***Research question**: Do sports sponsorships affect a firm's earnings management?*

This research will examine the research question using multiple diff-in-diff regression models, which could have the absolute value or the standard value for discretionary accruals as the dependent variable. The modified Jones model will be used to calculate the discretionary accruals. The regression models with the absolute values for discretionary accruals will be used to examine the potential relationship between football sponsoring and earnings management. The regression models with the standard values for discretionary accruals will be used to investigate the direction of the potential effect of sponsoring on earnings management. The treatment group in this research contains the firms that both have a period with and without football sponsoring. The treatment group will be used in the regression models to examine the possible relationship. Afterward, the whole treatment group will be separated into two treatment groups to explore the difference between sponsoring a DFML and a non-DFML football club.

This study could be relevant because it also examines if sponsorships have a monitoring effect. This study could also determine whether more factors will constrain managers' incentives to engage in earnings management. It could also be interesting for audit companies if firms sponsoring football clubs will engage more or less in earnings management. The outcome could mean that audit companies could be more critical to these firms if they engage more in earnings management. This study contributes to the current literature because there is no research in this specific setting done before. The answer to this research question could expand the existing literature on earnings management. This study could be a motivation for further research.

The main findings of these regression models are that there could be an effect of football sponsoring on earnings management. The results report significant coefficients of sponsoring on earnings management. A significant difference arises between sponsoring a DFML and a non-DFML football club between the separated treatment groups. By adding control variables to the models, the results become not significant. In conclusion, significant effects only occur in models without using control variables.

2. Literature review and Hypotheses

The literature about sponsorships will be discussed at first. The four common patterns of earnings management will be discussed using existing literature; not all patterns are related to football sponsorships. The four common patterns are taking a bath, income minimization, income maximization, and income smoothing. The previous literature will note why certain companies use a specific earnings management pattern or how each of these patterns could occur. At last, the effect of monitoring and scrutiny on a firm's earnings management will be discussed. After the literature review, the hypotheses will be mentioned and discussed to examine the research question.

2.1 Sponsorships

A few decades ago, sports sponsorships were rapidly increasing at a global level. According to the paper of Lee (1997), it is clear that international events, like the Olympic Games, should be supported by sponsors. The reason for the rapid increase could be attributed to the growing expenses of the traditional media. Sponsorships could therefore be seen as a cost-effective alternative for the conventional way of advertisement. The two main reasons why a firm is willing to engage in sports sponsorships are enhancing its corporate image and creating awareness among a broader audience. Customers' reactions can explain the shift from traditional media to sponsorships because customers link the event with a particular brand or firm.

The paper of Harvey (2001) also shows that sponsorships are increasing, which means that sponsorships' revenues are expanding fast. This paper investigates if there are differences between traditional advertisements and sponsorships. Several hypotheses were used to examine the difference. The results confirm that both traditional advertisements and sponsorships have a persuasion effect. Both advertisements as sponsorships are trying to persuade customers to buy their products. In the first instance, advertisements and sponsorships are equal but operate through different cognitive processes. There is a difference in the perception of conventional advertising and sponsorships. Traditional advertising changes the customer's perception of certain products; customers are willing to buy the products shown in certain advertisements. Sponsorships shift the customer's perception of certain sponsors; a particular brand or sponsor's image becomes more positive, leading to more product selling. The difference is that traditional

advertising changes the product's image, while sponsorships shift the sponsor's image or brand behind the product.

Grohs's (2005) paper extends the previous article by showing how image transferring in sports sponsorships works best. Several factors, the event-sponsor fit, the event involvement, and sponsorship exposure, are investigated to examine when image transferring of sponsorships is the most effective. Event-sponsor fit is the link between a specific event and the sponsor of that particular event in the customer's perception. The results of this paper conclude that this is the essential factor for a compelling image transfer. The higher the customer's perception of the link between the event and the sponsor, the more influential the image transfer of an event to a sponsor will be. Event involvement is the value of involvement in a particular event. The sponsor's actual involvement in an event could be caused by showing that a sponsor has a substantial interest in the actual event. This factor is positively related to image transferring effectiveness, but it is not the main driver. Sponsorships exposure is how a customer is exposed to the messages and the sponsor's advertisements about the event. The more a customer sees the advertisements and messages, the more exposed the customer is. Although the results show positive associations between the previous two factors and image transfer effectiveness, this factor has no significant effect on an effective image transfer.

Smolianov's (2009) paper also concludes that the link between the sponsor and the sponsored event is essential. As shown in the results, the sponsorships' fundamental objective is to associate the sponsor with the sponsored event to improve its image. Customers are more willing to buy products of that sponsor or brand with a good image. This result is also in line with the previous paper because the results of this paper show that the key objective is to increase sales by improving its image and not increasing the appearance of a particular product or service. Brand awareness and image reputation are the critical drivers to increase sales.

The paper of Simmons (2006) shows that besides the link between the sponsor and sponsored event, the sponsor's involvement is also essential. The results indicate that only sponsoring a well-liked event is not enough to ensure good results. Both factors must be visible for customers to change the sponsor's image and ensure good results. If there are an obvious

link and involvement of the sponsor with the sponsored event, it could ensure the sponsor's positive results. Still, it could also be harmful to the sponsor if the link and involvement are very low, which is a negative result for the sponsor. Sponsors themselves could contribute to getting more favorable results by letting customers participate in the event. These social events could lead to a better image in the customer's perception, ultimately leading to better results for the sponsor. It is vital to have good communications and provide a clear and exciting message to make the customers' link and involvement visible.

2.2 Taking a bath

The first common pattern of earnings management is "taking a bath." This theory means that firms or managers decrease their earnings by changing the discretionary accruals negatively with a relatively large amount to obtain more earnings in future periods. Managers could change their discretionary accruals negatively by taking impairments, reporting more write-downs, or changes in valuation methods (Healy, 1999). Because accruals' absolute value is zero over a long period, changes in accruals will always reverse. The theory of taking a bath is a more aggressive form of income minimization. This 'taking a bath' theory is also supported by a study by Jordan (2004). According to this paper, firms put this theory into practice when experiencing a bad year with low earnings. It sounds conflicting when firms lower their profits when they already have low incomes than other years. The low earnings punishment will not be proportionately greater if a firm reduces its earnings even more by making impairments or increases in write-downs.

The study of Ali (2015) examines if changes in the CEOs' incentive during their tenure affect the firms' reported earnings. The results of this study suggest that the earnings are significantly overstated in the early years of tenure. In this study, the CEO changes the discretionary accruals positively in the current period to perform better than his predecessor to increase the new CEOs reputation and slowly reverses these accruals in the later years of tenure.

The paper of Jordan (2015) found contradictory results in the previously mentioned paper. These results are more in line with the basic idea of the 'taking a bath theory.' According to this study, firms exhibited negative changes in the discretionary accruals shortly after a new CEO is in charge. A new CEO changes the discretionary accruals negatively by impairing goodwill in the early years of tenure. The conclusion of both papers combined (Jordan, 2015; Ali, 2015),

taking a bath could be either in the early years of tenure or spread out over the later years of tenure.

The study of Kirschenheiter (2001) investigates if this theory can be used to smooth the earnings. This study investigates if firms under or over report their earnings when there is sufficiently bad or good news. The results show that firms under-report the earnings in bad news cases and maximize the reported earnings' accuracy in good news cases.

If all previous papers are considered, it is unlikely that this pattern is related to sponsorships because sponsorships' gains could result in higher earnings management. The gains from sponsorships could result in income minimization or maximization, but taking a bath theory is too aggressive and, most likely, not related to sponsoring.

2.3 Income minimization

The second common pattern of earnings management that will be discussed is income minimization. Income minimization is comparable to the theory of 'taking a bath' but is less extreme. Tax purposes are the most common reason for firms to minimize their earnings. A study investigates whether the "Tax Reform Act" (TRA) of 1986 affects the firm's incentive to defer their earnings/income. The enactment of the TRA causes a significant reduction in the statutory corporate income tax rate in the United States of America. It results in a decrease of 46 to 34 percent. This study examines if firms have the incentive to defer their income from the enactment date of the TRA or to the date of when the TRA goes into effect. The result shows that firms are reducing their earnings in the year before the TRA to save taxes. So the lower revenues in the prior year of the TRA will be taxed against the higher tax rate of 46 percent so that the higher future earnings will be taxed with the 34 percent tax rate after the TRA goes into effect (Guenther, 1994).

