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DANIŞMAN: DR. ÖĞR. ÜYESİ MEHTAP ÖNER

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ÖZET

Finansal ve finansal olmayan raporlama arasındaki ilişki, akademik literatürde son zamanlarda önemli bir ilgi görmüştür. Şirketlerin sosyal sorumlulukları, finansal olmayan raporlamanın önemli bir kısmını oluşturmaktadır. Öte yandan, kazanç yönetimi, finansal raporlamanın kalitesini temsil eden bir gösterge olarak kabul edilir. Kazanç yönetimi ve Kurumsal Sosyal Sorumluluk (KSS) ilişkisini araştıran çalışmalar, şimdiye kadar karışık sonuçlar ortaya koymuştur. Vekâlet teorisi mali ve mali olmayan bildirim raporlaması arasındaki pozitif ilişkiyi açıklarken, yönetim teorisi mali ve mali olmayan bildirim raporlaması arasındaki ters ilişkiyi açıklar. Ancak, çalışmaların çoğu, kazanç kalitesi ile KSS performansı arasındaki ilişkiyi yürütürken tahakkuk bazlı kazanç yönetimi modellerini karşılaştırmayı ihmal etmiştir. Bu tezde Dechow ve Dichev (2002)'in ve Kothari, Leone ve Wasley (2005)'in modelleri kullanılarak isteğe bağlı tahakkuklar tahmin edilmiş ve kazanç yönetimini temsilen kullanılmıştır. Şirketlerin KSS performansı Thomson-Reuters finansal veri tabanı kullanılarak elde edilmiştir. 2011-2020 mali yılları için 26 finansal olmayan ABD şirketinden oluşan bir örneklem kullanan bu çalışma Dechow ve Dichev'in (2002) modelini Kothari, Leone ve Wasley'in (2005) tahmin etme modelinden daha güçlü bulmuştur. Ayrıca kazanç yönetimi ile KSS arasında anlamlı ilişki bulunamamıştır. Başka bir deyişle, şirketlerin KSS faaliyetleri, yöneticileri kazanç yönetimi faaliyetlerini uygulamaya teşvik etmez veya caydırmaz. Ancak kazanç yönetimi ile diğer değişkenler arasındaki ilişki yani; denetim süresi, kaldıraç oranı ve faaliyetlerden kaynaklanan nakit akışları negatif bulunurken, aktif karlılık oranı ile kazanç yönetimi arasındaki ilişkinin pozitif olduğu ve şirket büyüklüğü ile kazanç yönetimi arasında hiçbir ilişki belgelenmediği tespit edilmiştir.

Anahtar kelimeler: kurumsal sosyal sorumluluk, kar yönetimi, isteğe bağlı tahakkuklar, panel veri analizi

ABSTRACT

The relationship between financial and non-financial statement reporting has drawn significant attention recently in the academic literature. The social responsibilities of the companies grant a significant portion of the non-financial reporting. On the other hand, earnings management is viewed as a proxy of financial reporting quality. Studies evaluating the relationship between earnings management (EM) and Corporate Social Responsibility (CSR) have documented mixed results so far. Whereas the agency theory explains the positive association between financial and non-financial statement reporting, the stewardship theory explains the inverse association between financial and non-financial statement reporting. However, most of the studies have neglected to compare the accrual-based earnings management models while conducting the association between earnings quality and CSR performance. Using Dechow and Dichev (2002) 's and Kothari, Leone, and Wasley (2005) 's model discretionary accruals are estimated and used as a proxy for earnings management in this thesis. Companies' CSR performance is captured by using Thomson- Reuters financial database. Using a sample of 26 non-financial U.S. companies for the fiscal years 2011-2020, this study finds the Dechow and Dichev (2002) 's model more powerful than Kothari, Leone, and Wasley (2005) 's model to estimate accruals EM. Furthermore, it has been found that there is no relationship between EM and CSR. In other words, the CSR activities of the companies don’t encourage or discourage managers to practice EM activities. However, the relationship between EM and other variables namely; audit-tenure, leverage, and cash flows from operations have been found to be negative whereas the relationship between return on asset and EM has been found to be positive and no relationship between size and EM has been documented.

Keywords: corporate social responsibility, earnings management, discretionary accruals, panel data analysis

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ABBREVIATIONS

BSR	Business for Social Responsibility
CA	Current Assets
CED	The Committee on Economic Development
CFO	Cash Flows from Operations
CL	Current Liabilities
CSR	Corporate Social Responsibility
DA	Discretionary Accruals
DEP	Depreciation and Amortization Expense
DISX	Discretionary Expenses
EM	Earnings Management
FIFO	First in First out
GAAP	Generally Accepted Accounting Principles
LIFO	Last in First out
NDA	Non-Discretionary Accruals
PPE	Property, Plant and Equipment
PROD	Production Cost
REC	Receivables
Reg F.D.	Regulation Fair Disclosure
REM	Real Activities Earnings Management
REV	Revenues
ROA	Return on Assets
S	Sales
SEC	Security Exchange Commission
SOX	Sarbanes Oxley Act
TAC	Total Accruals
TBL	Triple Bottom Line
U.S.	United States
UN	United Nations

WC	Working Capital

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1. INTRODUCTION

The corporate scandals experienced at the beginning of the 21st century in the United States (U.S.) have shown that audit quality has a significant role in attracting investors. After the eventual collapse of several big firms in the U.S., the audit regulations have been tightened following the implementation of the SOX (Sarbanes Oxley Act) and the Reg F.D. (Regulation Fair Disclosure) laws. In this sense, it is expected that a firm should be accountable, transparent, and responsible towards all interest groups.

Corporate Social Responsibility (CSR) is one of the important characteristics that influence the company's prestige and it has drawn attention within the last century as well (Velte 2010:8). A good company should not only focus on making a profit; rather, it should take responsibility for providing fair and truthful financial statements to the investors, providing jobs to the people, and respecting both the environmental and ethical rules of a community. In this sense, stakeholder management equals within CSR since it deals with economic, social, and environmental aspects. The stakeholder management should assist in increasing the CSR performance and financial performance of a company. However, CSR is wider than stakeholder theory when CSR compared with stakeholder management.

All articles reviewed within the scope of this thesis focusing on the CSR-earnings management link and the earnings management-CSR link have shown that heterogonous results in the literature exist. In this sense, the positive relation, recorded more times than the inverse relationship can be associated with the stewardship theory. According to the stewardship theory, a company must have a good financial performance and CSR performance. Those companies have fewer incentives to practice earnings management activities since they try to build a long-lasting relationship with stakeholders, and a skewed or biased earnings quality does not reflect stakeholders' interest. However, some companies may mask their opportunistic behavior by demonstrating a good CSR report, and thus, the association between CSR and earnings management can be positive. The agency theory can explain this positive association because this theory assumes opportunistic manager behavior. That is why the managers try to cover up their intention by using CSR and financial performance as a device.

This study is dedicated to reveal the relationship between financial and non-financial reporting with respect to the structure of corporate boards. The two-contrasting theories of the corporate governance, namely, stewardship theory and agency theory help to explain this association. The recent experienced corporate scandals at the beginning of 2000's and the significantly increased relevance of the social responsibilities of the entities grant the motivation of examining relationship between financial and non-financial activities of a company. Thus, CSR and earnings management activities utilized as a

proxy of non-financial and financial activities respectively. To obtain the empirical evidence on the relationship between CSR and earnings management, 26 non-financial U.S. companies throughout 2011-2020 have been utilized; meanwhile, the panel data analysis has been employed as a statistical method in this study. Many studies explored the relationship between earnings management and CSR in the literature considering the U.S. companies. This thesis contributes to the existing literature by including two different models to estimate the discretionary(abnormal) accruals and their relationship with CSR. Additionally, this thesis demonstrates an updated evidence for the relationship between CSR and earnings management for the U.S.

The following section of the thesis provides a wider perspective of CSR and information about its historical development. Additionally, the major theories of CSR will be explained in detail. Furthermore, the association of CSR with accounting, namely, its importance in terms of accountability and audit quality will also be provided in this section.

The third section of the thesis explains the earnings management, its types, the related theories, and strengthening regulations in the U.S. Moreover, this section provides the estimation methods of the discretionary accruals based on the real activities' and accrual models.

In the fourth section, the related literature review has been provided by dividing the context into the CSR-earnings management and earnings management-CSR links. Additionally, the related studies have been classified into two parts, respectively; the studies conducted internationally either by single or cross country based and studies conducted in the context of U.S. market. In this way, the U.S. context and findings can be distinguishable from the international context.

The fifth section attempts to give an interpretation and provide the results of the panel data models with their comparison to other studies. This section also provides the basic assumption of the panel data analysis, and it is superior to the classical model. Moreover, the dataset, hypothesis, variables, and statistical methodology used will be explained in this section.

The sixth and the last section depicts a summary of the overall findings and their association with the theories of corporate governance. This section also stated the recommendations for future studies and the limitation of this thesis.

2. CORPORATE SOCIAL RESPONSIBILITY

For many years, CSR was often called social responsibility (SR) because the age of the modern corporation's importance and authority in the private sector had not still taken place or been recognized. (Carroll 2009:19)

E. Merrick Dodd argued on the role of managers in the 1930s and the origin of the modern CSR discussion. He says managers have social obligations towards society. The modern CSR discussion of today is derived from his argument (Kraus and Brtitzelmaier 2014:283). Afterwards, so many determinations of CSR have been discussed in the academic literature, but there is still no common definition for it. However, CSR can be explained as a way through which a company satisfies its obligations towards society and the environment together with economic development balance.

Meanwhile, the responsibilities towards shareholders and stakeholders should not be neglected. All in all, CSR can be defined as a balanced achievement between all interest groups of a business without disregarding any of them. In order to name CSR alternatively, many terms and concepts, such as social responsibility of companies, corporate sustainability, corporate responsibility, or corporate citizenry, can be included. However, the definitions of these terms are not entirely and commonly accepted yet (Kraus & Brtitzelmaier 2014:282).

Dahlsrud (2008:3) gathered definitions of CSR through a literature review of 27 different authors covering a period between 1980-2003. He argued that there is no standard definition of CSR. Even if so many different definitions of CSR in the literature exist, they are consistently about five dimensions, namely, stakeholder dimension, social dimension, economic dimension, voluntariness dimension, and the environmental dimension. Some of the CSR definitions can be described as below;

"*CSR is concerned with treating the stakeholders of the firm ethically or in a responsible manner, and that stakeholders exist both within a firm and outside"* (Hopkins2013:16)

"In general, both corporate sustainability and CSR refer to company activities - voluntary by definition- demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (Marrewijk 2002:8)

"Actions that appear to further some social good, beyond the interests of the firm and Social that which is required by law" (Mcwilliams and Siegel 2001:117)

"Corporate Social Responsibility is the degree of moral obligation that may be ascribed to corporations beyond simple obedience to the laws of the state" (Kilcullen and Ohles Kooistra 1999:158)

As those definitions above suggest, each encompasses a different variation of CSR. Hopkins's (2013) definition encompasses social, voluntariness, and stakeholder dimensions, whereas Marrewijk's (2002) definitions surround all above mentioned dimensions. Similarly, Mcwilliams and Siegel's (2001) definition is related to voluntaries and social dimensions, while Kilcullen and Ohles Kooistra's (1999) definition refers merely to the voluntaries dimension.

In following sub-sections study, different descriptions and various approaches to CSR will be widely discussed. Indeed, CSR and its development from the 1950s till today and its association with accounting standards will be clarified.

2.1 Development of Corporate Social Responsibility

Generally, CSR phases can be classified as pre-1950s and post-1950s. In a simplified scheme, the time slot between 1920- 1950s is the "philanthropic" era when corporations donated to non-profit organizations above all. The period between 1953–1967 can be labeled as the "awareness" era when the business's overall responsibility gained importance and participation in social affairs grew in importance. The years 1968–1973 were known as the "issue eras" because businesses began to focus on urban blight, ethnic discrimination, and pollution. Afterward, companies began to deal with CSR issues seriously during the "responsiveness" era (1974–1978) and beyond. Some actions have been put into practice, such as the structure of the board, examination of business ethics, and the way of announcing social activities (Carroll 2009:24).

These phases are explained in detail below.

2.1.1 1950's and 1960's: Outset of the Modern Time of Social Responsibility

In order to promote CSR in the 1950s and 1960s, the theoretical focus of CSR research was driven on the macro social institutions. Bowen (1953) conceptualized CSR further in 1953 as a social obligation. With his new approach to management, he was ahead of his time by striving for improving the company's reactions to its social impact and he made a great contribution to the determination of corporate social responsibility. He proposed the idea of defining the company's social responsibilities through a set of principles. According to Bowen, the decisions and actions of the businessman impact directly society's life quality for their stakeholders, employees, and clients. Given what has been said, he defined business management's social responsibilities as "the obligations of businessmen to pursue

those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen 2013:6). He was the pioneer in this academic research area, relying on the fact that he has a considerable reputation in this field. That's why according to some authors he could be named as "Father of Corporate Social Responsibility" (Carroll 2009:25; Homayoun et al. 2015:180).

During the 1960s, other scholars such as Davis(1960), Frederick(1960), and Walton(1967)made an outstanding contribution to the vision of the academic literature by acknowledging the importance of the association between corporations and society (Agudelo, Jóhannsdóttir and Davídsdóttir 2019:6). However, there were some opponents of corporate social responsibilities in this period. Because of limited attention to each aspect of it, this perspective has not got enough attention to other issues such as; staff member satisfaction, administration, and the common benefits of the public; rather, it concentrated merely on the generation of profit (M. D. P. Lee 2008:56). For instance; Levitt (1958 :48) found it dangerous to deal with each dimension of CSR. The main responsibility of corporate management was to maximize shareholder wealth, and the social problems should be left to politics and the community of citizens, designating.

2.1.2 The 1970's: Corporate Social Responsibility and Management

In the 1970s, with the Committee for Economic Development of the USA, a new rationale relied on the assumption that social agreement between business and community is growing; hence private companies are expected to have greater social responsibility than before. As a result, CSR was thriving but remained discretionary with limited attention to other aspects such as labor, human right, air pollution, and waste management. The anti-war assumption, general social settlements, and an expanding sense of open mind translate into a low degree of firm's encouragement to satisfy the demands of the society in the late 1960s. The low trust in the business sector decreased dramatically when the big oil spill on the coast of California in 1969 led to huge U.S. protests. The first Earth day in 1970 was eventually created. With the beginning of Earth Day, 20 million individuals within the United States joined challenges to request a clean, sustained environment and combat contamination caused fundamentally by organizations (e.g., oil spills, toxic dumps, contaminating plant and control stations). The Committee on Economic Development (CED) of the USA has made two major contributions from the early 1970s, first with the release of *A New Rationale for Corporate Social Policy*, which explores the extent to which corporate participation in social problems is justified, and secondly after the declaration of *Social Responsibilities of Business Corporations* which explains the community's expectancies from a business.

At the end of the decade, the meanings of CSR got uncertain and could not have a common term for everyone; rather, everybody interpreted it differently. In this era, according to Milton Friedman, a

famous economist and afterward a Nobel laureate in economics, business managers cannot manage the corporate financial performance and corporate social responsibility of entities simultaneously (Agudelo, Jóhannsdóttir, and Davídsdóttir 2019:5).

Carroll (1979:499) defined corporate social responsibilities under four subtitles, namely; discretionary responsibilities, ethical tasks, legal obligations, and economic duties. His approach is regarded as the first united definition of CSR since he comprehends the economic and social activities as an essential element of business, not as a contradictory part. Other scholars further developed his model.