The study of De Simone (2016) examines if the adoption of IFRS among affiliates leads to an increase in firms' incentive to shift their income for tax purposes. The adoption of IFRS among affiliates makes it easier to change income because the affiliates of a particular multinational entity (MNE) use the same accounting standard. The possibility of shifting income among affiliates is much easier. Firms will make use of this opportunity to minimize their taxable income. Firms are trying to move their income to affiliates located in countries

with lower tax rates, especially if it is allowed by the accounting standards. The studies of De Simone (2016) and Guenther (1994) illustrate that firms always have the incentive to reduce their taxable income, especially if an opportunity appears made possible by a particular act in a country or a change in accounting standards.

Accounting standards' tightness could prevent firms from using earnings management. (Ewert, 2005). This study illustrates how accounting standards could influence earnings management, preventing firms from engaging in earnings management. According to this paper's results, earnings management will be reduced if specific accounting standards get tighter, meaning fewer possibilities for interpretation. The tighter and the clearer the accounting standard is, the less the absolute value of discretionary accruals is, which results in a reduction of earnings management.

Another study focused on preventing firms from engaging in earnings management is the study of Cheng (2015). This study examines if the board of directors' value of independence results in reducing earnings management. This study compares firms that did not have a majority of independent directors in the board of directors before the reform and increased the board of directors' independence after the reforms with firms that already have a majority of independent directors. Firms that did not have a majority of independent directors beforehand are called "non-compliance firms." This study's overall results show that earnings management did not decrease significantly after the reform of non-compliance firms. If the non-compliance firms were separated into two groups based on the costs of obtaining information, one group with low information costs and one group with high information costs, the results would change. The separation ensured that the earnings management of the non-compliance firms with low information costs results in a significant decrease. This study concludes that the board of directors' independence is more effective when information can be obtained easier.

2.4 Income maximization

Besides firms and managers' behavior to minimize the earnings, firms and managers could also have an incentive to maximize their profits. The most common reason to increase the profits is the relation between the CEO compensation and the profits. If the CEO's total compensation depends on the number of earnings, the CEO has more incentives to increase the firm's earnings. The CEO's self-interest could create problems because a particular decision's

long-term effects will be ignored. The CEO's tenure is not long enough to face the long-term consequences of a current decision period. Due to the length of the tenure and the earnings-based compensation, CEOs have incentives to increase the earnings to maximize their compensation (Bergstresser, 2006; Guidry, 1999).

Another incentive to stimulate the earnings upward is if a firm needs to meet or beat certain thresholds (Degeorge, 1999). These thresholds are a critical factor to explain why managers have the incentive to maximize earnings. Thresholds are tools to show how well a firm performs compared to external parties. According to this study, there are three kinds of thresholds that a CEO cares about, which are reporting favorable results, sustain recent performance, and meeting or beating analyst forecast. This study suggests that these thresholds are hierarchically ordered. This study shows that the incentive to manage the earnings upward occurs when the earnings are just below a certain threshold. If the gap between the threshold and the firm's profits is large enough, the profits will be reined. Otherwise, the firms' earnings will face more difficulties to exceed the thresholds.

Income maximizing earnings management appears the most when a firm is in an unfavorable period or in financial distress. But incentives in these specific periods could be nullified by certain characteristics of an audit committee. Firms will take fewer actions to increase the earnings in financial distress if the audit committee has a high level of financial expertise (Partha, 2019).

Myers's (2007) study is in line with the second threshold in the hierarchically ordered thresholds; a firm wants to perform better than the previous period. This study examines if firms engage more in earnings management if it is reporting a long series of increases in quarterly earnings per share (EPS) succeeding by each other. The results show that firms are willing to keep stock performance gains, indicating that firms are not willing to perform less than the prior period. These results suggest that the motivation to perform better than the preceding period and avoid disappointments in earnings reports and stock performances is present, leading to income maximization behavior.

The study of Jiraporn (2008) exhibits a different aspect of earnings management because this study suggests that earnings management could have positive effects. This study investigates whether earnings management is opportunistic or beneficial. Opportunistic (favors

CEO) is that a CEO could manipulate the earnings to increase his compensation, and beneficial (favors investors) earnings management is that investors could gain information about future cash flows, profits, or stock prices from the reported discretionary accruals. This study shows that earnings management is more beneficial than opportunistic. Therefore, earnings management can be seen as a tool to expose the firm's private information about future earnings and future firm value.

2.5 Income smoothing

The fourth and last common pattern of earnings management is income smoothing. Firms use income smoothing to prevent fluctuations in earnings over time. The basic concept of income smoothing is to change the discretionary accruals negatively in favorable periods, which creates a buffer for unfavorable periods. This theory's overall conclusion is that firms lower their earnings in good periods and increase their revenues in bad periods, resulting in fewer earnings differences between the good and bad periods (Copeland, 1968).

Income smoothing ensures that a firm has a stable income over time which is in investors' interest. The most crucial reason for income smoothing will be cited from Truemans' (1988) study, and it is defined as follows: "to lower holders' perception of the variance of the firm's underlying economic earnings" (Trueman, 1988).

The studies of Tucker (2006) and Zarowin (2002) show that income smoothing results in an improvement of informativeness. Both papers conclude that firms that smoothen their profits to a greater extent contain more information about future earnings. Investors have more helpful information when fluctuations in earnings are minor. The lower fluctuations are, the higher the precision of the investors' predictions. The regular income over time is both favorable for the firm as for investors of the firm.

2.6 Effect of monitoring on earnings management

The paper of Chung (2002) investigates if institutional monitoring prevents managers from engaging in earnings management. Institutional ownership is that another large entity has a significant amount of stocks in specific firms. This paper examines whether this institutional ownership influences managers in the incentives to report more or fewer profits. According to

this paper, large institutional owners' presence prevents managers from having incentives to engage in earnings management or at least lower these incentives vigorously.

The paper of Hessayri (2015) examines if the adoption of the IFRS accounting standards is an addition to the effect of institutional ownership on monitoring the earnings management. The results show that the IFRS accounting standards' adoption does not reduce earnings management. This paper also concludes that the adoption of IFRS does not directly mitigate earnings management; the adoption of IFRS makes the monitoring role for institutional ownership more effective. By combining these two previous papers, a conclusion can be made that institutional ownership combined with the adoption of IFRS is an effective tool to inhibit manager's incentives to engage in earnings management.

Other factors could also influence the incentives of managers to engage in earnings management. The paper of Marra (2011) shows that the board of directors and an audit committee negatively affect a firm's earnings management. Bédard's (2004) paper shows that the audit committee's expertise and activity also affect a firm's earnings management. The expertise, like financial, governance, and firm-specific knowledge, of the audit committee results in managers, has fewer opportunities to engage in earnings management. The audit committee's expertise and autonomy will be less effective if the audit committee is not active. The activity consists of three aspects: the duties to perform, the number of meetings, and the audit committee's extent. The audit committee's activity is the most critical factor affecting managers' incentives to engage in earnings management. Expertise and independence will reduce managers' incentives less if there is a low value for the activity.

The paper of Gaver (2001) examines the effect of external monitoring, like the auditor and actuary, on a firm's earnings management. The results of this paper show that if both an auditor and actuary originates from one of the big auditor company (the Big Six accounting firms), there will be less presence of earnings management. This paper concludes that managers' incentives to increase or decrease the earnings will be tempered if the auditor and actuary originate from a Big six accounting firm. If a high trust level between the auditor and actuary

is present, this effect could decrease because the high trust level ensures that the auditor is less critical.

2.7 Hypotheses

The main reason to engage in football sponsorships is to increase its earnings by creating brand awareness, offering potential customers exposure, expanding the products' market, or introducing products to new regions (Anand, 2016). Another reason to invest in sports sponsorships is the association of the firm with clubs or athletes. It indicates that people are more willing to buy a specific type of product if there is an association between an athlete or sports club and a particular brand (Anand, 2016; Kain, 2020). The reasons mentioned above should ultimately be translated into generating profits. Otherwise, it would not be profitable for a firm to engage in sports sponsorships (Anand, 2016).