2.1.3 The 1980's: The Implementation of Corporate Social Responsibility

During 1980s and 1990s, the implementation process of CSR gained more importance and grew faster. The establishment of the World Environment and Development Commission in 1983, approval of the Montreal Protocol in 1987 by the United Nations (UN), the establishment of the Intergovernmental Panel on Climate Change in 1988, and establishment of the Environment Agency of Europe in 1990 can be regarded as further steps of this process (Agudelo, Jóhannsdóttir, and Davídsdóttir 2019:7).

Jones (1980: 60) took an interesting view of the CSR debate and described CSR as follows; "*Corporate social responsibility is the notion that corporations have a responsibility towards constituent groups in society other than stockholders and beyond that prescribed by law or union contract."* . Then he summed up the CSR discussion by listing the different arguments for and against it. A major contribution by Jones in this article is his focus on the process of CSR, it gave a new way to debate about CSR, which focused more on its implementation than on the notion itself.

To develop a superior mechanism for the evaluation of CSR, Tuzzolino and Armandi (1981:23) suggested a need hierarchy triangle similar to the hierarchic need of Maslow (1954). This hierarchical framework determines organizations, like individuals, have criteria that must be met. The authors demonstrated how organizations, like the people depicted by Maslow (1954), have physiological, security, affiliation, esteem, and self-actualization needs.

2.1.4 The 1990's: Globalization and Corporate Social Responsibility

In the 1990s, CSR was more common, formalized, diversified, and integrated into business practices because at that time development was influenced by important international events organized by the UN and European Environment Agency (Agudelo, Jóhannsdóttir, and Davídsdóttir 2019:7).

During the 1990s, CSR practices extended, including minorities and women's advancement, consumer practices, and environmental and sustainability initiatives other than philanthropy and charitability activities. Apart from inside stakeholders (investors and owners), outside stakeholders (consumer, minorities, environment) became prominent. In the 1990s, CSR's most significant progress was in business practice. In 1992, Business for Social Responsibility (BSR) was a non-profit organization that formed a representative body for their companies' CSR initiatives and professionals. BSR defines CSR more widely to cover business ethics, community investments, the environment, management, and accountability. It also says that several terms are often used interchangeably to discuss corporate social responsibility, including business ethics, business citizenship, corporate accountability, and sustainability. In a practical, management-oriented perspective, BSR says that 'CSR is seen as an extensive set of ethics, formalities, and programs incorporated into company business, supply chains, and controlling procedure (Carroll 2015:89).

2.1.5 2000's: Recognition and Implementation of Corporate Social Responsibility

Although corporate governance was not the main problem in the 1990s, the role and responsibility of directors became increasingly important when companies transformed into the 21st century. The corporate scandals of the early 2000s, particularly the Enron scandal and its eventual insolvency, increased the importance of business ethics (Carroll 2015:89).

The Sarbanes-Oxley Law (SOX) entered into force in the early 2000s because of the financial scandals of several companies in the U.S. Since this law is aiming at improving the status and clarity of financial statements and corporate disclosure as well as improving corporate governance, it has had a notable impact on CSR during the 2000's (Linck et al. 2009 :3291).

According to Zhang et al.(2013:381), the SOX has an impact on the CSR performance of companies strongly by referring this impact to outside board members and women directors on the board. The dataset of their study is composed of more than 500 biggest U.S. and global entities covering various companies by considering the post-SOX era, and it was concluded that firms with an executive woman and external board member show greater CSR performance.

After the adoption of SOX in 2002, in the next coming years, the public was misunderstood that the governance problem was resolved. However, SOX was not followed by firms aggressively, and the solution everyone hoped for was not found (Carroll 2015:89).

2.2 The Theories of Corporate Social Responsibility

There are numerous different definitions and interpretations of CSR; however, there are three main theories in the literature related to CSR. Those theories shed light on comprehending CSR and related issues by classifying its subdivisions in different forms.

2.2.1 Pyramid of Carroll

The four-part of CSR, namely; financial responsibility, legal responsibility, moral responsibility, and discretionary responsibility, has been defined by Carroll (1979) Additionally, the definition of CSR was extended and illustrated in a hierarchical pyramid that depicted those responsibilities in a triple-shaped hierarchy and ordered them according to their importance from bottom to top of the pyramid, as demonstrated below in Figure 1.

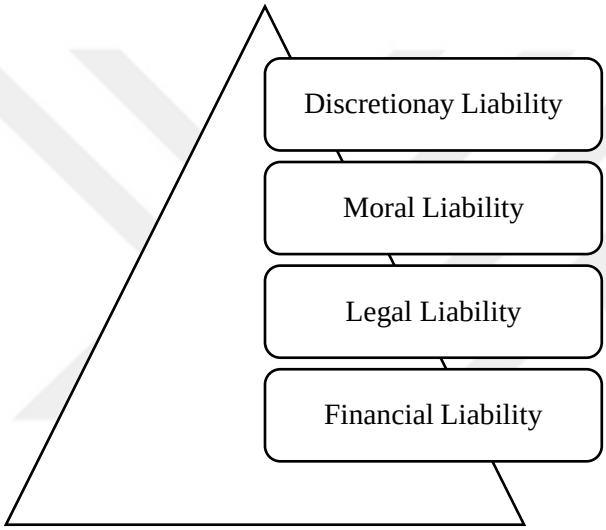


Figure 1: Carroll Pyramid for CSR

Source: Carroll, 2016 pp. 5

The primary obligation and purpose are to make money, i.e., increasing profitability; hence he placed economic responsibility at the pyramid's base. Since the profit and assets are vital for the business to survive, it is the most crucial part of this pyramid. Not just entities but also nonprofit organizations need an economic resource to maintain their activities. Furthermore, it is essential to reinvest the profit for sustainable economic growth in business. The stakeholders will be impacted positively if the business achieves its financial performance.

According to this pyramid theory, a perfect company should obey the rules and comply with the country or city's regulations. The responsible companies respect law and regulations, i.e., fair business games. Due to its importance, legal responsibility is placed in the second pyramid level. The rules that have not been yet imposed or dictated with laws and regulations can be described as unwritten rules. A

good company should behave like a good citizen in a community and comply with unwritten rules. That is why it has a vital role by defining CSR to consider ethical responsibility apart from legal compliance. According to this order, ethical responsibility should be placed in the third stage of the pyramid.

The activities that are not mandated or dictated by-laws but expected somehow by society to satisfy the voluntary activities can be named philanthropic(discretionary) activities. Companies may engage in different activities such as being a sponsor for sports activities or volunteering employees for donation activities to satisfy society's expectations.

According to this theory, philanthropic(discretionary) responsibilities stay in the final stage of the pyramid. The main idea of this pyramid is to apply CSR venture in an order form. First, the economic objectives should be done to sustain a development that can be reached next stage, which is a commitment to legal requirements. Only if the legal and ethical responsibilities are fulfilled can the philanthropic(discretionary) responsibilities be satisfied (Carroll 1991 :40-42).

2.2.2 The Triple Bottom Line Theory

Elkington (1997) developed a new concept of CSR named Triple Bottom Line (TBL) theory in his book "Cannibals with Forks." Triple Bottom Line theory comprises three variants of performance; social, economic, and environmental. Companies need to adopt TBL sustainability to achieve stable profitability and social and environmental projects.

Rather than making a high profit, it is more important to continually profit for additional times. If a business starts to adopt the TBL theory, they need to consider other factors as well, such as; expenditures and taxes, climate factors, and environmental issues. The social dimension has the same importance as the economic dimension according to TBL theory. Since the social issues of each community are different, the entities should pay attention to the issues and work on them. Those issues might be; unemployment, civil right, health and education services, child labor, etc.

According to TBL theory, environment is one of the other components that shapes the CSR framework. The companies should obey the environmental laws and minimize the usage of natural resources to decrease air pollution, disposing of toxic and solid waste (Elkington 1997:395).

2.2.3 The Stakeholder Theory

Stakeholder Theory and Corporate Social Responsibility highlight the relevance of business responsibilities to the community. However, stakeholder theory merely deals with the responsibility of the companies towards employees, customers, owners, and investors. It is an umbrella term that compass environment, labor issues, and other problems when it comes to CSR.

According to stakeholder theory, if the stakeholders impact business decisions, they need to be notified about the external and internal environment of the business. Since the executives are only interested in making profits, they might not know all the critical issues described as a risk (Freeman & Dmytriyev 2017:10).

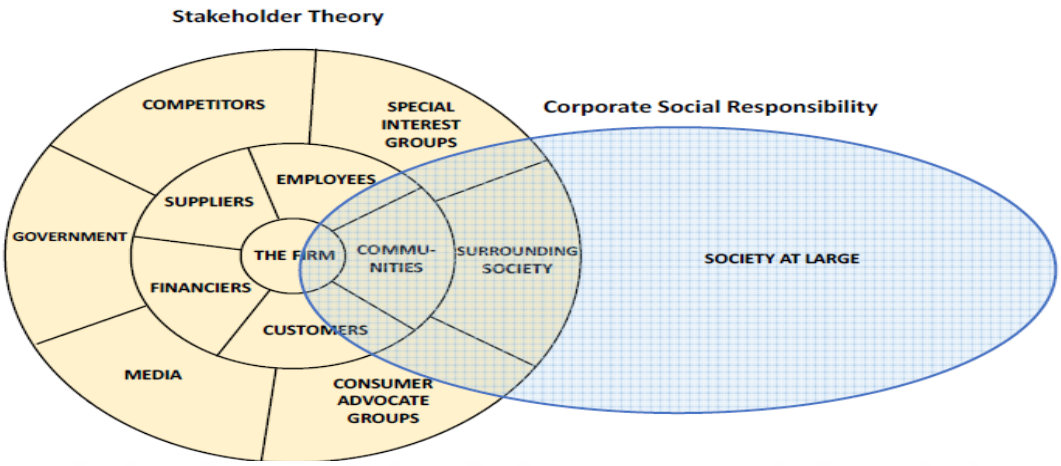


Figure 2: The Association between Stakeholder Theory and CSR

Source: Freeman & Dmytriyev, 2017 pp.5

2.3 Corporate Social Responsibility and Accounting

Accounting is a science that pertains to financial transactions in a company and includes summarizing, analyzing, and reporting those transactions. Due to some accounting principles such as; the full disclosure principle, matching principle, and consistency principle, a business is obliged to be truthful and reflect the genuine financial transactions by considering social and legal issues. In this sense, accounting and CSR are related to each other (Homayoun et al., 2015:183).

As it has been pointed out in the previous subsections, CSR has a different classification; however, it contains economic, social, legal, and ethical responsibilities.

2.3.1 Economic Responsibility and Accounting

Economic responsibility emphasizes that the main objective of the entities is making a profit. In this sense, accounting is essential for a company to satisfy its economic obligations with the help of financial reporting. Types of financial reporting encompass income statements, cash flow statements, balance sheets, quarterly reports, and annual reports. Income statements provide information about the expenses and revenues of a business to investors and shareholders. The balance sheet demonstrates what a company owes and owns. Annual reports disclose the overall financial performance of a company. Those reports are essential since they depict a complete view of the financial activities of a company. One of the accountings principles, the "matching principle," has a vital role concerning companies' corporate social activities. According to matching principles, an expense should have good reciprocity. Thus, matching an expense with an activity is vital for investors and stakeholders (Yazan 2015:21).

2.3.2 Legal Responsibility and Accounting

It's an important aspect to notice that businesses are not only obliged to provide jobs to people but also it is important to provide taxes to local governments or to be accountable to shareholders (Schweitzer 1967:8).

Calafell et al. (2006:125) emphasized that organizations are liable for both financial and non-financial reporting to stakeholders and non-stakeholders concerning CSR. The accounting method is important for an organization to measure CSR activities and earnings management since it will be determined what a shareholder gives up when she/he invests in the company.

The legal obligation of the accountant should be proportional to the benefits obtained from his growing role in the corporate community. This level of duty should put him on par with other forms of professional liability. The accountant, like other professions, should be held accountable for the foreseeable consequences of providing a service poorly (Paschall 1988:15).

2.3.3 Ethical Responsibility and Accounting

Even if CSR has a contribution to the business value sometimes it might harm the accounting valuation of business since it may exceed the benefit of stakeholders and companies should stick to truthful, equal, and ethical rules (Moser & Martin 2012:798).

Apart from that relationship between CSR and accounting, a strong association between CSR and some accounting principles exist (i.e. going concern and social responsibility). Under the going concern principle, the financial statements are prepared that the company will operate in the foreseeable future.

The life of a company does not depend on the life of shareholders. It is not enough for an enterprise to make a profit; instead, the enterprise should have sustainability since society has social demands towards business.

Even if the social responsibility activities of the companies don't seem directly on the financial statements of the company it should appear in the footnotes due to the accounting's full disclosure principle. Thus, this disclosure demonstrates all the social responsibility activities, done by the company, to the investors (Yazan 2015:23).

In addition to CSR activities, it is important to provide an impartial financial report to stakeholders. Hence, an organization must have independent auditors' assistance. Since 1930 this issue has become an important part of regulations because it helps to provide unbiased information to stakeholders. The impartial or biased financial reports depend on what accounting method is utilized by companies. Accounting methods as; Generally Accepted Accounting Principles (GAAP) and informal accounting are essential to complete the accounting objectives of an organization. Whereas GAAP reflects the proper financial statement of a company, which is forced to get used by companies, the informal accounting methods don't depict a proper statement of a company it portrays the financial statement of a business as biased or skewed (Schweitzer 1967:11).

3. EARNINGS MANAGEMENT

The definition of earnings management dates to the 1980s and all the definitions roughly compass that the main purpose of earnings management is to make financial statements look better by altering and driving those financial statements towards the desired direction.

Some of the earnings management definitions can be described below;

"*…a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process)"* (Schipper 1989:92)

Beattie et al. (1994:792) described earnings management as "*a process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings*"

"*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 reporting accounting numbers."* (Healy & Wahlen 1999:368)

According to Mulford & Comiskey (2002:279), earnings management is used by managers to change the company's image by selecting accounting procedures from a set (e.g., GAAP). Thus, it is proposed that companies' market value will be increased through earnings management.

Most of the studies focus on how manipulations can be done through accruals in the literature. Küçüksözen (2004:65) stated that there are three ways of engaging in earnings management (1) accruals management, (2) mandated accounting policy adoption timing and (3) optional accounting modifications. Variable estimates such as practical life, debtor recovery, and other accruals at the end of the year to move reported earnings towards the target can be given as examples of accruals management.

Based on these definitions it seems difficult to distinguish fraudulent accounting practices from earnings management since it is difficult to understand managers' intentions. However, to distinguish fraudulent accounting practices from earnings management some indicators can help to perceive it. In

this sense violating GAAP and manipulation in line with GAAP is the best distinguishable way to detect whether it is a fraud or earnings management (Dechow & Skinner 2005:8).

In this way, the study of K. Jones et al. (2007) compared the actual fraud commitment and earnings management activities of the several companies which were charged by SEC as being committed fraud between the periods 1988 and 2001. In this study, Jones Model, modified Jones model and, performance-matched modified Jones model used to estimate the earnings management activities. The results of the study have shown that, there is no any association between earnings management and fraud commitment.

The below-demonstrated figure from Dechow & Skinner's (2005:25) study, illustrated the distinction between fraudulent accounting practices and earnings management

	Accounting Choices	Real Cash Flow Choices
	Within GAAP	
Conservative Accounting	Overly aggressive recognition of provisions or reserves	Postponement of sales
	Overvaluation of acquired in process R&D	Accelerating R&D or advertising expenses
	Overstatement of restructuring charges and asset write offs.	
Neutral Earnings	Earnings that come out of a process with a neutral operation	
Aggressive Accounting	Understanding bad debt provisions	Postponement of R&D or advertising expenses
	Aggressively drawing down provisions or reserves	Accelerating Sales
	Violates GAAP	
Fraudulent Accounting	Reporting sales before they are realized Reporting unreal revenues Backdating sales invoices Overstating inventory by reporting unreal inventory	

Figure 3: Differences between Fraud and Earnings Management

Source: Dechow and Skinner, 2000 pp. 25

3.1 Examples of Earnings Management

The definitions stated in the former section show that earnings management is a complicated process involving accounting judgment that underestimates the income statement and other financial statements and disclosures. It also entails the 'structuring' of corporate choices. Earnings management practices are commonly done through revenue recognition and capitalization of expenses.