There could be a few reasons why sponsorships lead to a reduction of earnings management. The first reason is that investors are also more interested in investing in the sponsoring firms. Investors want to obtain more information about the firm to ensure that their investments will also be profitable, leading to external monitoring. It could result in more scrutiny and more publicity, leading to a reduction in earnings management. A certain firm's publicity by becoming a major football club sponsor could lead to more monitoring. Monitoring could be an effective tool to inhibit manager's incentives to engage in earnings management. Another reason is that sponsorships' profitability could also lead to fewer earnings management. Firms do not have to increase their earnings to meet certain thresholds, resulting in fewer incentives to engage in income maximization behavior. There is no prior research on the impacts of football sponsorships on earnings management. Therefore it could also be possible that there is no effect of being a sponsor on earnings management. This research can not hypothesize the hypotheses based on previous literature. This research will develop two hypotheses:

***Hypothesis 1**: Firms will engage less in earnings management after they start investing in football clubs*

***Hypothesis 2**: Earnings management will be less for firms investing in football clubs stated in the Deloitte Football Money League (DFML), than firms investing in football clubs not stated in the DFML*

3. Data

In the following section, the data that will be used in this research will be discussed. The data is hand-collected using the annual reports of the shirt sponsors. Firstly, the sample selection process will be mentioned. Secondly, the key variables, which will be used in the thesis, will be discussed.

3.1 Sample selection process

The dataset that will be used to answer the research question of this thesis contains data of the shirt sponsors that are sponsoring football clubs participating in the top national leagues of Europe. Multiple criteria will be used to distinguish between the shirt sponsors that will be included and the shirt sponsors not be included in the dataset. If a firm is sponsoring a football club in the Deloitte Football Money League (DFML) in 2019, the shirt sponsor will be included in the dataset. The DFML is a list of the thirty most profitable football clubs. The DFML list of 2019 is based on the football clubs' performances in 2017/2018, which is the final year in the sample period. Data will be collected from 2009 to 2018.

The second criterium will be used if a firm sponsoring a football club does not meet the first criterium. The second criterium includes the top 10 best performing football clubs from 2009 to 2018, which participate in the top 5 national leagues (England, Spain, Germany, France, and Italy). If the DFML does not already contain the top 10 clubs of a certain national league, the number of football clubs will be extended until the top 10 best-performing football clubs between 2009 and 2018. The DFML includes one club from a few minor national leagues. Therefore, the dataset will be extended by these minor leagues' top 4 football clubs (Russia, Portugal, Turkey, and The Netherlands). Every shirt sponsor of the sixty-nine different football clubs that meet one of the two criteria will be included in the dataset.

The number of observations in the sample selection process will be discussed based on table 1 of Appendix A. This table shows 674-year available observations of the shirt sponsors included in the data. These available observations are divided into two groups: the during-period group (the period when a firm is sponsoring a football club) and the pre-or post-period group (the period before or after sponsoring a football club). The during-period group could

also be divided into two groups: the DFML-group (the group of firms sponsoring a football club included in the DFML); and the non-DFML-group (the group of firms sponsoring a football club not included in the DFML). The total amount of observations available includes both the treatment group's observations as the control group's observations. The treatment group contains firms sponsoring partially during the sample period. The control group includes firms sponsoring the entire sample period. The treatment group has 585-year observations, and the control group has 89-year observations. This research also distinguishes the sponsoring firms between financial institutions and non-financial institutions. A sample is created without financial institutions' observations, resulting in a reduction of the total observations available to 553. This amount of observations contains both the treatment group and the control group observations. Resulting in a total amount of observations available of 464 for the treatment group without financial institutions. The number of observations for the control group remains the same.

3.2 Key variables

The following section will explain all variables used in this research and divided into two groups: 1) dummy variables and 2) balance sheet items. The data used in this research will be hand-collected or added manually.

3.2.1 Dummy variables

To answer the research question, multiple dummy variables will be used. The first dummy variable that will be discussed is the dummy variable to define the period of sponsoring (Dum_per). This variable equals 1 if a firm is sponsoring a football club in that specific year. It equals 0 for the period before or after a firms' sponsoring period.

The second dummy variable is needed to distinguish between the control and treatment groups (Dum_entire). This dummy variable equals 1 if a firm belongs to the control group and 0 if it belongs to the treatment group.

The third dummy variable distinguishes the firms sponsoring more than 1 football club in the same year (Dum_more). The dummy variable equals 1 if a firm is sponsoring more than 1 football club in the same year and 0 if a firm is sponsoring 1 football club or is not sponsoring a football in a particular year.

The fourth dummy variable will be used to separate the firms sponsoring a football club included and not included in the DFML. The dummy variable equals 1 if a firm is sponsoring a football club included in the DFML and 0 if a firm is sponsoring a football club not included in the DFML.

The fifth dummy variable makes a distinction between financial institutions' observations and non-financial institutions' observations (Dum_FinInst). This dummy variable equals 1 if an observation originates from a financial institution and 0 if an observation originates from a non-financial institution.

The last dummy variables belong together. These dummy variables are variables that separate the different samples. Firstly, there is a dummy variable that separates the other samples (Dum_Sample1 and Dum_Sample2). All of the observations available belong to this research's total selection; there is no dummy variable for the entire sample. The dummy variable for sample one equals 1 if the pre-, during-, or post-period observation belongs to a firm sponsoring a football club included in the DFML, and 0 otherwise. The dummy variable for sample two equals 1 if the pre-, during-, or post-period observation belongs to a firm sponsoring a football club not included in the DFML. The control group is both included in sample one and sample two. Dummy variables are created to indicate which observation belongs to the treatment group. The dummy variable equals 1 if an observation belongs to the treatment group of the total sample (Dum_TGT), the treatment group of sample one (Dum_TG1), or the treatment group of sample two (Dum_TG2). A dummy variable is created to indicate the interaction effect. The interaction effect is when a firm is sponsoring a football club and included in the treatment group. The dummy variable equals 1 if a firm is sponsoring a football in a specific year and is included in the treatment group. This dummy variable is created for every sample (Dum_intefT; Dum_intef1; and Dum_intef2)

3.2.2 Balance sheet items

The balance sheet items will be used to calculate earnings management based on the modified Jones model. Nine different balance sheet items of each firm will be hand-collected to calculate earnings management. The balance sheet items that will be used are 1) Current assets (CA), 2) Cash and Cash Equivalents (Cash_CashEq), 3) Current Liabilities (CL), 4) Short-term debt (STD), 5) Deprecation and Amortization (Depr_Amort), 6) Revenues (REV), 7) Receivables (REC), 8) Property, Plant and Equipment (Pr_Pl_Eq), and 9) the Total Assets (TA).

4. Research Design

The modified Jones model and the corresponding modifications to the dataset will be discussed in the first part of this section. In the second part, the differences-in-differences analysis (diff-in-diff) will be used to answer this paper's research question.

4.1 Modified Jones Model

The modified Jones model will be used to calculate the discretionary accruals, which are the proxy for earnings management. This model was introduced in the paper of Dechow (1995). In this model, the discretionary accruals will be calculated by measuring the non-discretionary accruals as a portion of the total accruals. The total accruals have to be calculated first to measure the discretionary accruals. The following formula will calculate the total accruals of a firm:

$$TACC_t = \frac{(\Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta STD_t - DeprAmort_t)}{Lagged\ Assets} \quad \text{(equation 1)}$$

Where ΔCA is the difference between the currents assets in year t and the current assets in the year (t – 1), ΔCash is the difference between the cash and cash equivalents in year t and the cash and cash equivalents in the year (t – 1). ΔCL is the difference between the current liabilities in year t and the current liabilities in the year (t – 1). ΔSTD is the difference between the short-term debt included in the current liabilities in year t and the short-term debt included in the current liabilities in the year (t – 1). DeprAmort is the Depreciation and Amortization expenses in the year t. The lagged assets are the total assets in the year (t – 1).

The firm-specific parameters (denoted by the 'a') have to be estimated to separate the discretionary and the non-discretionary accruals using regression analysis in STATA. The firm-specific parameters expose the relationship between the dependent and independent variables. The following equation will estimate these parameters:

$$\frac{TACC}{Lagged\ Assets} = a_1 \frac{1}{Lagged\ Assets} + a_2 \frac{(\Delta REV - \Delta REC)}{Lagged\ Assets} + a_3 \frac{PPE}{Lagged\ Assets} + \varepsilon_t \quad \text{(equation 2)}$$

In this equation, the Total Accruals (TACC) divided by the lagged assets is equal to equation 1. One divided by the lagged assets will be called term1 in the dataset. Term2 will correspond to the difference between the revenue in year t and the revenue in the year (t – 1) minus the difference between the receivables in year t and the receivables in the year (t – 1) (ΔREV – ΔREC) divided by the lagged assets. Term3 will be the Property, Plant, and Equipment (PPE) divided by the lagged assets. This equation in the modified Jones model differs from the original Jones model. The receivables are now included in term2. This extension is made to eliminate the original Jones model's suspicious tendency to estimate the discretionary accruals with errors if discretion is exercised over revenues. The difference between the original Jones model and the modified Jones model is situated in the difference between the estimation and the event period. The original Jones model assumes that no discretion is exercised in either of these two periods, while the modified Jones model assumes that earnings management results from all credit sales changes in the event period. Earnings management could occur easier when discretion is exercised over credit sales, rather than the discretion over the recognition of revenue on cash sales.

The estimated parameters from equation 2 will be used to examine the non-discretionary accruals, denoted as alphas (α). The following equation will be used:

$$\frac{NDA}{Lagged\ Assets} = \alpha_1 \frac{1}{Lagged\ Assets} + \alpha_2 \frac{(\Delta REV - \Delta REC)}{Lagged\ Assets} + \alpha_3 \frac{PPE}{Lagged\ Assets} \qquad \text{(equation 3)}$$

In equation 3, the total accruals (TACC) are replaced by the non-discretionary accruals (NDA). The parameters in equation 3 are the estimated parameters calculated in equation 2. After calculating the non-discretionary accruals, the last step is to subtract the non-discretionary of the total accruals. The following equation will be needed:

$$DA_t = TACC_t - NDA_t \qquad \text{(equation 4)}$$

DA is the discretionary accruals, TACC is the total accruals, and NDA is the non-discretionary accruals in year t.

4.2 Differences-in-Differences analysis

A differences-in-differences analysis (diff-in-diff) will be used to examine the research question and the corresponding hypotheses. This analysis investigates the differential effects between the treatment group and the control group. It also calculates or examines the impact of a particular treatment; in this case, the sponsor period for a firm that is not sponsoring the entire sample period. The average change for the treatment group will be compared to the control group's average change to eliminate or minimize external factors that could cause differences. If the comparison between the treatment and control group is not made, uncertainties occur about the treatment's effect. External factors cause the changes in outcomes for the control group over time because the control group is not exposed to the treatment. Both the treatment and external factors cause the changes in results over time for the treatment group. The external factors will be minimized by subtracting the control group's changes from the treatment group's changes.

A regression analysis will be made in STATA to perform a diff-in-diff analysis. The equation for the diff-in-diff analysis is defined as follows:

$$ABS\_EM = \beta_0 + \beta_1 Dum\_Per + \beta_2 TG + \beta_3 (Dum\_Per * TG) + CV + \varepsilon \quad \text{(equation 5)}$$

Dum_Per is a dummy variable that equals 1 when a firm is sponsoring a certain football club, and it equals 0 if a firm is not sponsoring a football club. TG is a dummy variable that equals 1 if a firm is included in the treatment group, and it equals 0 if a firm is included in the control group. The main variable of interest is β_3, which is the interaction effect between the sponsor period and the treatment group. The interaction effect is the effect of a firm sponsoring a football club and included in the treatment group. The dependent variable in the diff-in-diff analysis is the discretionary accruals' absolute and normal values. The control variables that will be used are: the dummy variable for sponsoring more than one football club at the same

time (Dum_more); the year indicator; the size (calculated by taking the log of the total assets); the profitability (calculated by the revenue divided by the total assets); and the leverage (calculated by the current liabilities divided by the total assets).

The treatment group could be adjusted to examine if there are differences in earnings management for firms sponsoring a football club included and not included in the DFML. The treatment group could be separated into the DFML and the non-DFML clubs. If these regressions are made, a comparison will be made between the main variable of interest (β_3). Suppose differences occur between the main variable of interest. In that case, a conclusion can be made whether the treatment's effect differs between the firms sponsoring a football club included and not included in the DFML.

5. Results

In this section, the descriptive statistics will be discussed first. The descriptive statistics makes use of four groups: the first group contains all observations, the second group splits up the treatment and control group of all observations, the third group includes all observations excluding financial institutions, the fourth group splits up the treatment and control group of all observations excluding financial institutions. Afterward, the results of this thesis will be shown. Based on the results, the hypotheses discussed in previous sections will be accepted or rejected. The descriptive statistics tables are shown in Appendix A, and the tables with the results are shown in Appendix B. A note has to be made that the diff-in-diff regression model will be delivered without a constant to avoid omitted variables.

5.1 Descriptive statistics "normal" DA

The descriptive statistics for the "normal" value of the discretionary accruals are shown in table 2 of Appendix A. The minimum and maximum values, the mean, and the standard deviation are given for every group within the sample selection process. If all year observations are taken into account, earnings management's average value is 0.00006. This result corresponds to the previous literature, where accruals are zero over a longer period. Some differences arise if the observations are distinguished in the during-period and the pre- or post-period. An indication can be made that the average value for earnings management for the during-period observations is positive, the average value for the pre- or post-period is negative. Indicating that firms are increasing their earnings when sponsoring a football club and decreasing their profits when not sponsoring a football club. There are also differences between firms sponsoring a football club included and not included in the DFML. The descriptive statistics show that earnings management's value is negative for firms sponsoring a football club included in the DFML and positive otherwise. Indicating that firms are decreasing their earnings when sponsoring a football club included in the DFML. The descriptive statistics show that the spread between the minimum and maximum value is higher for the firms sponsoring a football club that is not included in the DFML, indicating more earnings management fluctuations.

By splitting up the control group and treatment group (group two), an indication could be made that the value for the control group's earnings management is slightly positive, 0.00100,

and the treatment group's value is negative (0.00008). The distinction between the control and treatment group has not affected the average value for earnings management much for the during-period observations; the value decreased by 0.00005. The average value for earnings management for the firms sponsoring a football club included and not included in the DFML is affected by the split between the control and treatment groups. The descriptive statistics show that the absolute value for both groups in the during-period has increased. The negative value for earnings management for the firms sponsoring a football club included in the DFML is more negative, from (0.00110) to (0.00270), and that the positive value for earnings management for the firms sponsoring a football club not included in the DFML is more positive, from 0.00265 to 0.00346.

If this research takes the entire sample without the observations from financial institutions, the descriptive statistics show that the average value for earnings management is still almost zero. The average value for the observations without financial institutions for the during-period turns from a positive to a negative value, from 0.00087 to (0.00092). The value for earnings management becomes negative for the firms sponsoring a football club not included in the DFML. Indicating if the observations for financial institutions were excluded, the remaining firms decreased their earnings when sponsoring a football club. The value for earnings management in the during-period turns from positive to negative; the inverse effect occurs for firms in the pre- or post-period.

At last, if this research split up the control and treatment group and exclude the observations for financial institutions, table 2 of Appendix A shows that the value for earnings management for the control group remains the same. There are no financial institutions included in the control group. The value for the firms' earnings management in the during-period turns from a positive to a negative value, from 0.00082 to (0.00194). The same applies to the value of earnings management for the firms sponsoring a football club not included in the DFML. The value of earnings management for the firms in the pre- or post-period also turns from a negative to a positive value. Finally, the descriptive statistics show that the value for earnings management is more negative for the firms sponsoring a football club included in the DFML. Indicating that the effect on earnings management for firms sponsoring a football club included in the DFML is larger if this firm is not a financial institution.

5.2 Descriptive statistics absolute value DA

The descriptive statistics for the discretionary accruals' absolute values are shown in table 3 of Appendix A. The absolute average value for earnings management is 0.03444. Suppose a distinction between the during-period and the pre- or post-period is made. In that case, a conclusion can be drawn that the average absolute value for the pre- or post-period (0.03914) is higher than the average absolute value for the during-period (0.02895). The spread between the minimum and maximum value is larger for the pre- or post-period than for the during-period. Despite that, the spread of the during-period for the DFML clubs is lower than the during-period for the non-DFML clubs; the absolute average for the DFML clubs (0.03087) is higher than the absolute average for the non-DFML clubs (0.02722).

Sample 2 makes a distinction between the control group and the treatment group. Table 3 shows that the control group's absolute average value is lower than the treatment group's absolute average value. The mean for the control group is 0.02597, and the mean for the treatment group is 0.03572. The absolute averages for the during-period observations have increased due to the distinction. The gap between the absolute averages of the DFML clubs' during-period and non-DFML clubs is slightly reduced. Still, the absolute average for the DFML clubs' during-period is higher than that of the non-DFML clubs. Sponsoring a DFML club has a higher effect on a firm's earnings management than sponsoring a non-DFML club.