3.1.1 Revenue Recognition

Through sales date arrangements, income from the sale of a good or service is accounted as income of the current period or the following coming years. In this context, operating sales of goods belonging to the future period can be regarded as a type of earnings management in line with GAAP. For instance, a company might decide to increase or decrease its natural products according to its target to smooth its earnings. A business may increase or decrease its research and development costs to meet its target.

The Brazil Company Xerox used a Portfolio Asset Strategy to record a significant portion of its sales revenue as revenue by selling rental contracts to investors. It was not easy to sell sales-type leasing contracts and record them immediately as revenue. This is a structuring transaction to achieve desired outcomes. Besides, this method also increased the value of leasing contracts since they were not taken out of the balance sheet though they were sold (Ronen & Yaari 2011:33).

3.1.2 Accounting for Expenses and Provisions

In this context, there are transactions and practices such as capitalizing the expenditures that should be recorded in the period expenses, showing the expenses less or more, understating the provisions, understating the depreciation period, or changing the depreciation method, withdrawing the expenses related to the future periods to the current period. Some companies want to show their current period profits high, convert the depreciation method from the diminishing balance method to the usual method or extend the amortization period.

In countries with a high annual inflation rate, the FIFO (First in, first-out) method might be preferred to show the high profit. Since the first goods are the cheapest and go out first, the cost of goods will be low. Additionally, inventory will be higher because the most expensive goods remain in the warehouse. The profit, therefore, looks high, and the company must pay high taxes. On the other hand,

the companies in such countries may prefer to use the LIFO (Last in First out) method, show their profit low, and pay lower tax since the most expensive goods go out first and the cost of goods is high. Moreover, the inventory seems low because the cheapest goods remain in warehouses (Küçüksözen 2004:217).

3.2 Types of Earnings Management

Earnings Management can be segmented into different sections depending on their functions. In the research studies, the most common types of earnings management are; income smoothing, big bath accounting, and aggressive accounting.

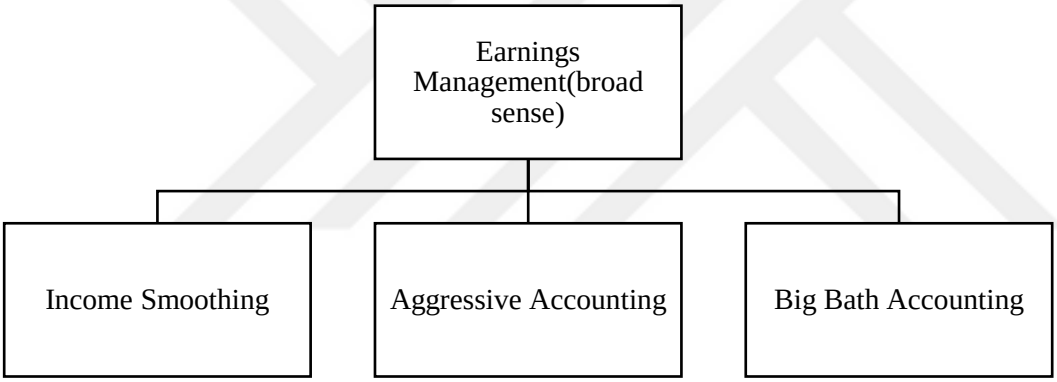


Figure 4: Classification of Earnings Management

Source: Stolowy & Breton, 2005 pp.4

3.2.1 Income Smoothing

Income smoothing mainly refers to storing or reducing the income during good performed years and shifting it to the bad performed years. Healy & Wahlen (1998:13) defined *income smoothing* as an active manipulation of earning to achieve a previously determined target. This target might be set by the management, interest groups, or analysts' request.

Company management may set a specific annual growth rate for profit as a target. In this sense, especially in the highly profitable years, company management may set a specific annual growth rate

for profit by following a very conservative policy regarding the collection of receivables and highly doubtful receivables to transfer the profit to the future periods.

A company may follow a very conservative policy regarding collecting receivables to transfer the profit to future periods, allocate a high rate of doubtful receivables, allocate higher provisions for liabilities arising from sureties, and make a shorter proper life estimation for fixed assets.

An example considering this type of earnings management might be Sun Trust Bank (USA) case. The Bank followed a very conservative policy. For this reason, it reserves a very high level of provision for the loans it gives. Considering the Bank's credit profile due to its review, the Security Exchange Commission (SEC) found the provisioning policy too conservative and requested the Bank to correct its financial statements for the period 1994-1996. Afterward, provisions amount of 100 million dollars were decreased, and the profits for the period were increased by 40, 35, and 25 million dollars, respectively. Likewise, the Bank's loan provisions for 1997 were reduced by $100 million; as a result, the Bank's equity increased by $61,1 million, and the price of its stock increased (Mulford & Comiskey 2002:32).

There are two devices of income smoothing: real actions (as derivatives) and artificial techniques (as discretionary accruals). Whereas artificial techniques use the flexibility of accounting standards to manipulate the companies' financial statements, real actions are intended to decrease earnings volatility by changing operating decisions to affect earnings of certain periods and cashflow. Thus, management uses real actions and artificial techniques to meet predetermined earnings for a certain period (Pincus & Rajgopal 2002:1).

3.2.2 Aggressive Accounting

With intention and forceful choice, applying accounting principles, whether following accounting principles or not, to obtain desired results in a specific period can be termed aggressive accounting, and it cannot be claimed that aggressive accounting practices are the case unless an intentional, material misstatement occurred to mislead financial statement readers Mulford & Comiskey (2002 :15). The Worldcom scandal can be an excellent example regarding aggressive accounting issues. The USA's second-largest telephone company understated its expenses by spreading its operating expenses over time in smaller portions. Hence, the Company's profit has been inflated (Kenton 2021).

In another example, Bausch & Lomb Company (USA) followed an aggressive sales revenue recording policy in 1993 to increase its near-term profitability. In this context, the Company first recorded sales revenue with the goods' shipment and shipped too many sunglasses and contact lenses to the distributors. Even the distributors returned those products because the amount exceeded demand, the

leading Company continued to make record sales. The Company's policy has been described as aggressive by the SEC (Mulford & Comiskey 2002:29).

As can be seen from the examples above, generally, to show the profits high in specific periods, the accounting standards are forced, the consignment sales and the goods are recorded as sales revenue which has been invoiced but not yet shipped to the customer. Additionally, some expenses and expenses on the activities recorded as income are transferred to the following periods.

3.2.3 Big Bath Accounting

The big bath accounting is a drop-in accounting data to make financial statements look less attractive, i.e. decreasing a company's profit intentionally (Healy & Wahlen 1999 :366). As the name suggests, companies may decide to write down their assets in a bad year to make the balance sheet clear thus, it will be less expensive to make future results appear better (Mulford & Comiskey 2002:51).

According to Stolowy & Breton (2000:22), in practice, just as in politics, when a company's top management and general manager change, the new management clears the financial statements of items that can be used to stabilize or increase profits in the future. This method will create the impression that the past management handed over worse results than were publicly disclosed.

New CEOs sometimes use the big bath accounting to criticize the prior CEO for the Company's bad performance and take credit for the following year's improvements (Hayes 2020).

A company may not be able to meet its profit expectations in a year in which its activities are not good. Considering that worsening the operating result does not bring any additional cost, and then the company will clean up its balance sheet. The benefit of this is to ensure high profitability in the coming years. In other words, today's Company (already a bad year) applies a more conservative policy by writing off some of its assets as expenses (taking a big bath) (Mulford & Comiskey 2002:33).

3.3 Regulations Regarding Earnings Management

Various regulations have been made regarding the management structures of companies whose securities are traded in the capital markets in the USA, especially their internal control systems, relations with the independent audit system, the responsibilities of independent audit firms and the way of doing business.

Another discussion on the subject is whether it is more beneficial for accounting standards to be rule-based or principle-based to prevent the manipulation of financial information. This discussion mainly stems from the idea that the accounting standards in the U.S. are rule-based, and the uncertainty created by this situation in the reflection of any transaction or event that is not bound to the accounting standard to the financial statements causes manipulation of financial information.

In this context, it is argued that the problems experienced in the accounting of special-purpose enterprises at Enron stem from the uncertainty created by the lack of a different standard (Küçüksözen 2004 :435).

3.3.1 Regulations in the United States

The Public Company Accounting Reform and Investor Protection Act, the most important regulation for publicly traded companies, was enacted on July 25, 2002. This law, known as the SOX, aims to increase the quality of financial reporting, internal control systems, and independent auditing in publicly traded companies and ensure transparency. After manipulating financial information in the USA in the 1990s and especially after the Enron scandal in 2001, this regulation has gained more importance.

In this context, the regulations introduced by the law can be classified as follows:

An upper committee was established under the name of the Public Company Accounting Oversight Board. The Board establishes independent auditing standards for publicly traded companies, checking the compliance of independent auditors with these standards, professional and SEC regulations, ensuring the independence of independent auditors.

Apart from auditing financial statements, independent audit firms are prohibited from providing consultancy services on issues such as; bookkeeping, financial information system, company valuation and insurance, management, human resources, etc.

In addition, the responsible partner lead auditors, who take part in the audit of publicly traded companies, must be changed every five years to ensure their independence.

The senior director and finance director of publicly traded companies are obliged to approve the public statements made by the company. In this context, the general manager and finance managers sign a detailed document stating that they have read the financial statements and reports that they are aware of and are responsible for operating the Company's internal control system.

Penalties for those who cause public disclosure of false information through manipulating financial information have been increased to fines of up to 5 million dollars and imprisonment for up to 20 years (in some cases both).

As explained above, due to the financial information manipulation practices, especially the Enron incident, regulations were made in the U.S. by eliminating the causes of financial information manipulation and increasing transparency (Küçüksözen 2004:437).

3.4 Theories Associated with Earnings Management

The earnings management practices can be explained with some business theories because the practices implemented in business may sometimes conflict and overlap with the interest of shareholders or other interest groups. Those practices can be explained by agency theory, stewardship theory, and stakeholder theory.

3.4.1 Agency Theory

An agency relationship can be explained as a treaty whereby one or more people take responsibility and represent another person (agent) to provide services on their behalf, which can be defined as the ultimate element of the agency's theory. However, it is not always possible to make rational decisions on behalf of the principal. In most cases, principals and agencies incur the cost, described as agency cost (Jensen & Meckling 1976:308).

Agency cost occurs since investors and other stakeholders cannot make optimal joint decisions. Indeed, it occurs when the executives do not operate a business in a way that shareholders maximize their profits. If managers try to meet expected performance through earnings management, the financial reports will not reflect underlying economic conditions correctly. Thus, earnings management causes agency cost; with this respect, the earnings management and agency theory are closely related (Davidson et al. 2011:7).

3.4.2 Stewardship Theory

The stewardship theory relies on the statements of Donaldson (1990) and Donaldson & Davis (1991). It provides a sociologically and psychologically influenced explanatory approach to the organization of corporate administration, including the relationship to the corporate stakeholders. It acts as a counter-reaction to the "unilaterally negative manager image" of the principal-agent theory (Velte, 2010:8). Stewardship theory defines situations in which executives act in line with the goals of business principles and do not follow their interests against the business objectives. The notion in stewardship theory relies on a steward whose conduct is ordered so that reorganizational, collectivistic actions are more valuable than individualistic, self-serving actions.

Given stewardship theory, executives will act to maximize the benefit of the companies; therefore, it is plausible to expect an executive to disclose more decision-useful financial and CSR information. Furthermore, the executives in line with stewardship will increase their company's financial and CSR performance, and they are less prone to practice earnings management activities (Velte 2010:9).

3.4.3 Stakeholder Theory

Stakeholder has been defined as "… any group or individual who can affect or is affected by the achievement of the organization's objectives." (Freeman 1984 :3)

Since the importance of stakeholders has been raised with the declining role of shareholders in business management, the stakeholders have power and influence on accounting practices as well. Some studies have examined how stakeholders influence financial reporting prosses such as interfering time of earnings announcement financial reporting methods or creative accounting (Parmar et al. 2010:31).

Since the company might benefit from engaging in earnings management practices, it might be possible for the companies to get forced by a stakeholder to practice earnings management activities (Loy 2016 :17). Considering all the common issues, the earnings management practices are associated with stakeholder theory.

3.5 Measurement of Earnings Management Based on Aggregate Accruals Model

Earning is an essential indicator for shareholders since they will decide to invest their savings in a business through its earnings. Moreover, earnings are used in debt covenants to demonstrate firms' payments ability. All contracting parties assume that generated cash illustrates the company's full financial capability.

However, realized cash (cash received minus cash disbursement) is not informative to demonstrate companies' financial situations. That is why realized cash flow has mismatching and timing problems, which induces a noisy firm performance measure. To overcome this problem, it is recommended that companies alter generally accepted accounting principles that help adjust the timing of cash recognition.

The revenue recognition principle guides the correct timing of cash flow recognition. This principle is straightforward and requires that the cash flow be recognized when the obligation or services are satisfied. Another similar principle is the matching principle, which necessitates the revenue-related expenses to be recognized in the period in which revenue is recognized. Having such principles accruals help companies to mitigate timing and mismatching problems. Therefore, including accruals is expected to provide a more accurate measurement of earnings related to realized cash flow. However, requiring management to set accruals adjustments will create new problems such as demonstrating a false picture of the company, in other words, earnings manipulation (P. M. Dechow 1992:2).

Accruals can be segmented as discretionary and non-discretionary(normal) accruals in two groups. Non-discretionary accruals exist because of the changed economic conditions; for instance, organic growth in sales will induce accounts receivable and bad debt expenses. On the other hand, discretionary accrual is managed by executives, and that is why it can be manipulated. For example, a manager might intentionally decrease the proportion of bad debt expense to decrease current period expenses. *Abnormal accruals* result from the selection of accounting practices to manage profits or actions taken to manage profit. On the other side, non-discretionary accruals arise out of current transactions for the performance level of enterprises, business strategy, industrial contracts and other economic factors (Ronen & Yaari 2011 :372).

Businesses use discretionary accruals in their earnings management practices because discretionary accruals allow executives to exercise their judgment over accounting choices. (Habbash 2010 :13) The total accruals of the firms are observable in their financial statements. However, it is not easy to detect non-discretionary and discretionary accruals separately and the portion for each.(Kashmiri 2014 :13)

Major accruals-based earnings management models have been described below together with their, similarities and differences. Relying on the literature review as well as Önder (2012) and Callao et al. (2017) pointed out that the most popular earnings management measurement models are; The Jones Model(1991), Modified Jones Model (1995), Larcker Richardson Model, and Kothari, Leone, and Wasley Model (2005).

To measure earnings management practices with the total accrual approach, first, total accruals (TA) are calculated. Then, the non-discretionary parts (NDA) of the total accruals are calculated using different methods. Thus, the difference between the total accrual and non-discretionary accrual amounts gives the discretionary accrual amount, which is accepted as a proxy of earnings management practices (Önder 2012:39).

TAC= NDA +DA

(Equation 3.1)

where;
TAC= Total Accruals
NDA= Non -discretionary Accruals
DA= Discretionary Accruals

DA=TAC-NDA

(Equation 3.2)

Regarding those issues, total accruals should be computed first to measure non-discretionary and discretionary accruals. There are two different ways to compute total accruals: the balance sheets approach and the cash flow approach offered in the literature. However, the balance sheet approach is more popular compared to the cash flow approach, thanks to the balance sheet data availability (Habbash 2010:32).