Sample 3 arises from sample 1, excluding the observations of financial institutions. When sample 3 is compared with sample 1, the descriptive statistics show that all the absolute averages are increased, meaning that the absolute averages for financial institutions' observations must be lower than the other observations included in the dataset. Despite the increase of absolute averages, the proportions between the averages remain almost the same. Eliminating the financial institution observations will not affect the difference between the during-period and the pre- or post-period or the difference between the DFML and non-DFML clubs.

Sample 4 arises from sample 2, excluding the observations of financial institutions. Table 3 shows that the absolute averages for the control groups remain the same. There are no financial observations included in the control group. The descriptives statistics show that the proportions also remain the same for sample 4 compared to sample 2. The absolute averages are higher for the treatment group than for the control group. For the DFML clubs, the absolute averages are slightly higher than the non-DFML clubs. The absolute averages for the pre- or post-period are higher than the absolute averages for the during-period.

5.3 Basic regressions

The basic regressions are shown in tables 1 and 2 of Appendix B. These regressions are made to examine if a relationship exists between certain dummy variables and earnings management. In these regressions, the following variables are used: the dummy variable indicating a firm is sponsoring a particular football club in a specific year; the dummy variable indicating a firm is sponsoring the entire sample period (control group); and the dummy variable for financial institutions These two tables use the same dummy variables, but the dependent variable is different. The dependent variable of table 1 is the absolute value of the discretionary accruals, and the dependent variable of table 2 is the normal value of the discretionary accruals. Each table contains five models. Model 1 of Table 1 shows that there could potentially be a relationship between the sponsor period and earnings management. The result shows a significant negative value for the sponsoring period on discretionary accruals' absolute values. Model 1 indicates that firms will lower their absolute values of discretionary accruals. There will be fewer fluctuations in discretionary accruals. Indicating that a firm's discretionary accruals sponsoring a football club will become less negative (decreasing their earnings by lower amounts) or less positive (increasing their profits by lower amounts). Model 2 also shows a significant negative coefficient for sponsoring the entire sample period. The results of models 1 and 2 could suggest that the discretionary accruals will move towards zero, resulting in fewer fluctuations over time. The financial institution indicator also has a significant negative result (model 3). However, this dummy variable's coefficient is significant at a 10% significance level, while the coefficients of models 1 and 2 were significant at a 1% significance level. Discretionary accruals' absolute values could be more explained by the dummy variables of models 1 and 2. This is also evident from the R-squared. The R-squared is how well the independent variables (the dummy variables) explain the proportion of the dependent variable's variance (absolute values of discretionary accruals). Table 1 shows that the sponsor period

dummy variable explains the proportion of the dependent variable variance the best compared to models 2 and 3.

Model 4 contains both the dummy variable for the sponsor period and the dummy variable for sponsoring the entire sample period. The results show that the sponsor period coefficient is still significant while the other coefficient is not significant. There could still be a potential effect of the sponsor period on earnings management. Model 5 includes all dummy variables, showing that the sponsor period and the financial institution dummy variable still have a significant adverse effect. Remarkable is that the coefficient for the sponsor period becomes less negative. In contrast, the financial institution's coefficient becomes more negative and is significant at a 5% significance level instead of a 10% significance level.

Table 2 of Appendix B shows the same regressions but with the discretionary accruals' normal values as the dependent variable. This table shows no significant results, explained by the reversal effects of accruals. Discretionary accruals reverse over time, meaning that the aggregate value of the discretionary accruals is zero. It is hard to find significant results of certain variables on discretionary accruals' normal values. These regressions are made to indicate in which direction the potential effects of table 1 will go. Table 1 shows that the sponsor period and the financial institution dummy variable had significant negative results. The discretionary accruals will become less negative or less positive. Table 2 shows that every coefficient of each model is positive. The results of both tables taken together indicate that the potential effect of table 1 is less negative. Firms will lower their earnings by fewer amounts.

5.4 Difference-in-Difference regression models for hypothesis 1

The diff-in-diff regression models are shown in tables 3 (see below) and 4 of Appendix B. These models are delivered without a constant to avoid omitted variables. Models 1 and 2 of tables 3 and 4 include the observations of financial institutions, while models 3 and 4 of tables 3 and 4 exclude these observations. Models 1 and 3 are the regressions without control variables, while models 2 and 4 are the regressions with control variables. Table 3 shows the diff-in-diff regressions models' results with the discretionary accruals' absolute values as the dependent variable.

Table 3: diff-in-diff regression with the total sample (absolute values)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.36447)	0.02597***	(0.86089)
Dum_TGT	0.03914***	(0.36011)	0.04024***	(0.85641)
Dum_intefT	(0.03497)***	0.35820	(0.03352)***	0.85589
Dum_more	-	0.00434	-	0.00500
Year	-	0.00024	-	0.00048
Size	-	(0.00518)***	-	(0.00483)***
Profitability	-	(0.00143)	-	(0.00238)
Leverage	-	0.02334***	-	0.03584***
Constant	-	-	-	-
Regression statistics:				
Observations	674	674	553	553
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.44340	0.49620	0.45020	0.49840
Root MSE	0.03911	0.03735	0.03997	0.03835

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

The variable of interest (Dum_intefT) is the interaction effect between the sponsor period and the treatment group. The results of model 1 show significant results for each coefficient, indicating that sponsoring a particular football club could affect a firm's earnings management. The significant negative result of the interaction effects suggests that sponsoring reduces the incentives to engage in earnings management. The absolute value of the discretionary accruals will decrease, indicating that firms sponsoring a particular football club will reduce or increase their profits less. Model 1 of Table 4 shows in which direction the potential effect will be. The result indicates a positive coefficient of the interaction effect. A firm's earnings will decrease less if a firm is sponsoring. However, the inclusion of the control variables results in that the variables of model 1 become not significant. The variables are reversing; the negative values become positive and vice versa. Model 2 of Table 3 shows that the variable of interest is positive, meaning that discretionary accruals' absolute value will increase. Model 2 is contradictory to model 1. The variable in model 2 of Table 4 becomes negative. Both models 2 of the tables taken together show that the sponsoring firms will lower their earnings more than when these firms are not sponsoring. Despite the contradictory results, model 2 shows not significant coefficients. Therefore, these coefficients can not be interpreted. An assumption can be made that there is no effect of sponsoring on a firm's earnings management. The only significant coefficients are the size and leverage variables. These results show that if a firm has a larger size, the discretionary accruals' absolute value will decrease. High-sized firms favor low fluctuations in accruals. It could indicate that high-sized firms benefit from stable earnings over time. The leverage variable's coefficient shows the opposite result, meaning that if a firm

has much leverage, the absolute value of the discretionary accruals will increase. Highly leveraged firms will engage more in earnings management to, for example, achieving certain thresholds.

Models 3 and 4 of tables 3 and 4 are the diff-in-diff regressions without financial institutions' observations. Model 3 shows almost the same results compared to model 1. If a firm is sponsoring a particular football club, the discretionary accruals' absolute values will decrease. The variable of model 3 of Table 4 has changed to a negative value. Compared to model 1, the discretionary accruals will not become less negative but less positive. Firms will increase their earnings less. Both models 1 and 3 of Table 3 show that fluctuations in discretionary accruals will decrease; it shows different results regarding how a firm's earnings are affected. If the control variables are included in model 4, the results have changed again, and the coefficient's absolute values have increased significantly. The significant variables in model 3 become not significant in model 4. The coefficients can not be interpreted. There is potentially no effect of sponsoring on the absolute values of the discretionary accruals. The size and leverage control variables are still significant. There is an effect of size and leverage on a firm's earnings management. Considering hypothesis 1: "Firms will engage less in earnings management after they start investing in football clubs." Notwithstanding the results of models 1 and 3 of Table 3 indicate a relationship between sponsoring a football club and a firm's earnings management, hypothesis 1 will be rejected. If the control variables are added to the models, the highly significant results disappeared. The control variables outweigh the interaction coefficient's effect; the variable of interest becomes not significant. Due to the insignificant results of models 2 and 4, this thesis can not accept hypothesis 1. Firms will not engage less in earnings management after investing in football clubs.

5.5 Difference-in-Difference regressions models for hypothesis 2

The diff-in-diff regression models for hypothesis 2 are shown in tables 5 to 8. Again these models are presented without a constant to avoid omitted variables. The same regressions are made as in tables 3 and 4, while the treatment group is split into two groups. Tables 5 (see below) and 6 have the DFML clubs' sponsors as a treatment group, and tables 7 (see below) and 8 have the non-DFML clubs' sponsors as a treatment group.

Table 5: diff-in-diff regression with the DFML clubs as treatment group (absolute values)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.05877)	0.02597***	(0.32754)
Dum_TG1	0.04012***	(0.05564)	0.04418***	(0.32287)
Dum_intef1	(0.03448)***	0.05659	(0.03631)***	0.32458
Dum_more	-	0.00391	-	0.00403
Year	-	0.00010	-	0.00024
Size	-	(0.00696)***	-	(0.00701)***
Profitability	-	(0.00534)	-	(0.00899)
Leverage	-	0.01497	-	0.02676
Constant	-	-	-	-
Regression statistics:				
Observations	351	351	312	312
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.40470	0.48400	0.42010	0.49370
Root MSE	0.04208	0.03946	0.04366	0.04113

*** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 7: diff-in-diff regressions with the non-DFML clubs as treatment group (absolute values)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.77308)	0.02597***	(1.54441)
Dum_TG2	0.03837***	(0.76493)	0.03683***	(1.53554)
Dum_intef2	(0.03548)***	0.76381	(0.03129)***	1.53803
Dum_more	-	0.00832	-	0.01121*
Year	-	0.00042	-	0.00079
Size	-	(0.00267)***	-	(0.00139)
Profitability	-	0.00249	-	0.00432
Leverage	-	0.02705***	-	0.03384*
Constant	-	-	-	-
Regression statistics:				
Observations	412	412	330	330
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.48450	0.51370	0.49450	0.51870
Root MSE	0.03458	0.03379	0.03341	0.03285

*** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

This distinction is made to examine the possible difference in earnings management between sponsoring a DFML club and a non-DFML club. Tables 5 and 6 are the diff-in-diff regression models with the DFML clubs as the treatment group. The results of model 1 of Table 5 show a significant negative effect of sponsoring a DFML football club on discretionary accruals' absolute value. All variables are significant at a 1% significance level, meaning sponsoring a DFML football club will lead to fewer earnings management engagement. The fluctuations in earnings management will be minor. The results show that the interaction effect variable of

table 5 is slightly lower than the interaction effect variable of table 3. However, table 7, with the non-DFML football clubs as the treatment group, has a slightly higher coefficient (more negative) than the coefficient of table 3. There is a slight difference between sponsoring a DFML football club (Table 5) and sponsoring a non-DFML football club. It could indicate that firms sponsoring a non-DFML football club will engage less in earnings management. This result is in contradiction with the assumption that has been made in advance. This study assumed that the monitoring effect would be more present if a firm is sponsoring a DFML football club. Both the coefficient of the variables of interest as the effect's direction differs. The coefficient is negative in table 6 and positive in table 8, indicating that firms sponsoring DFML football clubs will increase their earnings less. Firms sponsoring non-DFML football clubs will decrease their earnings less. The inclusion of the control variables in model 2 of tables 5 and 7 ensure that the significant results of models 1 of tables 5 and 7 become not significant. The coefficients of models 1 of tables 5 and 7 can not be interpreted. There is no difference in earnings management between sponsoring a DFML-football club and a non-DFML football club. The only significant coefficients are size in table 5 and size and leverage in table 7.

Models 3 and 4 are the same regressions of models 1 and 2 without financial institutions' observations. The interaction effect coefficient's absolute value in table 5 has increased, while the interaction effect variable's absolute value in Tables 3 and 7 has decreased. The results of models 3 in tables 5 and 7 show that firms sponsoring a DFML football club will engage less in earnings management than sponsoring non-DFML football clubs. It is in line with the assumption made in advance but contradicts the results of models 1 of tables 5 and 7. The results are highly significant at a 1% significance level, indicating that there is indeed a different relationship between sponsoring a DFML football club and sponsoring a non-DFML football club on a firm's earnings management. Based on the results of model 3, an assumption can be made that firms sponsoring a DFML football club engage less in earnings management. The coefficient of the variable of interest and the direction of the possible effect has changed in model 3 compared to model 1. Both coefficients of tables 6 and 8 are negative. It implies that firms sponsoring a DFML football club or a non-DFML football club increase their earnings less. In contradiction, models 1 of tables 6 and 8 suggest firms sponsoring a non-DFML football club will decrease their earnings less. Again the significant results of model 3 disappear when including control variables. The coefficient of the variable of interest changes from negative to

positive. Model 4 of Table 7 shows implausible high values for the coefficients. An assumption can be made that there is no difference between sponsoring a DFML-football club and sponsoring a non-DFML football club. Interesting is that the size is not significant in Table 7 and that the dummy variable for sponsoring more than one football club in the same year becomes significant. This result could indicate that an effect is possible of sponsoring on a firm's earnings management if a firm is sponsoring more than one non-DFML football club at the same time. The impact of sponsoring one football club is too little compared to the effects of size and leverage. Considering hypothesis 2: "Earnings management will be less for firms investing in football clubs stated in the Deloitte Football Money League (DFML) than firms investing in football clubs not stated in the DFML." Notwithstanding the results of models 1 and 3 of tables 5 and 7 show a potential difference in earnings management between a firm sponsoring a DFML football club and a firm sponsoring a non-DFML football club, hypothesis 2 will also be rejected. With the inclusion of the control variables, there are no significant results. The coefficients can not be interpreted. There are no differences between sponsoring a DFML and a non-DFML football club.

6. Conclusion and Discussion

This study has examined the effect of sponsoring a football club on a firm's earnings management. Based on several diff-in-diff regression models, the developed hypotheses are tested. With the results of the hypotheses, the research question of this study will be answered. First, the hypotheses will be discussed separately. Second, the research question will be discussed and answered. The limitations and suggestions for further research will be discussed finally.

6.1 Hypothesis 1

The first hypothesis: "*Firms will engage less in earnings management after they start investing in football clubs,*" can be answered based on tables 3 and 4 of Appendix B. An assumption can be made that there is indeed a relationship between sponsoring a football club and a firm's earnings management (models 1 and 3, Table 3), according to highly significant coefficients of the diff-in-diff regression models (significant at a 1% significance level). The results show that sponsoring will decrease the discretionary accruals' absolute value, meaning fewer fluctuations. The variable of interest coefficient is positive (less negative) in model 1 and negative (less positive) in model 3 (Table 4). If all observations are considered, firms will decrease their earnings less. If the observations exclude the financial institutions, firms will increase their revenues less. Based on the results of models 1 and 3 of Table 3, the hypothesis should be accepted because the results show that sponsoring leads to less engagement in earnings management.

When the control variables are included in models 2 and 4 of Table 3, the coefficients of models 1 and 3 are not significant. The coefficients can not be interpreted. The results only show significant coefficients for the control variables firm's size and leverage. The effects of size and leverage outweigh the potential impact of sponsoring. There is no effect of sponsoring on a firm's earnings management. Therefore, hypothesis 1 will be rejected; there is no visible effect when the control variables are included.

6.2 Hypothesis 2

The second hypothesis: "*Earnings management will be less for firms investing in football clubs stated in the Deloitte Football Money League (DFML) than firms investing in football clubs not stated in the DFML"* can be answered based on tables 5 to 8 of Appendix B. There is little difference between sponsoring a DFML football club and sponsoring a non-DFML football club (models 1 of tables 5 and 7). The results of both models are significant at a 1% significance level. The results contradict the hypothesis because the coefficient of the variable of interest in table 5 is less negative than the coefficient of the variable of interest in table 7. Firms sponsoring a non-DFML football club will engage less in earnings management than firms sponsoring a DFML football club (model 1). Based on the results of models 1 of tables 5 and 7, the hypothesis should be rejected. However, model 3 suggests firms sponsoring a DFML football club will engage less in earnings management than firms sponsoring a non-DFML football club. This hypothesis should be accepted based on models 3 of tables 5 and 7.

When the control variables are included in models 2, and 4 of tables 5 and 7, the coefficients of models 1 and 3 become not significant. The coefficients can not be interpreted. The results generally show significant results for a firm's size and leverage. The effects of size and leverage outweigh the impacts of sponsoring DFML and non-DFML football clubs. It indicates no difference between sponsoring a DFML football club or sponsoring a non-DFML football club. To conclude, hypothesis 2 will also be rejected.