The balance sheet approach measures total accruals as described below:

$TAC_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta DCL_t - DEP_t$

(Equation 3.3)

where;
ΔCA_t Change in current assets in year t
$\Delta Cash_t$ Change in cash and cash equivalents in year t
ΔCL_t Change in current liabilities in year t
ΔDCL_t Change in debt included in current liabilities in year t.

DEP_t Depreciation and amortization expense in year t

Whereas the cash flow approach measures total accruals as described below:

$TAC_t = EBXA_t - OC_t$

where;

(Equation 3.4)

$EBXA_t$ Earnings before extraordinary and abnormal items in year t

OC_t Operating cash flow in year t

Discretionary accruals cannot be observed easily; hence many proxies and estimation techniques are suggested to detect those accruals. For instance, utilizes total accruals as an indicator of abnormal accruals, and DeAngelo (1986) utilizes the difference in the number of accruals. Jones (1991) developed an advanced and detailed estimation model for discretionary accruals (Habbash 2010:26).

3.5.1 The Healy Model (1985)

Literature starts with Healy's (1985) model focusing on determining discretionary accruals (Aybars 2013:46).

Healy(1985:85) investigated the association between managers' accruals and accounting decisions procedures using 94 U.S. companies as a sample under the bonus plan. Bonus plan used by most companies to remunerate executives. Sometimes executives may shift the future earnings to the current year to take advantage of being awarded; this action has been defined in part 3.1 as the big bath. Thus, accruals and modifications in accounting policies have been tested. Accruals have been determined as a difference between declared earnings and cash flow from operations.

Three different scenarios have been described where executives change accruals and take different actions against them. Figure 5 depicts each case and the management actions. L represents the lower limit defined in the bonus plan, U the highest limit on earnings, K limit on abnormal accruals, C the cash flows from operations, and NA the non-discretionary accruals, respectively.

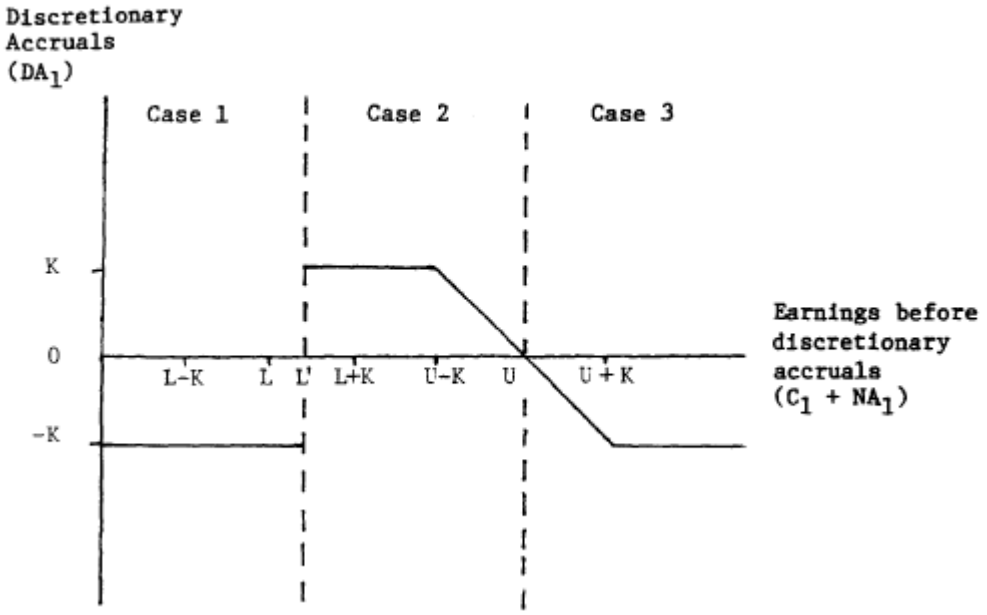


Figure 5: Using Accruals in the Bonus Plan

Source: Healy, 1985 pp.50

Case 1: In this case, it is assumed that managers have a possibility to increase or decrease earnings through discretionary accruals or changes in accounting. However, it is impossible for managers to reach the low limit of earnings, where managers are beginning to be awarded. In this scenario, managers choose to decrease the number of earnings in the existing year and shift it in the next coming year since managers will never receive the bonus in the existing year. The total number of earnings will not change, but managers will get an opportunity to receive the bonus in the future. This action is also called as big bath which was described before.

Case 2: In this case, it is assumed that managers have a possibility to increase or decrease earnings through discretionary accrual changes in accounting. Furthermore, it is supposed that managers have already exceeded the lower limit of earnings, where managers are beginning to be rewarded. However, there is no possibility to reach the upper level of earnings. In this scenario, managers will increase the number of earnings as much as possible to get awarded more.

Case 3: In this case, it is assumed that earnings already exceeded the upper bond. In this scenario, managers will decrease the number of discretionary accruals on an amount that will not endanger the manager's bonus and not be below the upper limit. Thus, managers will increase their expected bonus for the future (Healy 1985 :90).

Healy (1985) defined non-discretionary accruals as in Equation 3.5 below;

$NDA_T = \Sigma_t TA_t / T_{t-1}$ (Equation 3.5)

Where;

NDA = estimated nondiscretionary accruals;

TA = total accruals in year t

T= total assets in year t-1

t = a year subscript for years included in the estimation period;

3.5.2 The DeAngelo Model (1986)

DeAngelo (1986:40) analyzed the intention of managers that make companies less valuable to buy out the stocks by using 64 entities traded between 1973-1982 in the New York Stock Exchange and the American Stock Exchange. Besides, she tested the existence of the manager's earnings management activities before the company became a non-public company. According to this study, deprecation has a significant proportion and non-discretionary accruals in total accruals, which is harmful to a company's value.

Unlike Healy's model, DeAngelo's model uses the prior year to benchmark the current year to estimate discretionary accruals since she assumes that non-discretionary accruals are nonchanged for many years; any change in total accruals represents manipulation which is discretionary accruals.

$NDA_{t=} TA_{t-1}$ (Equation 3.6)

Where;

all notations defined previously

Both Healy's and DeAngelo's model rely on the ideological presupposition and consider that non-discretionary accrual is stable over or across years. However, this assumption cannot be accepted as accurate because the non-discretionary accruals vary depending on changes in economic conditions (Kaplan 1985:111). Thus, afterward, Jones (1991) developed a new model by considering macro-economic factors.

3.5.3 The Jones Model (1991)

Jones tested the earnings management activities of U.S. companies that reap the benefit of import relief implementations such as; tariff boost, or quota minimization provided by the United States International Trade Commission (Jones 1991:193).

Following Kaplan's (1985) suggestion, Jones developed a model that controls changes in a firm's economic circumstances. Unlike Healy's and DeAngelo's Models, she proposed a time series model by considering changes of fixed assets (plant, property and, equipment) and revenues as a change in economic circumstances that companies face (Habbash 2010:27).

Like other models, she considered abnormal accruals as a representative of earnings management and computed it as a difference between total accruals and non-discretionary accruals. Total accruals equal the difference between pretax profit and cash flows from operation activities, whereas non-discretionary accruals equal sales and fixed assets changes (Kalmış & Yavuzaslan 2016:363).

$$TA_{it}/A_{it-1} = \beta_i [1/A_{it}\text{-}1] + \beta_{1i} [\Delta REV_{it} / A_{it-1}] + \beta_{2i} [PPE_{it} / A_{it-1}] + \varepsilon_{it}$$

(Equation 3.7)

Where;

- TA_{it} = total accruals in year t for firm i;

- $\Delta RE_{it} / TA_{it\text{-}1}$= revenues in the year t less revenues in year t – 1 for firm i scaled by $TA_{it\text{-}1}$,

- $PPE_{it} / TA_{it\text{-}1}$ =gross property, plant and equipment in the year t for firm i scaled by $TA_{it\text{-}1}$,

- α $\beta 1$ β 2 are estimated parameters.

- ε_{it} = error term in year t for firm i

In this model, revenue is added to check the company's financial conditions. Because it is a measure in accordance with the company's objectives. The fixed asset is included to oversee the part of the total accrual that relates to non-discretionary depreciation costs. All model variables are adjusted for deferred assets to mitigate the problem of heteroscedasticity (Jones 1991:211).

3.5.4 The Modified Jones Model (1995)

Dechow, Sloan and Sweeney (1995:199) analyzed different accrual-based models to discern earnings management and developed a new model by deducting changes in receivables from changes in revenues. This adjustment is the only difference between Modified Jones Model (1995) and Jones Model (1991). Like Jones Model (1991), times series analysis was applied in this model. The reason to include changes in receivables relies on the assumption that all the credit sales in the current period occur due to earnings management.

Thus, they estimated non-discretionary accruals as;

$$NDA_t = \alpha_1 (1/ A_{t-1}) + \alpha_2[(\Delta REV_t - \Delta REC_t) /A_{t-1}] + \alpha_3 (PPE_t) / A_{t-}1$$

(Equation 3.8)

where;

-Δ REC_t is the changes in accounts receivables between year t and year t-1

and all the other notations defined previously.

It has been argued that all models give incorrect results when applied to extreme economic results over the years. Therefore, they assert that their model shows supremacy in disclosing earnings management.

3.5.5 Larcker and Richardson Model (2004)

A new model was developed to measure earnings management following the Modified Jones Model to analyse the nexus between audit quality and earnings management. Different from Modified Jones Model, two supplementary independent variables have been included. First, the book-to-market (BM) ratio was computed as the market value of the standard equity portion in the book value of common equity. Since the big firms are expected to have large accruals, BM is added as an indicator of firms' future operations. Second, the measure of current operating performance was included as another variable because previously, some studies have shown that it is misleading to estimate unexpected accruals for the companies with extreme performance level. According to this study, non-discretionary accruals are defined as;

$$TA/A = \alpha + \beta 1(\Delta \text{ Sales} - \Delta \text{ REC}/A) + \beta 2PPE/A + \beta 3BM + \beta 4CFO/A + \varepsilon,$$

(Equation. 3.9)

where;

Sales represent periodic revenue of the firm

BM is the book market ratio

CFO is the cashflow from operating activities

And other notations defined before

Total accruals are the same as the difference between operating cash flow and pre-tax earnings and the residual value of this model represents non-discretionary accruals (Larcker & Richardson 2004 :634).

3.5.6 Dechow and Dichev Model (2002)

Dechow and Dichev (2002) put forward a new model to evaluate accruals and earnings quality in their study. They measured accruals as the residuals from the regression of changes in working capital on the previous year's, existing year, and next year's operating cash flows. The accrual quality has been measured with the residuals of regression model, where a higher standard deviation represents a lower quality.

Thus, their model can be expressed as below in equation 3.9

$$\Delta WC_{it} = \alpha_0 + \alpha_1 CFO_{it-1} + \alpha_2 CFO_{it} + \alpha_3 CFO_{it+1} + \varepsilon$$

(Equation 3.10)

Where;

ΔWC_{it} is the change in working capital

CFO_t is cash flows from operating activities

ε is error term which is used to assess earnings quality

Based on 1532 firm-year observations between 1987-1999 with a descriptive statistic, Pearson correlation, and regression analysis the following results have been concluded. A higher earnings quality leads to higher earnings persistence which can be defined as a level of earnings, that occurs permanently from one accounting period to another one. Moreover, a positive relationship between firm size and accrual quality has been recorded whereas the association of accrual quality with other firm characteristics such as; sales instability, cash instability, accruals instability, earnings instability, and operating cycle is negative (Dechow and Dichev 2002:36).

McNichols (2002:64) developed the model shown in Equation 3.11 and combined it with the Jones Model. He argued that the combined model has a more powerful explanation than Dechow and Dichev's Model.

To discern abmormal accruals the following model has been developed ;

$\Delta WC_{it} = \alpha 0 + \alpha 1 \Delta REV + \alpha 2 PPE + \alpha 3 CFO_{it-1} + \alpha 4 CFO_{it} + \alpha 5 CFO_{it+1} + \varepsilon$ *(All variables are deflated by total assets to reduce heteroskedasticity problem)*

(Equation 3.11)

where;
all the other notations were defined previously.

3.5.7 The Performance Matching Model of Kothari, Leone and Wasley (2005)

The Jones Model and Modified Jones Models are some of the best models to estimate earnings management in the literature regarding earnings management. However, some studies argued that both models are not perfect since they lead to misspecified results if they are applied to stratified-random samples of firms. Therefore, Kothari, Lenoe and Wasley (2005) proposed a new model and included return on assets (ROA), and constant terms to alleviate problems of heteroskedasticity and identify incorrect information.

Kothari, Lenoe and Wasley (2005) retested the model of Jones and Modified Jones after adding lag ROA and benchmark these models with each other. It has been reached out that, the matched firm approach provides more powerful inherent than the linear regression approach. The motivation behind adding this variable is based on the prior researchers' suggestions and to detect the influence of financial performance on discretionary accruals.

Some scholars argued that including ROA helps to oversee the impact of performance on the model and matching on an operating performance measure tends to be better. Hence, the ROA variable was included in this model. Moreover, this model thanks constant term increase symmetry of the model giving more clear-cut results and reducing the problem related to size omitted problem (Kothari, Lenoe and Wasley 2005 :173)

The model of Kothari, Leone, and Wasley (2005) is demonstrated as below in equation 3.12

$$TA_{it}/ A_{it-1} = \beta_0 + \acute{\alpha} (1 / A_{it-1}) + \beta 1 (\Delta REV_{it} - \Delta REC_{it}) / A_{it-1} + \beta 2 (PPE_{it} / A_{it-1}) + \beta 3 ROA_{it} + \varepsilon_{it}$$

(Equation 3.12)

Where;

TA is total accruals

Δ REV is changes in revenues

Δ REC is changes in receivables

PPE is proxy for plant, property and equipment

ROA is Return on Assets

ε *it is* error term for firm i in year t

i is firm index

t is year index

β_0 is constant term

The residual value of this model is regarded as discretionary accruals.

3.6 Measurement of Earnings Management Based on Real Activities Model

Even if most of the studies centralized on earnings management through changes in accruals, some of them consider real activities manipulations as well. Studies concentrated on real earnings management activities concentrated mostly on such investment activities as research and development costs. However, the management of real activities has not been considered too much and real activities earnings management is defined as an abnormal activity that is abnormal business management activities to meet desired earnings.

Roychowdhury (2006:336) developed a new model to discern real activity manipulation and has been followed by various scholars. His model contributed to the literature by considering operational activities in business. Thus, cash flow from operating activities (CFO), production costs, and discretionary expenses have been included in this model to discern real earnings management activities. According to him, real activity manipulations are defined as; *"departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations*".

According to a survey carried out by Bruns & Merchant (1990), executives prefer to manipulate earnings through actual earnings management activities instead of accruals. The reason could be

explained by the idea that accruals manipulation can be detected more easily than actual earnings manipulations. Moreover, relying merely on accruals manipulations entail risk because the accruals that are manipulated may exceed the amount that managers wish to manipulate.

To measure real activity manipulations normal levels of CFO, abnormal expenses, and production costs should be considered for every firm. The abnormal values of these variables are described as abnormal CFO, abnormal expenses which are equal to the sum of research and development (R&D) expenses, selling, general and administrative (SG&A) expenses, and advertising expenses. In addition, abnormal production costs which are equal to the sum of the cost of goods sold (COGS) and the difference between additions to and withdrawals from inventories (ΔINV) are utilized to estimate the model. According to the model, attention is drawn to the following three manipulations; a) sales manipulation through lenient credit policy or accelerating; a) sales timing b) decreasing discretionary accruals c) overproduction to show the cost of goods sold reasonably (Roychowdhury 2006:339).

To estimate the model the below demonstrated regressions run for every year and each industry;

1) $CFO_t / A_{t-1} = \beta 0 + \beta 1\,(1/A_{t-1}) + \beta 2\,(St/A_{t-1}) + \beta 3(\Delta St / A_{t-1}) + \varepsilon_{it}$ (Equation 3.13)

Where;

A_{t-1} = the total assets at the end of period t-1,

S_t =sales during period t

ΔS_{t-1} = change of net sales during period t-1 and t-2

2) $\Delta PROD_t / A_{t-1} = \beta 0 + \beta 1\,(1/A_{t-1}) + \beta 2(S_t/A_{t-1}) + \beta 3(\Delta S_t/A_{t-1}) + \beta 4(\Delta S_{t-1}/ A_{t-1}) + \varepsilon_{it}$ (Equation 3.14)

Where;

$PROD_t$= Production Costs during period t

3) $DISX_t/A_{t-1} = \beta 0 + \beta 1\,(1/A_{t-1}) + \beta 2\,(\Delta S_t / A_{t-1}) + \varepsilon_{it}$ (Equation 3.15)

Where;

$DISX_t$ = Discretionary expenses during period t

4. LITERATURE REVIEW

The comprehensive literature review reveals evidence both on the earnings management-CSR link and the CSR-earnings management link. However, most of the studies in this area looked at the impact of CSR on earnings management, while a minority looked at the influence of earnings management on CSR. Related empirical research for both of the mentioned areas will be summarized in the following subsections, respectively.

4.1 Link between Corporate Social Responsibility and Earnings Management

This subsection of the thesis is dedicated to gathering the studies that investigated the impact of CSR on earnings management based on both international and U.S. context. Most of those studies have claimed that earnings management and CSR are inversely related, in line with stewardship theory. In this context, CSR performance relates to increased accrual-based earnings management (AEM). However, some scholars found that earnings management and CSR move in the same way, in line with the stakeholder's agency theory.

4.1.1 Link between Corporate Social Responsibility and Earnings Management: International Evidence

Choi & Pae (2011:403) explored the nexus between Financial Reporting Quality (FRQ) and Business Ethics which is used synonymously for CSR. They conduct the empirical analysis on 242 Korean Companies. The company's Financial Reporting Quality (FRQ) is computed by the practice degree of earnings management, conducted through accruals. Kothari, Leone and Wasley's (2005) model was employed to calculate earnings management discretionary accruals. As a conclusion of this research, it was found that companies that perform a more excellent business ethics (BE) demonstrate more incomparable financial statements than those that have lower degree of BE. Furthermore, this study revealed that the nexus between degree of ethical commitment and practicing earnings management is inverse. Similarly, Gras-Gil et al.(2016:297) examined the connection between corporate social responsibility and earnings management. In their study, panel data analysis has been utilized for non-financial firms of Spain between the periods 2005 and 2012. It has been found that an inverse impact of corporate social responsibility practices on earnings management exists. The accurate value of discretionary accruals was employed as a proxy of earnings management. The Modified Jones model method was utilized for the accrual component of earnings.

Muttakin, Khan and Azim (2015:5) examined the nexus between CSR and earnings quality from 2005 to 2009 for Bangladesh companies. The sample of this research consists of 135 commercial enterprises listed on the Dhaka Stock Exchange (DSE). For accurate earnings management, the Modified Jones model was utilized. This research has concluded that the companies with higher CSR records tend to practice earnings management, resulting in lower earnings quality. For accurate earnings management, the Modified Jones model was utilized. In the second model of this study, the relation between CSR index and grade of discretionary accruals of firms that mainly export and are located in Bangladesh has been tested. It held that the nexus between the CSR index and discretionary accruals of export-oriented firms is negative.

Patten & M.Trompeter (2003:93) aimed to detect whether the extent of preventing environmental disclosure has pertained to earnings management. In this research paper, the reactions of the companies to the disaster of "1984 Union Carbide chemical leak" in Bhopal, India, have been tested. 40 Chemical firms in India grand the sample of the study. To measure earnings management, the discretionary accruals of the Jones Model have been used. It has been concluded that entities with lower degrees of pre-event environmental disclosure are more prone to have negative discretionary accruals than companies with a greater level of environmental disclosure in 1984.

Pyo & Lee (2013:946) tested the nexus between CSR's level and earnings quality, which was estimated through donation expenses and voluntary issues. Firms listed on the Korea Stock Exchange (KSE) over the period between 2004-2010 make up this study's sample. Discretionary accruals have been utilized to measure earnings management based on Modified Jones Model (1995) and Kothari, Leone and Wasley (2005) models. The outcomes of this study illustrate that entities working on CSR can report higher-quality income. It has been observed that companies with more donations have less discretionary accruals than others. In addition, when companies voluntarily issue CSR reports, this inverse relationship between donations and discretionary accruals is more remarkable.

Dimitropoulos (2020:1) examined how earnings management is influenced by CSR performance. The dataset of this study, composed of 121,154 firm-year observations between 2003–2018, from 24 European Union (EU) countries. This research article employed the Kothari, Leone and Wasley (2005)’s model to measure earnings management. The created model was analyzed with the help of panel generalized least squares (GLS) random effects. The study results suggested that the companies with a higher degree of CSR performance are more prone to have lower abnormal accruals. Another similar evidence was recorded by the study of Khosropour (2017:9) which was conducted for the Iranian

companies between the period 2008 to 2015. In this research article, abnormal discretionary accruals of the modified Jones model make up the earnings quality measurement, and the analysis has been done using the panel data model. It has been concluded that firms with more excellent CSR ratings engage less in earnings management activities.

Yazan (2015:112) recorded evidence between earnings management and CSR performance for 81firms listed in Istanbul Stock Exchange for the period 2005 and 2012. The Modified Jones model has been taken into consideration to compute the earnings management, and panel data analysis has been employed to test the nexus between the selected variables. According to the analysis results; it has been determined that as corporate social responsibility practices increase, earnings management practices decrease. This result shows that corporate social responsibility practices are essential in limiting earnings management. Moreover, leverage has been utilized as a control variable in this study, and it has been observed that this variable moves in the same way with earnings management.

The study of Suteja, Gunardi, and Mirawati (2020:1360) aimed to obtain empirical analysis between profitability, moderated by earnings management, and companies' CSR. The study has been conducted, by taking the sample of 15 companies in banking sector, with their CSR disclosure listed in the Indonesia Stock Exchange between 2010-2014. The abnormal accrual measured the manipulation level of the companies based on the modified Jones model as profitability was measured by Return on Earnings (ROE). The results have documented that CSR influences the profitability of the companies in a positive way. However, it has been indicated that earnings management harms the companies' CSR.

Some of the studies considered earnings smoothing, earnings aggressiveness, and earnings loss avoidance as indicator of earnings management (EM) rather than discretionary accruals.

Scholtens & Kang (2013:95) analyze the nexus between CSR, investor protection, and EM. This study's dataset comprises 139 firms from ten different Asian countries. The proxy of EM, namely discretionary accruals, was computed relying on the Dechow and Dichev (2002) model. This study indicated that companies with a higher degree of CSR performance are significantly less involved in EM. This finding concerns various ways to measure EM. Further, it has been found that big companies have more tendency to practice earnings smoothing than small entities. In addition, companies with higher financial performance have lower earnings smoothing but are more prone to show earnings aggressiveness.

Chih, Shen, and Khan (2008:195) investigated the nexus between CSR and EM in a similar research area across 1653 companies from 46 different countries. They have divided companies into

two groups as CSR and non-CSR companies. The CSR value was considered as a dummy variable, i.e., the companies took the value of CSR (1) for being listed in FTSE4Good Global Index and CSR (0) otherwise. They used earnings smoothing, earnings aggressiveness, and loss avoidance to measure EM. By applying EM, they followed the Modified Jones model to compute the accrual components of earnings. They found that the kind of EM determines the way of this nexus. The following findings were revealed (i) the growth in CSR decreases earnings smoothing (ii) the growth in CSR grows earnings aggressiveness (iii) the growth in CSR decreases earnings losses.

Even most of the studies that investigated the CSR-EM link revealed a negative relationship between the selected variables, some studies also documented mixed results.

Gargouri, Shabou, and Francoeur (1998:320) examined the link between the social performance of corporations (another term used synonymously for CSR) and EM. They choose 109 Canadian companies to evaluate this relationship. The outcome of this study showed that the Corporate Social Performance (CSP) level is positively linked to earning management. It has been noted that the cost of company's use of CSR activities can affect revenue performance and encourage them to manipulate the company's revenue. To measure EM activities, the modified Jones model has been utilized. In a similar study, Marta Cristina Pelucio et al. (2017) investigated the impact of companies social responsibilities on their earnings quality. To reveal this association companies listed on Brazilian stock exchange have been utilized for the period between 2009 and 2011. The Jones model (1991) variation was used to measure the earnings quality. It has been found that there is not a relationship between CSR and earnings quality.

Besides those mixed results by considering accrual-based earnings management, some other scholars also included real earnings management activities in their study.

Bozzolan et al. (2015:3) explored the nexus between corporate CSR and EM -not just relied on accrual-based earnings management (AEM) but also relied on real earnings management (REM). The data set for this study covers 863 firm-year observations for 1,141 entities within several developed countries. The discretionary accrual management of the modified cross-sectional Jones model has been followed. To measure REM Roychowdhury's (2006) model has been taken into consideration. It has been reached out that entities with a CSR adaptation have a greater tendency to use AEM rather than REM by observing the proportion of REM in the sum of REM and AEM. Moreover, it has been pointed out that, CSR is negatively associated with EM. Similarly, Zhang, Yap, and Park (2021:15) tested whether Chinese companies with better CSR performance conduct EM in their financial statements. The sample of this study consists total of 1635 firm-year observations between 2016–2018. The measurement of the EM is based on both AEM and REM, analysis conducted with Panel Data. For the

AEM, the Larcker, and Richardson Model (2004), whereas for the REM, Roychowdhury (2006) model has been considered respectively. It has been concluded that the firms which exhibit better CSR performance have a greater tendency to practice EM via actual activities manipulation and have less tendency to practice EM via discretionary accruals.

4.1.2 Link between Corporate Social Responsibility and Earnings Management: Evidence from the U.S.

Hong & Andersen (2011:461) investigated the relationship between CSR and EM. The CSR rates have been reached via Kinder, Lydenberg, and Domini (KLD) data; this database absorbs details from many affairs: the society, corporate governance, assortment, commodity, staff members, nature, and civil rights. The outcome of this study shows that entities with a greater level of social responsibility tend to have a less activity-based EM which affects the quality of the financial report. The accruals quality (AQ) was measured as defined by Dechow and Dichev (2002).

Kim, Park, and, Wier (2012:762) examined whether socially liable firms act responsibly to constrain EM compared to other firms that don't meet accurate socially responsible firms' criteria. The dataset for the study consists of 2,095 U.S. firms over the period of 1995-2009. Using the KLD dataset, they have created CSR values of firms. Besides, the abnormal accruals were regarded as an indicator of EM. The abnormal accruals were calculated in a manner by considering Kothari, Leone, and Wasley (2005) model as a reference. It has been found that firms that exhibit better socially responsible behaviour have less tendency to practice EM via both discretionary accruals and real activate manipulation.

Litt, Sharma, and Sharma (2014:5) researched the nexus between CSR performance of the companies of the U.S. and their EM. The sample of this study comprises 2,095 firm observations for the time span from 2004 to 2006. CSR score of the companies has been taken from the KLD database, and the EM has been measured with discretionary accruals, which was calculated based on Kothari Leone and Wasley's (2005) model. The outcome of this study indicated that a substantial inverse relationship between EM and CSR exists.

Yip, Stedan, and Cahan (2019:2) argued that political costs are another factor that influences the nexus between EM and CSR. That is why they have examined this relationship in two different sectors, namely, the petroleum industry, which has excellent political attention, and the catering industry, which attracts political attention less compared to the petroleum industry. It has been concluded that the association between CSR and EM is negative in the petroleum industry. In contrast, this relation is positive in the catering industry using the cross-sectional Jones (1991) model as an EM proxy.

Moratis & Max van Egmond (2018:9) investigated the association between CSR and EM considering the industry type that substantially affects the environment, such as; chemicals and associated industry, machinery, computer equipment industry, etc. The modified Jones Model (Dechow, Sloan, and Sweeney 1995) was utilized to investigate this association for the U.S. firms between 2002-2009. The result of the article concluded a nonsignificant association between EM and CSR. Similarly, Toukabri et al.(2014) documented insignificant association between EM and CSR by analyzing this association for the U.S. companies based on the Dechow and Dichev (2002)'s model.

Some other studies carried out in the U.S. take regulations and rules into account, such as; SOX and Reg F.D. that impact the interests of stakeholders and shareholders.

Liu et al.(2017:15) investigated how family involvement activities affect companies' CSR performance during the post-SOX period and EM by including a sample of S&P 500 firms between 2003–2010. According to this study, family companies have higher CSR records than non-family companies. Moreover, findings show that the family companies are less prone to practice EM, which is measured based on Kothari, Leone, and Wasley's (2005) model. Roychowdhury's (2006) model was employed to compute real EM activities. It has been observed that this measurement has a significant impact neither on family nor non-family companies.

Laksmana & Yang (2009:40) examined the association between corporate citizenship, which can be utilized alternatively for CSR, and four earnings aspects: persistence, predictability, smoothness, and accrual quality. The dataset of this study consists of 652 public companies, including 100 Best Corporate Citizens reported by Business Ethics Journal in 2001 and 2002. The measurement of accrual quality relies on Dechow &Dichev's (2002) model. It has been pointed out that the sample periods are parallel with the pre-SOX period. The outcome of this study shows that BCC companies' earnings are more foreseeable, more enduring, and smoother than non-BCC's.

Lee (2017:354) analyzed the nexus between CSR and management prediction accuracy within a similar study. They have found that companies offer more precise forecasts of earnings considering CSR activities based on data from 1995 to 2009. Unlike other models, he has calculated the EM as;" the negative of the absolute value (Management Forecast minus Actual Earnings Per Share) multiplied by 100, divided by lagged assets per share". He also noted that only after the launching of disclosure regulation that mitigates managers' opportunistic behavior, the positive link between CSR and management prediction accuracy exists, i.e., for the 2001-2009 period. However, no relationship exists between CSR and prediction accuracy during the pre- Reg F.D. period.

4.2 Link between Earnings Management and Corporate Social Responsibility

Whereas most of the studies which examined the CSR -EM link found a negative relationship between the mentioned two variables, the studies which examined the EM-CSR link have concluded mixed results. However, the average number of these studies is too limited in this area.

4.2.1 Link between Earnings Management and Corporate Social Responsibility: International Evidence

Choi, Lee, and Park (2013:447) focused on how CSR scores are related to EM if the firm's ownership situation is considered. This study divided the firms into family firms and non-family firms. CSR rating of Korean companies between 2002 -2008 has been extracted from KEJI Index. The abnormal accruals are calculated based on the modified Jones model to measure EM. According to this study, those results have been concluded; (i)CSR index and level of EM are negatively associated when all firms are deemed. (ii)the firm's chaebol affiliated firms have more excellent CSR than non-chaebol firms, which is in line with the study of Liu et al.(2017).

Prior et al. (2008:160) analyzed the association between EM and CSR. The sample was composed of 593 industrial firms from 26 countries for the period 2002 and 2004. The outcomes demonstrate that EM practices impact the CSR of companies in a positive way. The adjusted, modified Jones model has been utilized for EM. Furthermore, it has been realized that the united form of EM and CSR will affect profitability in a harmful manner.

Salewski & Zülch (2014:28) explored the nexus between EM and for 258 companies from European countries between the period 2005 and 2009. CSR values of the companies were obtained from Kirchhoff Consult AG, a German consulting firm that evaluates firms along with the dimension's community, labor, environment, and corporate performance. In order to measure the EM, performance-matched modified Jones Model (Kothari, Leone, and Wasley (2005), including amortizable intangible assets, has been employed. The authors claim that including intangible assets will lead to more reasonable estimation. The outcome of this research article illustrated that EM and CSR variables tend to move in the same direction.