6.3 Research question

This study's research question is stated as follows: "*Do sports sponsorships affect a firm's earnings management?"* The results of the hypotheses are used to answer this question. Both hypotheses were rejected with the inclusion of the control variables. The results are only highly significant without control variables; there seems to be a relationship between sponsoring and a firm's earnings management and a difference between sponsoring a DFML football club and a non-DFML football club. Based on the results of the models without the control variables, the research question can be confirmed. When control variables are included, there are no significant effects of sponsoring a firm's earnings management. There are no differences between sponsoring a DFML football club and a non-DFML football club. In conclusion, and to answer the question, sports sponsorships do not affect a firm's earnings management. The research question can not be confirmed.

6.4 Limitations and suggestions for further research

This study has a few limitations which could be improved in further research. The first limitation is that the data is hand-collected (no database available), resulting in relatively fewer observations collected due to time issues. Further research could include more sponsors or extend the sample period to collect more observations. The control group observations could be expanded, or a different control group can be used. A different control group could be using similar firms compared to the firms included in the dataset, which have not sponsored a football club ever. The second limitation is that this study has only focussed on sports sponsorships related to football. Future research could include sponsors of different sports or examine if there is a difference between other sports sponsors. The third limitation is that the actual solution for the omitted variables is not found. This study has avoided this problem by excluding the constant. Future research could find the actual solution to report the diff-in-diff regression models with a constant and without omitted variables. The result of the dummy variable for sponsoring more than one football club at the same time (model 4 of Table 7) could be interesting for further research; there is a significant effect. There could also be a possible effect of sponsoring on a firm's earnings management if the control variables are excluded. Sponsoring one football club at the same may not be enough to affect a firm's earnings management. Future research could examine if sponsoring more than one football club is affecting a firm's earnings management.

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Appendix A

Table 1 Appendix A: Sample selection process

Sample 1: All observations		
The total amount of shirt sponsors	160	
Potential total observations	1600	
The total amount of available observations	674	
The total amount of the during-period observations	311	
The total amount of the during-period observations for DFML sponsors		147
The total amount of the during-period observations for non-DFML sponsors		164
The total amount of the pre- or post-period observations	363	
Sample 2: Distinction between control and treatment group		
The total amount of available observations for the control group	89	
The total amount of available observations for the treatment group	585	
The total amount of the during-period observations for the treatment group	222	
The total amount of the during-period observations for DFML sponsors		95
The total amount of the during-period observations for non-DFML sponsors		127
The total amount of the pre- or post-period observations for the treatment group	363	
Sample 3: All observations without financial institutions		
The total amount of available observations	553	
The total amount of the during-period observations	256	
The total amount of the during-period observations for DFML sponsors		129
The total amount of the during-period observations for non-DFML sponsors		127
The total amount of the pre-or post-period observations	297	
Sample 4: Distinction between control and treatment group without financial institutions		
The total amount of observations available for the control group	89	

The total amount of observations available for the treatment group	464	
The total amount of the during-period observations	167	
The total amount of the during-period observations for DFML sponsors		77
The total amount of the during-period observations for non-DFML sponsors		90
The total amount of the pre-or post-period observations available for the treatment	297	

Table 2 Appendix A: Descriptive statistics earnings management

Description **Sample 1: All observations**	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA all observations	(0.31913)	0.22561	0.00006	0.05235
DA during period	(0.23108)	0.18034	0.00087	0.04339
DA during period DFML	(0.12523)	0.15595	(0.00110)	0.04455
DA during period non-DFML	(0.23108)	0.18034	0.00265	0.04239
DA pre-, post-period	(0.31913)	0.22561	(0.00063)	0.05900
Sample 2: Distinction between control and treatment group	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA control group	(0.15581)	0.14208	0.00100	0.03980
DA treatment group	(0.31913)	0.22561	(0.00008)	0.05403
DA during period treatment group	(0.23108)	0.18034	0.00082	0.04484
DA during period treatment group DFML	(0.12523)	0.15595	(0.00270)	0.04647
DA during period treatment group non-DFML	(0.23108)	0.18034	0.00346	0.04358
DA pre-, post-period treatment group	(0.31913)	0.22561	(0.00063)	0.05900
Sample 3: All observations without financial institutions	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA all observations	(0.31913)	0.22561	(0.00010)	0.05381
DA during period	(0.23108)	0.15595	(0.00092)	0.04446
DA during period DFML	(0.12523)	0.15595	(0.00151)	0.04646
DA during period non-DFML	(0.23108)	0.14208	(0.00031)	0.04251

DA pre-, post-period	(0.31913)	0.22561	0.00060	0.06079
Sample 4: Distinction between control and treatment group without financial institutions	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA control group	(0.15581)	0.14208	0.00100	0.03980
DA treatment group	(0.31913)	0.22561	(0.00031)	0.05613
DA during period treatment group	(0.23108)	0.15595	(0.00194)	0.04684
DA during period treatment group DFML	(0.12523)	0.15595	(0.00376)	0.04990
DA during period treatment group non-DFML	(0.23108)	0.07943	(0.00039)	0.04428
DA pre-, post-period treatment group	(0.31913)	0.22561	0.00060	0.06079

The ( ) indicates a negative amount for earnings management

Table 3 Appendix A: Descriptive statistics earnings management absolute values

Description **Sample 1: All observations**	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA all observations	0.00000	0.31913	0.03444	0.03941
DA during period	0.00004	0.23108	0.02895	0.03229
DA during period DFML	0.00004	0.15595	0.03087	0.03204
DA during period non-DFML	0.00024	0.23108	0.02722	0.03253
DA pre-, post-period	0.00000	0.31913	0.03914	0.04411
Sample 2: Distinction between control and treatment group	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA control group	0.00023	0.15581	0.02597	0.03004
DA treatment group	0.00000	0.31913	0.03572	0.04051
DA during period treatment group	0.00004	0.23108	0.03014	0.03314
DA during period treatment group DFML	0.00004	0.15595	0.03133	0.03427
DA during period treatment group non-DFML	0.00032	0.23108	0.02925	0.03238
DA pre-, post-period treatment group	0.00000	0.31913	0.03914	0.04411
Sample 3: All observations without financial institutions	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA all observations	0.0000	0.31913	0.03567	0.04026

DA during period	0.00004	0.23108	0.03036	0.03244
DA during period DFML	0.00004	0.15595	0.03224	0.03336
DA during period non-DFML	0.00024	0.23108	0.02845	0.03149
DA pre-, post-period	0.00000	0.31913	0.04024	0.04551
Sample 4: Distinction between control and treatment group without financial institutions	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
DA control group	0.00024	0.15581	0.02597	0.03004
DA treatment group	0.00000	0.31913	0.03753	0.04171
DA during period treatment group	0.00004	0.23108	0.03270	0.03350
DA during period treatment group DFML	0.00004	0.15595	0.03373	0.03676
DA during period treatment group non-DFML	0.00032	0.23108	0.03181	0.03062
DA pre-, post-period treatment group	0.00000	0.31913	0.04024	0.04551

Table 4 Appendix A: Variable definition

Variable name	**Description**
Shirt sponsor	The name of a company or brand on the shirts of the football club that it is sponsoring
Company	The main organization of the shirt sponsor
Firm_iden	This means firm identifier, which means that every company gets a specific numerical value
Year	Year of observation
Period	Indicator to point out if a company is in the pre-sponsoring, during-sponsoring, or post-sponsoring period
Dum_per	Dummy variable that equals 1 if a firm is sponsoring a football club, and 0 otherwise
Cat_per	Categorical variable for the period variable in which the pre-period equals 1, during-period equals 2, and post-period equals 3
Dum_entire	Dummy variable that equals 1 if the available data of a firm is during the sponsor period, and 0 if a firm is not sponsoring the entire sample period
Football club	Name(s) of the football club(s) that a firm is sponsoring
Amount_clubs	The number of football clubs that a firm is sponsoring in that specific year
Dum_more	Dummy variable that equals 1 if a firm is sponsoring more than 1 football club at the same time, and 0 otherwise
Placement_DFML	The placement of a football if it is included in the DFML
Dum_DFML	Dummy variable that equals 1 if a firm is sponsoring a football club which is included in the DFML