Rahmawati & Dianita (2011:1034) aimed to obtain empirical proof about the impact of EM on CSR. Besides, this research analyzed the association between financial performance and EM by using ROA and modified Jones model as proxies, respectively. The sample consist of 27 companies listed in

the Indonesia Exchange Stock Market over 2006-2008. The study concluded that the practice of EM does not influence CSR, whereas it impacts the financial performance of companies negatively.

Sun et al. (2010:695) tested the nexus between corporate social responsibility and EM. As a measurement of EM modified Jones Model has been employed. The dataset is composed of 245 UK firms for a time span between April 2006 and March 2007. In order to investigate the association between those two variables the OLS model has been applied. Additionally, ROA and SIZE which are used as proxies for profitability and firm size respectively for the selected companies were included into analysis as control variables. The outcomes of the study indicated that an insignificant relationship between EM and CSR exists. Moreover, it has been revealed that the size of the companies and the CSR level of the companies tend to move in the same direction.

4.2.2 Link between Earnings Management and Corporate Social Responsibility: Evidence from the U.S.

Grougiou et al. (2014:156) analyzed the nexus between CSR and EM on 116 publicly traded U.S. commercial banks for 2003–2007. In this study, Loan loss provisions (LLP) and realized gain or loss on available-for-sale securities were used since they are the most commonly used proxies for financial companies. Their findings indicate a relationship between EM and CSR, implying that bank executives who manipulate earnings are more prone to increase their participation in CSR activities.

5. RESEARCH DESIGN

This section demonstrates all aspects of empirical research, including hypothesis methodology, dataset, developed models, and results of the tests with their interpretations. Moreover, the way of computing variables is explained in detail, considering the mostly cited other studies in this field.

5.1 Hypothesis Development

This part focuses on developing hypotheses based on the theoretical framework presented above and accounting discretion in EM. There are two main research viewpoints in the literature whereby the first one focus on to what extent companies' CSR orientation influences their engagement in EM activities, such as the study of; Choi & Pae (2011), Gras-Gil et al. (2016), Muttakin, Khan, and Azim (2015), Patten & M.Trompeter (2003), Bozzolan et al. (2015), etc. the second one concentrate on the company's EM activities and its impact on their CSR performance as conducted by Choi, Lee and Park (2013), Prior et al. (2008), Salewski & Zülch (2014), Rahmawati & Dianita (2011) and Sun et al. (2010). When we consider studies that researched the nexus between EM and CSR, the main hypothesis of this study can be described so;

H0: Firms with better CSR performance have fewer incentives to practice EM activities.

5.2 Dataset

This study uses 855 non-financial U.S. Companies whose headquarters are located in the U.S. from 2011-to 2020. The firms which doesn’t provide CSR score has been eliminated in the first stage. Since the calculation of EM's proxy requires all the variables to be available for all years, the companies whose data is incomplete on cash, revenue, receivables, property, plant and equipment, depreciation and amortization expenses, total assets, debt included in current liabilities, cash flow from operating activities has been excluded. Finally, it ended up with 26 non-financial companies from 2011-to 2020, making 260 firm-year observations.

5.3 Variable Definitions

All variables namely; dependent variable, explanatory variable, and control variables will be explained in the following sub-sections.

5.3.1 Dependent Variable: Discretionary Accruals

In the first and second models, Kothari, Leone, and Wasley's (2005) model and Dechow and Dichew's model (2002) were utilized to discern EM activities. The residual value of both models is considered as an indicator of EM activities.

5.3.2 Explanatory Variable: CSR performance

CSR scores of the companies utilized in this thesis were extracted from the Thomson-Reuters database. This database creates indexes about the companies' environment, governance, and social activities. This database has been commonly used by many other researchers, such as; Salewski & Zülch (2014), Dimitropoulos (2020), and Grougiou et al.(2014) , and it is generally regarded as one of the most reliable databases. The explanatory variable (i.e., CSR) is moderately skewed and different from other variables since its skewness is higher than 0,5 (McNeese 2016). Thus, the CSR values used in this study are the logarithm of CSR scores provided in the Thomson-Reuters database. The logarithm value of the variables will decrease the values based on a precise degree and reduce skewness(Feng et al. 2014:106). This method is also utilized in the studies of Gras-Gil et al. (2016) and Khosropour (2017).

5.3.3 Control Variables

Based on the previous studies**,** several control variables have been modeled to be included in this study to investigate their relationship with EM activities. In this study, the relationship between EM activities and other variables, namely; leverage, firm size, audit quality, firm financial performance, and cash flows from operations, have been examined apart from the explanatory variable of CSR.

5.3.3.1 Leverage

The leverage ratio is included in this analysis to record evidence of the relationship between EM activities and the firms' leverage ratio and their reactions to each other. It is computed as a total liability divided by total assets in line with the studies of Toukabri et al. (2014), Choi, Lee, and Park (2013), Choi & Pae (2011),Gras-Gil et al.(2016),Muttakin, Khan and Azim (2015) and, Dimitropoulos (2020).

Gras-Gil et al.(2016:294) argue that the higher leverage ratio is an indicator of high debt covenant violation and found the level of leverage closely linked to discretionary accruals level in their empirical analysis. Similarly, Park & Shin (2004:443) stated that firms suffering from financial constraints,

measured with leverage ratio, are more prone to practice EM activities to avoid potential loss from disclosing a financial issue. On the other hand , some of the studies documented an inverse relationship between leverage and EM. Toukabri et al. (2014) argued that firms with high leverage ratio are monitored by the creditors and stakeholders closely and thus, they are less likely to practice EM activities. Similarly, Dechow and Skinner (2000) reported that firms with highly leverage ratio report less EM activities.

5.3.3.2 Size

Numerous studies have utilized firm size that researched the nexus between EM activities and CSR performance of the companies. Some researchers have employed the logarithm of total assets to measure firm size, such as ; Gargouri et al. (1998), Marta Cristina Pelucio et al.(2017), Khosropour (2017), Hong & Andersen (2011), Rahmawati & Dianita (2011) and Choi & Pae (2011).

Muttakin, Khan and Azim (2015:14) argued for the existence of an inverse relationship between firm size and EM activities. Yangseon Kim et al. (2003:2) emphasized that the large firms that the big five auditing firms generally audit have more experienced auditors to help companies avoid EM activities. Since large firms have a stronger internal audit control system than small and medium-sized firms, they are less likely to practice EM activities.

Contrarily to the assertations mentioned above, Nelson et al. (2002:176) claimed that the auditors are less prone to adjust the EM activities of the big clients and those large firms have a greater tendency to engage in EM activities. Furthermore, they have a greater capacity to negotiate with auditors, and thus, they may attempt more in EM activities and ignore it. (Yangseon Kim et al. 2003:3).

Regarding those mixed results of the literature, it is essential to investigate the nexus between the size and EM empirically.

5.3.3.3 Audit Quality

Some researchers suggest that auditor independence will be imperiled with the increasing auditor tenure because the long tenure will impair the audit quality and allow EM activities (Lys and Watts, 1994). Contrary, other studies showed that with the growing audit tenure, the ability to detect manipulation and assess the risk material would develop by gaining more experience and knowing the company better (Lin & Hwang 2010:69).

Myers et al. (2003:779) collected information from a sample of 42302 firm-year observations and suggested that extended audit tenure will reduce EM actions based on abnormal accruals. Likewise, Yang & Krishnan (2005:201) asserted that the average tenure of audit comity is inversely related to EM practices by examining the association between audit committee features and EM activities for the non-financial U.S. companies. The audit tenure is included in this study to reveal evidence about the association between audit quality and EM.

5.3.3.4 Firm Financial Performance

The financial performance indicator was computed as the proportion of net income in total assets. Lee et al. (2006:20) argued that firms with higher financial performance have more responsiveness to maintain their profitability and are more prone to practice EM activities which is in line with the studies of Kim, Park, and, Wier (2012) and Dechow, Sloan, and Sweeney (1995).

On the other hand, the study of Yip et al. (2019:27) clarified that EM activities are negatively associated with the firm's profitability which shows that EM activities are a decreasing function of profitability. Dimitropoulos (2020:10) argued also an inverse association between EM practices and a firm's profitability which is computed as a ratio of net income to total assets exists.

Regarding those mixed results in the literature, it is essential to investigate the nexus between EM and profitability. Thus, return on assets (ROA) is utilized in this research paper to analyse the association between EM and profitability.

5.3.3.5 Cash Flow from Operations

The study of Hsu & Koh (2005:814) analysed the nexus between EM for the Australian companies and cash flows from operations by computing it as the ratio of cash flows from operations to total assets. The relationship between two variables has been found as negative which indicates the firms with a poor cash flows outcome will adjust more earnings. This research's outcome is consistent with the study of Boujelben et al. (2020) in which the authors investigated the same association for the French companies . The results of these studies indicated the existence of an inverse relationship between discretionary accruals and cash flows from operating activities in line with the study of (Dechow 1992).

Regarding the previous studies, the cash flows from operating activities included in this study is computed as the ratio of cash flows from operations to total assets.

Table 1 below shows all variable used in this thesis with their abbreviations and explanations.

Table 1: Variable Description

Variable Name	Abbreviation	Explanation
Discretionary Accruals of Kothari, Leone, and Wasley (2005) 's models	DACC1	The residuals value of the Kothari, Leone, and Wasley (2005) 's models
Discretionary Accruals of Dechow and Dichev (2002)'s Model	DACC2	The residuals value of the Dechow and Dichev Model (2002)
Corporate Social Responsibility	CSR	Logarithm of CSR score of companies extracted from Thomson-Reuters database
Leverage	-	The ratio of total debt to total assets
Size	-	Logarithm of Total asset
Return on Assets	ROA	Net Income /Total Assets
Auditor Tenure	-	Tenure of the company auditor
Cash Flow from Operations	Cash	Cash flows from operations / Total Assets

5.4 Data Analysis

Table 2 below depicts the descriptive statistics of the variables. The mean value of the residuals is -0.006 and 0.02, respectively. These values are comparable with the study of Dechow & Dichev (2002), Gras-Gil et al. (2016), and Hong & Andersen (2011). However, the average size of the selected companies is relatively higher than the samples used in the study of Dechow & Dichev (2002), Kim, Park, and, Wier (2012), Liu et al.(2017), Lee (2017) and Hong & Andersen (2011). Thus, it should be highlighted that the large firms work more professionally and have more experience in their field and

thus, it is difficult to detect a significant relationship between CSR and EM (Hong & Andersen 2011:466).

The average CSR score of the selected companies is 47,5, with a maximum value of 97,9. The average value of the CSR score is smaller than the CSR score of the Australian companies; however, it is higher than the scores of several Asian countries' companies used as the sample in the study of Scholtens & Kang (2013). Moreover, the CSR mean value of the companies used in this study is also higher than the Iranian companies used in the study of Khosropour (2017). The mean value of the leverage for the selected companies is 0.644, which is higher than those used in the studies of Kim, Park, and, Wier (2012), and Choi, Lee, and Park (2013) for the companies in the U.S and other developed countries. On the other hand, this value is smaller than the leverage value of the companies used in the studies of Dimitropoulos's (2020) and Bozzolan et al. (2015).

The profitability ratio of the companies included in this study is higher than those utilized in the study of Choi, Lee, and Park(2013), Gras-Gil et al. (2016), and Pyo & Lee (2013) for the Spanish and Korean companies. On the other hand, the profitability ratio of the selected companies of this study is smaller than those used in the study of Khosropour (2017) for the Iranian companies.

The mean value of the Audit-tenure is approximately 15 years over a full year of 27. The mean value of the audit tenure of the companies used in this study is higher than those used in the study of Yang & Krishnan (2005) for the U.S companies. The net operating cash flows of the selected companies is higher than those used in the study of Myers et al. (2003).

Table 2: Descriptive Statistics

	CSR	DACC_OF KOTHARI MODEL	DACC_OF_ DECHCOW &DICHEV MODEL	LEVERAGE	ROA	SIZE	CASH FLOW FROM OPERATIONS	AUDIT-TENURE
Mean	47.54074	-0.006528	0.022211	.6442965	0.072207	22.95199	.1173882	14.93548
Maximum	97.90076	0.927937	0.542577	1.512306	0.320361	26.02930	.4941879	27.00000
Minimum	0.000000	-0.433421	-0.405115	.0814442	-0.237236	19.48490	-.2532655	1.000000
Std. Dev.	33.69491	0.102476	0.139990	.2572299	0.072177	1.421758	.0837883	6.585153

Table 3 depicts the degree of relationship among the defined variables regardless of the significance levels. The correlation matrix shows that CSR versus discretionary accruals of the Kothari,

Leone, and Wasley (2005) model and Dechow and Dichev (2002) model are -0,0310 and -0,1550, respectively. Regarding audit quality, the correlation coefficient between discretionary accruals and audit tenure are -0,259 and -0.042, respectively. These values illustrate that the longer audit tenure has an inverse relation with EM activities. The leverage ratio has also a negative relationship with EM activities considering first and second models. Considering the strong profitability values versus the discretionary accruals, it can be highlighted that the profitability has a mixed correlation coefficient with EM activities. Additionally, the correlation coefficient between the size of the selected U.S. companies and EM activities found to be inverse. Similarly, the correlation coefficient between cash flow from operations and EM is also negative considering both models of EM.

Moreover, the correlation coefficient between control variables is expected to be smaller than 0,80 since otherwise it will threaten the multicollinearity problem (Gujarati & Porter 2010) . Considering this level, it can be stated that there is no danger to concern about the multicollinearity problem because coefficient correlations between all the variables are smaller than 0,80.

Table 3: Correlation Matrix

	CSR	DACC OF_DECHOW and DICHEV	DACC OF_ Kothari	AUDITTENURE	LEVERAGE	ROA	SIZE	CASHFLOWS FROM OPERATIONS
CSR	1							
DACC_OF_DECHCOW	-0.0310	1						
DACC_KOTHARI	-0.1550	0.1422	1					
AUDITTENURE	0.1070	-0.2598	-0.0426	1				
LEVERAGE	-0.0121	-0.1143	-0.1044	0.0505	1			
ROA	0.0082	-0.1771	0.0620	0.2270	-0.3726	1		
SIZE	0.4119	-0.0529	-0.0438	0.1209	-0.2301	-0.1704	1	
CASHFLOWS FROM OPERATIONS	0.0222	-0.1759	-0.0400	0.2743	-0.3502	0.7662	-0.0959	1

5.5 Panel Data Analysis

The difference between panel data from cross-section data and time series is that it has both horizontal and vertical dimensions. There are reasons to use cross-section and time-series data separately in econometric analysis due to various factors; either only the cross-sectional dimension or only the time

dimension is concerned. The inadequacy of a single dimension in some economic and financial relations has brought up panel data that enables cross-section and time-series data together. While cross-section data gives information about only one period for many units, time-series data reports only one unit according to periods. Panel data is preferable if it is desired to obtain information according to both periods and units (Tatoğlu 2020:3).

5.5.1 Panel Data Model Types

There are generally accepted four model formats in panel data analysis according to Gujarati and Porter (2009:529).

5.5.1.1 Pooled OLS Regression Model

In this model, the estimation is made without considering the cross-section and time-series features. In the classical model, it is assumed that both the fixed and slope parameters are constant regarding time and unit, and all observations are homogeneous. This model, also called the pooled ordinary least squares data model, can be estimated using the method. In the classical model, all observations are assumed to be homogeneous (Tatoğlu 2020:40).

5.5.1.2 The Fixed Effects Model (FEM)

In this model, all observation values are evaluated together, but a constant variable is assigned for each cross-section. The phrase "fixed effects" refers to the reality that, while the intercept may differ between subjects (in this study, companies), the intercept of each entity does not change over time, i.e. it is time-invariant (Gujarati & Porter 2009:596).

The different types of fixed effects model namely; *least squares dummy variable* and *within estimation* differ from each other in terms of using dummy variables. Whereas the former one uses the dummy variables the second one doesn't. Even if the *least squares dummy variable model* is widely used compared to it is counterpart due to its easy estimation the usage of this model cause some problems with the existence of many groups (or individuals) (H. M. Park 2011:10).

5.5.1.3 The Fixed Effects Within-Group Model

In this model, all the observation values are pooled. Each cross-sectional (in this study, companies) value is subtracted from the mean, and the corrected model is estimated based on the mean value (Gujarati & Porter 2009 :599).

Contrary to its counterpart, this model does not use dummies; instead, it uses deviation from group means. Within this model, the incidental parameter problem is not an issue anymore. However, this model has also some disadvantages ;(i) data transformation clean up all the non-changed time-invariant variables (ii) in case a model has time-invariant variable, it is impossible to measure their coefficients because their deviation from the mean is equal to zero (iii) R^2 of this model does not reflect the reality (iv) it does not report the dummy coefficients, the specific formula should be used if it is needed (H. M. Park 2011:10)

5.5.1.4 The Random Effects Model (REM)

This model presumed that the constant term of each cross-section value is randomly drawn from a larger population. In the fixed-effect model, the unit effect has reflected the model with the constant term, while in the random-effects model, this unit effect is reflected in the model as a part of the error term. If the degree of freedom problem does not arise in the model, it is essential to determine the mean variances of the components added to the error term (Gujarati & Porter 2009 :602).

The random-effects model is helpful in case a sample is drawn from a large population, and thus this model is appropriate usually for household panel studies. In these cases, the fixed effects model would cause a significant loss of degrees of freedom. Individual effects are described as random, and inferences belong to the population from which this sample was taken at random (Baltagi 2005:18).

Fixed-effect models cope with the impact of heterogeneity from time and/or group on the individual intercepts, whereas the random effect model deals with the impact of time and/or group heterogeneity on error variance structure. (H. M. Park 2011:50)

5.5.2 Panel Data Tests

There are several tests to decide on the suitable estimator in the literature. According to H. M. Park (2011:9), fixed effects and random effects should be tested by the F and Lagrange multiplier (LM) tests. If the null hypothesis is not rejected in either case, the OLS model will be more appropriate for the created models.

The other test used in the panel data analysis for the appropriate model is the Hausman test, which measures the superiority of the random effects and fixed-effects models. Following the Hausman test, the random effect model is preferred over its fixed-effect model unless an invalid assumption is made that the individual effects are not coherent with other regressors.

When one cross-sectional or time-series variable is treated (firms in this study), this is a one-way fixed or random-effect model. Two-way effect models may have for both units and time dummy variables, bringing some problems to interpret and analyze (H. M. Park 2011:9).

5.6 Empirical Research Models

This study utilized several techniques to investigate the nexus between CSR and EM activities. The tests included in this study are; pooled OLS, Fixed Effects, and Random Effects Models. In addition, two models were developed considering the previous models utilized in the literature. Both models have been tested with the F test to investigate the existence of time and/or unit effects on the developed models.

The developed models have been tested for heteroskedasticity, autocorrelation, and cross-sectional independence problems. Heteroskedasticity is known as data with unequal variability across a set of variables. In classical and fixed effect models, the heteroskedasticity problem is detected using the Berusch- Pagan test. In contrast, this problem is detected with the Brown-Forsythe test if the random effect model is utilized (Tatoğlu 2020:230).

The other common issue in panel data analysis is autocorrelation which can be viewed as the most crucial problem since it has a more significant impact on standard errors and efficiency of the estimators than heteroskedasticity does (Wooldridge 2009:438).

Wooldridge's test should be utilized to detect the autocorrelation in the classical model, whereas for the random effect model and fixed effect models Modified Bhargava et al. Durbin-Watson, and Baltagi-Wu LBI test must be applied (Tatoğlu 2020:242).

In addition, the cross-section dependence should be considered, which arises due to the existence of standard shocks and unobserved components depending on the different factors such as the magnitude of the cross-section and the nature of the cross-sectional itself (De Hoyos & Sarafidis 2006:482).

To give a roadmap and enable a better understanding of the empirical aspect of the study, Table 4 below displays an overview of the models, variables, and analysis utilized.

Table 4: Empirical Models Utilized

Model	Dependent Variable	Explanatory Variable	Methodology	Control Variables
1	Abnormal accruals estimated with Kothari, Leone and Wasley (2005) Model	CSR	Panel Data Analysis	Leverage, Size, Audit Tenure, ROA, and Cash Flow from Operations
2	Abnormal accruals estimated with Dechow and Dichev (2002) Model	CSR	Panel Data Analysis	Leverage, Size, Audit Tenure, ROA, and Cash Flow from Operations

5.6.1 First Model Specification

The first-panel data estimation model, which is dedicated to reveal the evidence about the association between the absolute value of abnormal accruals and CSR, can be demonstrated as in Equation 5.1 below;

$$DACC1_{it} = ß_{0+}ß_1CSR_{it} + ß_2Leverage_{it} + ß_3Size_{it} + ß_4Audit\ Tenure_{it} + ß_5ROA_{it} + ß_6Cash_{it} + €_{it}$$

(Equation 5.1)

Where;

$DACC1_{it}$ = Absolute value of abnormal accruals estimated by the model of Kothari, Leone and Wasley (2005) in year *t* for firm *i;*

CSR = Natural Log of CSR score of the companies utilized in this model in year *t* for firm *i*;

Leverage = The ratio of total debt to total assets in year t for firm i;

Size = Natural Log of total assets in year t for firm i;

Audit Tenure = The length of the auditor-client relationship in year t for firm i;

ROA = Proportion of net income in total assets in year *t* for firm *i;*

Cash =Cash flows from operations at year *t* for firm *i;*

$€_{it}$ = error term in year *t* for firm *i*

i = firm index;
t = year index;

The absolute value of the discretionary accrual is estimated in this model has also been used in the study of Choi & Pae (2011) , Pyo & Lee (2013) , Dimitropoulos (2020), Kim, Park, and Wier (2012), Litt, Sharma, and Sharma (2014) , Liu et al.(2017) , and Salewski & Zülch (2014).

5.6.2 Second Model Specification

The second-panel data estimation model, which is dedicated to record evidence about the association between the absolute value of discretionary accruals and CSR, can be demonstrated as in Equation 5.2 below;

$$DACC2_{it}= ß_{0+}ß_1CSR_{it}+ ß_2Leverage_{it}+ ß_3Size_{it+} + ß_4\text{Audit Tenure}_{it} +ß_5ROA_{it} + ß_6Cash_{it} +€_{it}$$

(Equation 5.2)

Where;

$DACC2_{it}$ = Absolute value of abnormal accruals estimated by the model of Dechow and Dichev (2002) in year *t* for firm *i;*

and all the other variables are defined and denoted as before.

The absolute value of the discretionary accrual is estimated in this model has also been utilized in the study of Scholtens & Kang (2013), Laksmana & Yang (2009) and Hong & Andersen (2011).

6. EMPRICAL ANALYSIS AND RESULTS

Based on the theoretical issues and developed hypothesis in the previous sections, the first model is estimated to investigate the nexus between EM activities and the CSR degree of U.S. companies. Thus, the following equation was performed to examine this relationship as stated in equation 6.1

$$DACC1_{it} = ß_0 + ß_1 CSR_{it} + ß_2 Leverage_{it} + ß_3 Size_{it} + ß_4 Audit\ Tenure_{it} + ß_5 ROA_{it} + ß_6 Cash_{it} + €_{it}$$

(Equation 6.1)

where;
all variables were predefined.

Before performing panel data regression, the F test was applied to determine whether the variables have unit and/or time effects. The null hypothesis (H0) of the F test states that the panel series does not contain unit and/or time effects, while the alternative hypothesis (H1) states that the panel data contains unit and/or time effects. F test is used to determine whether any developed model is a two-way model or one-way model concerning the unit and/or time effects (Tatoğlu 2020:179).
Table 5 shows the findings of the F test. The probability value of the F test shows that the developed model does not contain unit and/or time effects. That is why the H0 must be accepted. Since the H0 is accepted, it should be highlighted that the created model is suitable for testing with the classical model.

Table 5: F test for the First Model

	Coef.	Std.Err.	t	p>|t|	[95% Conf. Interval]	
CSR	-.0006767	.0131034	-0.05	0.959	-.0265572	.0252038
Audit Tenure	.0009363	.002159	0.43	0.665	-.003328	.0052006
ROA	.5718106	.1421928	4.02	0.000	.2909667	.8526546
Leverage	-.0889285	.0560467	-1.59	0.115	-.1996259	.021769
Size	.0185087	.0183801	1.01	0.315	-.0177936	.054811
Cash	.0185087	.0183801	1.01	0.315	-.0177936	.054811
F-test that person and firm effects are equal to zero: F (33,158) =1.38 Prob > F = 0.101						

Furthermore, the first model is tested with the Berusch-Pagan, White, and Wooldridge tests to examine whether the developed model includes autocorrelation and/or heteroskedasticity problems.

In terms of the heteroscedasticity problem, two tests have been utilized, namely; the Berusch-Pagan test and the White test, to detect the problem of heteroskedasticity. H0 of the Berusch-Pagan test represents the existence of constant variance in the model. Furthermore, H0 of the White test states that

the model is homoscedastic. The probability values of these tests are lower than the critical value of 0,05; thus, it should be highlighted that there is heteroskedasticity in the first model.

Moreover, the Wooldridges test was applied to detect the autocorrelation within the model. H0 of the Wooldridges test states that no-first order autocorrelation in panel data. The probability value is higher than 0,05, which indicates the absence of autocorrelation in panel data.

The results of the applied tests have shown that the first model suffers from a heteroskedasticity problem. Tatoğlu (2020:304) recommends using the Huber, Eicker and White robust variance estimator model if the developed model suffers from a heteroskedasticity problem.

Table 6 depicts the relationship degree between dependent and independent variables. The nexus between CSR and EM activities, namely the discretionary accruals, is non-significant. In this sense, the result of this relationship is consistent with the study of Moratis and Max van Egmond (2018) and Toukabri et al. (2014).

The other control variable, Audit Tenure, is insignificant with the earnings management activities, contrary to Myers et al. (2003:779) and Yang & Krishnan (2005:201), who found a significant and inverse association between audit quality and earnings management activities.

The profitability ratio, namely, ROA, is positively related to EM activities. In this sense, it can be highlighted that the companies with higher profitability are more likely to practice earnings management activities in line with the study of Lee et al. (2006) and Dechow et al. (1995), where they examined the association between ROA and EM.

The company's indebtedness level, namely leverage ratio, has a non-significant relationship with the EM activities, contrary to the studies of Gras-Gil et al.(2016) and Park & Shin (2004) who have documented a positive association between EM and leverage. Similarly, the firm size has no impact on the EM activities of selected firms, while some other studies in related literature have documented both an inverse (Muttakin, Khan and Azim 2015; Yangseon Kim et al. 2003) and positive association (Nelson et al. 2002; Yangseon Kim et al. 2003)

Table 6: Pooled Ordinary Least Squares (Huber,Eicker and White Robust Variance Estimator)

DACC 1	Coef.	Robust Std.Err.	Z	p>|z|	[95% Conf. Interval]	
CSR	-.0081398	.0067863	-1.20	0.232	-.0215254	.0052458
Audit Tenure	-.0002726	.0009745	-0.28	0.780	-.0021948	.0016495
ROA	.4132168	.2077631	1.99	0.048	.003412	.8230216
Leverage	-.0267236	.0265415	-1.01	0.315	-.0790756	.0256284
Size	-.0037243	.0040935	-0.91	0.364	0.364	-.0117985
Cash	-.2835373	.1573579	-1.80	0.073	-.5939197	.0268451
Cons	.1304438	.0957631	1.36	0.175	-.0584453	.319333
Prob > F = 0.0326						
R-squared = 0.1003						
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance Variables: fitted values of DACC 1 chi2(1) = 28.35 Prob > chi2 = 0.000						
Wooldridge test for autocorrelation in panel data .H0: no first-order autocorrelation F (1, 23) = 0.336, Prob > F = 0.5676						

The following equation will be analysed and interpreted regarding the second model specification developed based on the Dechov and Dichew (2002) model.

$$DACC2_{it} = ß_0 + ß_1 CSR_{it} + ß_2 Leverage_{it} + ß_3 Size_{it} + ß_4 Audit\ Tenure_{it} + ß_5 ROA_{it} + ß_6 Cash_{it} + €_{it}$$

(Equation 6.2)

where;

all variables are predefined

The F test was applied to investigate unit and/or time effects on the developed model, which proves that the developed model is not classical. Further analysis with the F test shows that the developed model has the unit effects solely.

The H0 hypothesis of the F test states that the developed model has no unit effects. In case the probability value of this test is smaller than the critical value of 0,05, then the H0 will be rejected, and it can be stated that the developed model has unit effects (Tatoğlu 2020:180).

Table 7 shows that the developed model has unit effects because the probability value is less than the critical value of 0,05. Thus, the second model is not appropriate for the classical model; instead, either the fixed effects model or random-effects model should be utilized.

Table 7: F test for the Second Model

DACC 2	Coef.	Std.Err.	t	p>|t|	[95% Conf. Interval]	
CSR	9.29e+07	3.18e+08	0.29	0.771	-5.37e+08	7.22e+08
Audit Tenure	-1.11e+08	5.15e+07	-2.15	-2.15	0.033	-2.12e+08
ROA	-3.53e+09	3.67e+09	-0.96	0.338	-1.08e+10	3.73e+09
Leverage	-2.95e+09	1.46e+09	-2.03	0.044	-5.83e+09	-7.36e+07
Size	1.31e+09	6.14e+08	2.14	0.034	9.86e+07	2.53e+09
Cash	-4.52e+09	3.13e+09	-1.44	0.152	-1.07e+10	1.68e+09
cons |	-2.58e+10	1.41e+10	-1.84	0.068	-5.36e+10	1.95e+09
F test that all u_i=0: F(25, 140) = 5.07 Prob > F = 0.0000						

Afterwards, the second model was tested with the Hausman test to investigate the appropriate model.

The H0 underlying the Hausman test says that the fixed effects and random effects models do not differ substantially. In case the null hypothesis is not rejected. The random effect is not appropriate since the random effects are more correlated with more than one or one regressor. In this case, the fixed-effect model is preferred to the random effect model (Gujarati & Porter 2009:604).

Hausman specification test is utilized to contrast the random effects and fixed effects with each other. If the H0 is accepted, which states that personal effects are uncorrelated with the other regressors, a random-effect model is preferred over the fixed-effect model (H. M. Park 2011:9).

The results of the fixed-effects model and random-effects model are illustrated in Table 8 below. As shown in Table 7, the Hausman test result states that H0 should be accepted since the Prob> chi2 value (0.1100) is more significant than 0.05, which leads to the random-effects model that the difference in coefficients is not systematic. Additionally, several tests have been conducted to test the basic assumptions of panel data models, The Brown–Forsythe test for heteroskedasticity, Modified Bhargava et al. Durbin-Watson and Baltagi-Wu LBI test for autocorrelation, and Pesaran's and Friedman's tests

for the cross-sectional independence have been applied. As a result, the model presents autocorrelation and heteroskedasticity problems and is free of cross-sectional independence problems.