Country_club	The nation in which a football club that is sponsored by a firm is established
Cat_country	Categorical variable to indicate in which nation a football club is established. 1 is Spain; 2 is England; 3 is Germany; 4 is France; 5 is Italy; 6 is Russia; 7 is Turkey; 8 is Portugal; 9 is The Netherlands; 10 is sponsoring multiple football clubs that are established in different nations
Dum_FinInst	Dummy variable that equals 1 if the sponsor of a football club is a financial institution
CA	Current Assets
Cash_CashEq	Cash and Cash Equivalents
CL	Current Liabilities
STD	Short-term debt
Depr_Amort	Depreciation and Amortization
REV	Revenues
REC	Receivables
Pr_Pl_Eq	Property, Plant, and Equipment
TA	Total Assets
Delta_CA	The difference between the current assets in year t and the current assets in year t-1
Delta_cash	The difference between the cash and cash equivalents in year t and the cash and cash equivalents in year t-1
Delta_CL	The difference between the current liabilities in year t and the current liabilities in year t-1
Delta_STD	The difference between the short-term debt in year t and the short-term debt in year t-1
Delta_Rev	The difference between the revenues in year t and the revenues in year t-1
Delta_Rec	The difference between the receivables in year t and the receivables in year t-1
Lagged_assets	The total assets in year t-1
TACC	The total accruals of a firm that will be calculated by $TACC = DeltaCA - DeltaCash - DeltaCL + DeltaSTD - DeprAmort$
Term1	Is calculated by $\frac{1}{lagged\ assets}$
Term2	Is calculated by $\frac{(delta\ Rev - delta\ Rec)}{lagged\ assets}$
Term3	Is calculated by $\frac{\mathrm{Pr}\,Pl\ Eq}{lagged\ assets}$
EM	Proxy for earnings management based on the modified Jones model
Size	A control variable that will be calculated by taking the log of the total assets
Leverage	A control variable that will be calculated by $\frac{Current\ Liabilities}{Total\ Assets}$
Profitability	A control variable that will be calculated by $\frac{Revenue}{Total\ Assets}$

Appendix B

Table 1: basis regressions of the dummy variables on the absolute value of EM

Dependent variable: Absolute value of discretionary accruals					
Variables:	Model 1	Model 2	Model 3	Model 4	Model 5
Dum_per	(0.01019)***	-	-	(0.00900)***	(0.00848)***
Dum_entire	-	(0.00975)***	-	(0.00417)	(0.00613)
Dum_FinInst	-	-	(0.00686)*	-	(0.00791)**
Constant	0.03914***	0.03572***	0.03567***	0.03914***	0.04058 ***
Regression Statistics					
Observations	674	674	674	674	674
P (F-test)	0.00060	0.00670	0.05680	0.00120	0.00080
R-squared	0.01660	0.00700	0.00450	0.01770	0.02340
Root MSE	0.03911	0.03930	0.03935	0.03911	0.03903

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table2: basic regressions of the dummy variables on the normal value of EM

Dependent variable: Discretionary accruals					
Variables:	Model 1	Model 2	Model 3	Model 4	Model 5
Dum_per	0.00150	-	-	0.00145	0.00139
Dum_entire	-	0.00108	-	0.00018	0.00043
Dum_FinInst	-	-	0.00092	-	0.00100
Constant	(0.00063)	(0.00008)	(0.00010)	(0.00063)	(0.00081)
Regression Statistics:					
Observations	674	674	674	674	674
P (F-test)	0.70380	0.82040	0.84450	0.92860	0.98020
R-squared	0.00020	0.00000	0.00000	0.00020	0.00030
Root MSE	0.05238	0.05239	0.05239	0.05242	0.05246

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 3: diff-in-diff regression with the total sample (absolute values) (as shown before in the main text)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.36447)	0.02597***	(0.86089)
Dum_TGT	0.03914***	(0.36011)	0.04024***	(0.85641)
Dum_intefT	(0.03497)***	0.35820	(0.03352)***	0.85589
Dum_more	-	0.00434	-	0.00500
Year	-	0.00024	-	0.00048
Size	-	(0.00518)***	-	(0.00483)***
Profitability	-	(0.00143)	-	(0.00238)
Leverage	-	0.02334***	-	0.03584***
Constant	-	-	-	-
Regression statistics:				
Observations	674	674	553	553
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.44340	0.49620	0.45020	0.49840
Root MSE	0.03911	0.03735	0.03997	0.03835

*** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 4: diff-in-diff regression with total sample (normal values)

Dependent variable: Discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.00100	0.07971	0.00100	0.51528
Dum_TGT	(0.00063)	0.07924	0.00060	0.51699
Dum_intefT	0.00045	(0.07856)	(0.00355)	(0.51953)
Dum_more	-	(0.00222)	-	(0.00053)
Year	-	(0.00004)	-	(0.00026)
Size	-	0.00039	-	0.00058
Profitability	-	0.00180	-	0.00512
Leverage	-	(0.01072)	-	(0.02690)
Constant	-	-	-	-
Regression statistics:				
Observations	674	674	553	553
P (F-test)	0.98180	0.99220	0.94570	0.91390
R-squared	0.00020	0.00220	0.00050	0.00720
Root MSE	0.05242	0.05257	0.05389	0.05396

*** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 5: diff-in-diff regression with the DFML clubs as treatment group (absolute values) (as shown before in the main text)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.05877)	0.02597***	(0.32754)
Dum_TG1	0.04012***	(0.05564)	0.04418***	(0.32287)
Dum_intef1	(0.03448)***	0.05659	(0.03631)***	0.32458
Dum_more	-	0.00391	-	0.00403
Year	-	0.00010	-	0.00024
Size	-	(0.00696)***	-	(0.00701)***
Profitability	-	(0.00534)	-	(0.00899)
Leverage	-	0.01497	-	0.02676
Constant	-	-	-	-
Regression statistics:				
Observations	351	351	312	312
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.40470	0.48400	0.42010	0.49370
Root MSE	0.04208	0.03946	0.04366	0.04113

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 6: diff-in-diff regressions with the DFML clubs as treatment group (normal values)

Dependent variable: Discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.00100	0.62041	0.00100	0.53496
Dum_TG1	0.00017	0.62169	0.00036	0.53652
Dum_intef1	(0.00292)	(0.62304)	(0.00387)	(0.53958)
Dum_more	-	(0.00409)	-	(0.00360)
Year	-	(0.00031)	-	(0.00027)
Size	-	0.00081	-	0.00077
Profitability	-	0.00331	-	0.00559
Leverage	-	(0.01668)	-	(0.02361)
Constant	-	-	-	-
Regression statistics:				
Observations	351	351	312	312
P (F-test)	0.97640	0.98430	0.96300	0.97890
R-squared	0.00040	0.00440	0.00060	0.00640
Root MSE	0.05453	0.05481	0.05732	0.05762

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 7: diff-in-diff regressions with the non-DFML clubs as treatment group (absolute values) (as shown before in the main text)

Dependent variable: Absolute value of discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.02597***	(0.77308)	0.02597***	(1.54441)
Dum_TG2	0.03837***	(0.76493)	0.03683***	(1.53554)
Dum_intef2	(0.03548)***	0.76381	(0.03129)***	1.53803
Dum_more	-	0.00832	-	0.01121*
Year	-	0.00042	-	0.00079
Size	-	(0.00267)***	-	(0.00139)
Profitability	-	0.00249	-	0.00432
Leverage	-	0.02705***	-	0.03384*
Constant	-	-	-	-
Regression statistics:				
Observations	412	412	330	330
P (F-test)	0.00000	0.00000	0.00000	0.00000
R-squared	0.48450	0.51370	0.49450	0.51870
Root MSE	0.03458	0.03379	0.03341	0.03285

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*

Table 8: diff-in-diff regressions with the non-DFML clubs as treatment group (normal values)

Dependent variable: Discretionary accruals				
	With Financial Institutions		**Without Financial Institutions**	
Variables:	Model 1	Model 2	Model 3	Model 4
Dum_per	0.00100	(0.88180)	0.00100	(0.13463)
Dum_TG2	(0.00125)	(0.88222)	0.00081	(0.13226)
Dum_intef2	0.00330	0.88587	(0.00317)	0.13089
Dum_more	-	0.00491	-	0.00677
Year	-	0.00044	-	0.00007
Size	-	0.00006	-	0.00018
Profitability	-	0.00048	-	0.00338
Leverage	-	(0.00609)	-	(0.02446)
Constant	-	-	-	-
Regression statistics:				
Observations	412	412	330	330
P (F-test)	0.86390	0.98190	0.98200	0.96690
R-squared	0.00160	0.00360	0.00050	0.00720
Root MSE	0.04812	0.04837	0.04698	0.04718

**** = significant at 1%; ** = significant at 5%; * = significant at 10%; ( ) = negative value*