Table 8: Fixed Effect GLS and Random Effect GLS

Dependent Variable		
DACC 2	Fixed Effect GLS	Random Effect GLS
CSR	9.29e+07 (0.29)	0.6209902 (0.02)
Audit Tenure	-1.11e+08 (-2.15) **	-8.51e+07 (-2.29) **
ROA	-3.53e+09 (-0.96)	-3.43e+09 (-1.00)
Leverage	-2.95e+09 (3.01) **	-2.31e+09 (-2.36) **
Size	1.31e+09 (0.50) **	-7.04e+07 (-0.31)
Cash	-4.52e+09 (0.104)	-3.13e+09 (-1.09)
Hausman Test	Prob>chi2 = 0.1100	
Baltagi-Wu LBI = 1.189491	modified Bhargava et al. Durbin-Watson = 1.571831	
Brown–Forsythe test for heteroskedasticity in random effect regression model	W0 = 6.2307450 df(25, 146) Pr > F = 0.000000000 W50 = 5.9331619 df(25, 146) Pr > F = 0.00000000 W10 = 6.2307450 df(25, 146) Pr > F = 0.00000000	
Friedman's test of cross-sectional independence = 0.738, Pr = 1.000	Pesaran's test of cross-sectional independence = 0.731, Pr = 0.4646	

, ** and * indicate that the estimates are significant at 10%, 5% and 1% margins of error, respectively*

A random-effect model can be estimated with clustered standard errors to overcome the heteroskedasticity and autocorrelation problems (Tatoğlu 2020:307).

Furthermore, the results of the p> |z| values for CSR (0.02) and ROA (-1.00) indicate a statistically insignificant impact of CSR and ROA on DACC2 for the selected U.S. firms. Similarly, Size (-0.31) does not have a statistically significant impact on DACC2. However, a statistically significant and negative impact of Leverage (-2.36) on DACC2 exists. In this sense, it can be highlighted that the companies with high leverage levels are less likely to practice financial manipulations, which are in line with the studies of Toukabri et al. (2014) and Dechow and Skinner (2000).

Moreover, the Audit tenure (-2,29) is significantly and inversely related to EM activities as in the studies of Myers et al. (2003) and Yang & Krishnan (2005) in which it is stated that the longer audit tenure will decrease the EM activities. Furthermore, the cash flow from operations (-1.09) is insignificantly and inversely associated with EM.

Regarding the first and second models, the CSR and EM activities association results are demonstrated, including several other control variables. The two most common models have been utilized together to examine those relationships, and Table 9 depicts the results considering these models. As shown in Table 8 below, both models give mixed results since the abnormal accruals are computed with different models.

Table 9: The Results of Panel Data Analysis for the Model 1 and Model 2

	First Model Specification	**Second Model Specification**
	Pooled Ordinary Least Square	**Random Effect GLS**
Explanatory and Control Variables	**Dependent Variable: DACC 1- Kothari, Leone and Wasley(2005)**	**Dependent Variable: DACC 2- Dechow and Dichev(2002)**
CSR	-.0082835 (-1.22)	0.62099 (0.81)
Audit Tenure	-.0004748 (-0.51)	-8.51207 (-2.29) ***
ROA	.4438449 (2.31) **	-3.43209 (-1.00)
Leverage	.0001034 (0.20)	-2.31209 (-2.36) **
Size	-.0021889 (-0.53)	-7.04207 (-0.53)
Cash	-.2679925 (-1.68)*	-3.13209 (-2.17)

, ** and * indicate that the estimates are significant at 10%, 5% and 1% margins of error, respectively*

The developed accrual estimation models' results are demonstrated in Tables 10 and 11.

Table 10: Kothari, Lenoe and Wasley (2005) ‘s Model

TA_{it}/ A_{it-1}	Coef.	Std.Err.	t	p>|t|
$1 / A_{it-1}$	-1.29207	-1.16207	-1.11	0.269
ΔREV_{it} - ΔREC_{it-1}	.0551353	.0363128	.1.52	0.130
PPE_{it} / A_{it-1}	-.0296589	.0299834	-0.99	0.324
ROA_{it}	.202069	.0981495	2.06	0.041
R-squared	0.0472			
Adj R-squared	0.0305			
Prob > F	0.0253			

Table 11: Dechov and Dichew (2002) ‘s Model

$\Delta WC_{it}/ A_{it}$	Coef.	Std.Err.	t	p>|t|
$\Delta REV / A_{it}$	-.2083414	.1612651	-1.29	0.198
PPE / A_{it}	3030251	.1834817	1.65	0.100
CFO_{it-1} / A_{it}	.3133927	.1236376	2.53	0.012
CFO_{it} / A_{it}	-.0352591	.0097036	-3.63	0.000
CFO_{it+1} / A_{it}	-.3385845	.0416448	-8.13	0.000
R-squared	0.3232			
Adj R-squared	0.3065			
Prob > F	0.0000			

The performance-matched model of Kothari, Leone, and Wasley (2005) is demonstrated in Table 10 and shows the total accruals and their association with other variables. Regarding the p>|t| values of the variables, it can be highlighted that only the ROA has a notable impact on the total accruals. In contrast, the other variables do not significantly impact the total accruals. Dechow and Dichev(2002) 's model is demonstrated in Table 11. It shows that the past, present and future cash flows have a significant impact on the total accruals, whereas revenues and fixed assets do not significantly impact the total accruals. Regarding the Prob > F values of the first and second estimation models, their coefficients are different from zero since both models' Prob > F values are smaller than 0,05. In this sense, both models are appropriate for estimating the total accruals. However, Dechow and Dichev (2002) 's model has a minor Prob > F value than Kothari, Leone, and Wasley (2005) 's model, and it is closer to zero. In this respect, the second model's regression fits the data better than the first model. Furthermore, the R^2 value, which measures the strength of the relationship between the developed model and the dependent variable, shows that the second model is more potent than the first model (Jim 2017). In case the adjusted

R^2 is considered to evaluate the explanatory power of the model, the performance-matched model of Kothari, Leone, and Wasley (2005) has less explanatory power than Dechow and Dichev (2002) 's model. This method was also followed in other studies to decide on the best-fitted model (Callao et al. 2017; Siregar & Utama 2008; Ye 2007). Considering all the variables that compare the explanatory power of the developed models, it can be stated that Dechow and Dichev's (2002) 's model is better for capturing the total accruals of the sample companies used in this study.

7. CONCLUSION

The financial manipulation of the companies has become a relevant issue after the financial scandals of the 21st century, which mislead the stakeholders like investors and other interest groups. Under this framework, the U.S. government adopted the SOX in 2002 to regulate the corporate governance, audit standards and responsibilities of the board of directors. The act dictated that companies be transparent and accountable to the investors while maintaining their economic activities. Following that, the business ethics of the companies have become important in the 21st century after the Enron scandal and the eventual collapse of several large firms. On the other hand, the establishment of several organizations in the World that concern the environment (e.g., carbon emissions, water usage) and human rights with the companies' sustainability increased the awareness of the social responsibility. Therefore, a company needs to maintain its activities considering transparency, social responsibility and accountability issues.

This study investigates the nexus between CSR performance and EM activities of selected 26 U.S. companies for the period between 2011 and 2020. It is generally accepted that EM activities have negative impact on financial reporting quality. Therefore, companies with fewer EM activities are expected to attract more investors. In this study, it is questioned whether socially responsible companies are also behaving responsibly to maintain financial reporting quality. Abnormal accruals are utilized to measure earnings quality based on the two different models: the performance-matched model of Kothari, Leone, and Wasley (2005) and Dechow and Dichev's (2002) model. Furthermore, other control variables were added to test the association between EM activities and the other specific features of the companies. In this sense, audit-tenure, leverage, size, ROA, and cash flows from operations are included as control variables.

Based on the literature review, it is observed that most of the studies have found an inverse relationship between EM and CSR. However, the findings of the studies vary with the utilized models, dataset, industries, countries, etc. Thus, it is necessary to consider these factors to evaluate the link between EM and CSR. The main concepts of corporate governance, namely, the agency theory and stewardship theory, explain the interaction between financial and non-financial reporting from two different perspectives. In this sense, the manager incentives play a significant role. Under the stewardship theory, it is expected that the executives disclose more sound decisions and CSR information, and thus the earnings quality is also expected to be better. If managers act as good stewards and have no financial interest, they disclose more decision-useful and financial information. This attitude will lead to increased financial and CSR performance. In this respect, managers are expected to maintain a long-term relationship with stakeholders. Those managers who strive to improve the CSR

performance and reporting have fewer incentives to practice EM activities because low earnings quality will not reflect the stakeholder's interests. In other words, when the management follows the business principles and goals, it will result in a negative relationship between accrual adjustment and non-financial reporting quality consistent with the stewardship theory (i.e., Bozzolan et al., 2015; Gras-Gil et al.,2016; Kim et al. 2012; Scholtens and Kang,2013).

On the other hand, the agency theory assumes that an agent acts against the business principles and agents manipulates earnings to achieve desired income. In this sense, managers are expected to cover up their irresponsible actions by using CSR reporting and performance as a gadget to deflect stakeholder attention from earnings quality. Hence, the managers who prioritizes their opportunistic behavior instead of the companies' principles may manipulate both the financial and non-financial reports. These actions will positively link financial reporting quality and social responsibility, consistent with the agency theory (i.e., Gargouri et al.1998; Laksmana & Yang 2009; Lee 2017).

In this study, panel data methodology was utilized to reveal the association between EM activities and CSR together with other selected variables.The empirical part of this thesis was conducted based on two different models to estimate discretionary accruals, namely, Dechow and Dichev's (2002) 's model and Kothari, Leone, and Wasley (2005) 's model. Whereas the former uses the contemporaneous and peek-ahead information in cash flows for the accrual estimation, the latter proposes the use of performance-matching (i.e., ROA). Considering statistical indicators of the developed models, Dechow and Dichev's (2002) 's model has more explanatory power than Kothari, Leone, and Wasley (2005) 's model. The statistical power indicators such as the Prob > F, R^2, and adjusted R^2 values have shown that Dechow and Dichev (2002)'s model is superior to Kothari, Leone, and Wasley (2005) 's model to capture the total accruals. Comparing the two of these models has shown that the total accruals of the companies used in this study stem mainly from their cash flow activities. Using different statistical models may increase the power of the estimation and lead to different results (Moratis & Max van Egmond 2018:11). Unlike other studies, this study utilized two different estimation models to proxy earnings quality.

The findings in both of the models indicate non-significant relationship between EM and CSR, in line with Moratis & Max van Egmond (2018) and Toukabri et al.(2014). No association has been found between being a good corporate citizen firm and earnings quality. In other words, being socially responsible will not hamper or improve the financial reporting quality. On the other hand, control variables of the study are documented to be significantly associated with the EM activities. In the second model, the audit quality which is measured with the audit-tenure, is found to be inversely related to earnings quality in line with the studies of Myers et al. (2003), and Yang and Krishnan (2005). However, this variable is insignificantly associated with EM activities in the first model. Relying on the second model result, it should be noted that the auditor with a long year of experience can curb the discretionary

accruals caused due to the manager's opportunistic behavior. In other words, increased audit tenure will lead to higher earnings quality. In this sense, this proper evidence will draw the attention of regulators and accounting professionals.

The profitability ratio of the selected companies, which is measured by ROA, is found to be significantly and positively associated with the earnings quality in the first model. This finding is in line with the studies of Lee et al. (2006) Kim, Park, and, Wier (2012) and Dechow, Sloan, and Sweeney (1995). In this sense, it can be stated that, due to the cost function for the profitable firms, it is challenging to maintain better or at least the same performance in the long run. Thus, it will induce managers to practice more EM activities (Lee et al. 2006:4). This finding may shed light on the investors' and researchers' interest in the association between profitability and earnings quality. However, the association between profitability and earnings quality was insignificant in the second model.

The companies' indebtedness level (Leverage) is negatively associated with the earnings quality considering the second model. In contrast, it is insignificantly related to the earnings quality regarding the first model. A high leverage ratio is considered a sign of bankruptcy (Gras-Gil et al. 2016:294). Furthermore, this ratio is also related to the debt covenant violations and thus, these firms will be closely monitored and observed by creditors and other stakeholders. Whereas this association is in line with the studies of Toukabri et al. (2014) and Dechow and Skinner (2000), and it is founded to be controversial with some other studies that utilized leverage as a control variable (i.e., Scholtens & Kang 2013; Gras-Gil et al. 2016; Khosropour 2017; Gras-Gil et al. 2016).

The association between firm size and earnings quality is uncertain, considering the mixed results provided in the literature review. The first view is based on the assumption that large firms have more capital market pressure to disclose information, leading these companies to adopt more aggressive accounting policies (Richardson et al. 2005:10). Furthermore, large firms have a greater capacity to negotiate with auditors, and thus, they may attempt more in EM activities and make it get ignored (Yangseon Kim et al. 2003:3). The opposite view says that the large firms are audited by the big audit firms and are more closely scrutinized by outsiders, and thus, they have more stable operations (Dechow and Dichev 2002). Moreover, small firms are good at concealing private information easily (Lee and Choi 2002:5) In this respect, the relationship between the size of the companies and earnings quality was found to be negative though insignificant considering the first and second models. . The companies used as a sample in this study are indeed larger than the companies used in other studies (i.e.,Dechow & Dichev 2002; Kim, Park, and, Wier 2012; Liu et al.2017; Lee 2017; Hong & Andersen 2011). Since the large companies work more professionally, the findings of a significant relationship between

earnings quality and social performance of these companies are complex, and it will work against this finding (Hong & Andersen 2011:466).

The last control variable is the cash flows from operations which measure the firm's operating performance, and it was computed as cash flow from operations scaled by total assets. Based on the first model, this variable is inversely related to earnings quality, in line with other studies (i.e., Hsu & Koh 2005; Boujelben et al. 2020; Dechow 1992). However, this association is found to be negative and insignificant considering second model. The negative association between cash flows from operations, and earnings quality can be explained by the manager's incentive to adjust more accruals to respond to the company's poor operating performance (Dimitropoulos 2020:6).

This thesis is also subject to some limitations. Firstly, this study measures the accruals solely through accruals EM rather than real EM, and it is unable to capture the real EM activities. The second limitation is that the sample companies used in this thesis consist of only the U.S. companies, and thus, the findings cannot be generalized. The analysis for the companies from other countries may result in different findings of the CSR-EM link. The reason is that the 'CSR national system' in Europe and the U.S. differ in political, legal, cultural, financial, and control and coordination systems (Matten & Moon 2008:3). A third limitation applies to the categorization of the firms. In this way, the other models for estimating earnings management have been included in some studies. Earnings smoothing, earnings aggressiveness, and loss avoidance (i.e., incentives to delay loss recognition and accelerating gain recognition) have been used to compare the earnings quality of the companies where they classified companies as small-large firms, good citizen companies, non-good citizen companies, good financial performed companies- bad financial performed companies etc. (e.g., Scholtens & Kang 2013; Chih, Shen and Khan 2008; Laksmana & Yang, 2009). The other limitation of this study is that it compares merely two estimators' models to find the best-fitted model for EM. Due to insufficient data, other EM measuring models such as; Yoon and Miller (2002) model, Dechow, Richardson, and Tuna (2003) model, and Larcker and Richardson (2004) could not be estimated; hence, they could not be compared with each other.

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Further studies are recommended to compare other alternative models to decide on the best estimator of accruals EM. Further studies are also encouraged to connect some corporate governance variables (i.e. audit committee, the structure of the company's board) with CSR- EM relationship. Since EM activities are argued to be negatively associated with a solid corporate governance system (it will be interesting to question how the relationship between CSR and EM is impacted by the percentage of females on the board, the percentage of independent board members, the presence of the audit board

committee and being audited by big four. In this way, future studies may shed a different light on the CSR- EM association.

This study has contributed to the existing literature in two different ways. First, this study compares the most commonly used two different accruals EM estimator models with each other, together with their superiority and inferiority in statistical terms. Secondly, this study reveals the association between CSR and earnings quality by including several control variables with a recent dataset. This study's main limitations and recommendations have been highlighted to researchers, regulators, and executives.

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