

# GLOBAL JOURNAL

OF MANAGEMENT AND BUSINESS RESEARCH: D

## Accounting and Auditing

A Case Study on Listed Banking

Informational Performance of Audit

} Highlights {

Case of French Companies

Implications for Financial Reporting

Discovering Thoughts, Inventing Future

VOLUME 22    ISSUE 2    VERSION 1.0



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING

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VOLUME 22 ISSUE 2 (VER. 1.0)

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# Informational Performance of Audit Reports Content: Case of French Companies Listed on the Stock Exchange during the Decade 2010-2020

By Assoumou Menye Oscar

*University of Douala*

**Summary-** Proliferation of financial scandals in past decades has caused significant changes both in the financial sector and in the economy in general, leading to a tightening of the rules for assessing economic equilibrium, assessing health and economic profitability of companies. In this context marked by the worsening of a terrible pandemic (covid-19) which upsets' managerial practices, the search for reliable sources of information becomes a priority for survival. Also, the audit report appears to be a reliable, credible source of information likely to improve business decision-making.

At the level of this article, we examine and analyze 4402 annual reports of 691 listed companies over a decade (2010-2020) and measure the effect produced by the presence (absence) of an auditor and the audit report that he emits. The latter appears as a potential double signal, which could impact the eyes of partners, in particular creditors, investors and shareholders.

**Keywords:** *statutory auditor, audit report, information content, date of event, reservations.*

**GJMBR-D Classification:** *DDC Code: 657.4580973 LCC Code: HF5616.U5*



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# Informational Performance of Audit Reports

## Content: Case of French Companies Listed on the Stock Exchange during the Decade 2010-2020

Assoumou Menye Oscar

**Summary-** Proliferation of financial scandals in past decades has caused significant changes both in the financial sector and in the economy in general, leading to a tightening of the rules for assessing economic equilibrium, assessing health and economic profitability of companies. In this context marked by the worsening of a terrible pandemic (covid-19) which upsets' managerial practices, the search for reliable sources of information becomes a priority for survival. Also, the audit report appears to be a reliable, credible source of information likely to improve business decision-making.

At the level of this article, we examine and analyze 4402 annual reports of 691 listed companies over a decade (2010-2020) and measure the effect produced by the presence (absence) of an auditor and the audit report that he emits. The latter appears as a potential double signal, which could impact the eyes of partners, in particular creditors, investors and shareholders. This contribution is particularly interested in the study of the behavior of shareholders around the dates on which the auditor's issue reservations on certain accounting items likely to affect the financial statements materially. Thus, the impact of the auditor's report should be understood by studying the evolution of company prices at the time of its publication.

The results gotten show that reservations and refusals to certify expressed by auditors harm stock market prices. However, the choice of the announcement date is essential. Among the three hypotheses retained concerning the date of the event, it seems that fifteen days before the date of the general meeting, the announcement of reserves becomes public, and investors react unfavorably to this bad news.

**Keywords:** statutory auditor, audit report, information content, date of event, reservations.

### 1. INTRODUCTION

The company's is often considered a complex entity whose various activities and the requirement of economic performance require regular and permanent control. Given the importance of these issues, it is essential that the diverse internal and external control systems are constantly imposed on the companys' to improve the efficiency and functioning of its activities.

In general, the issuance of an audit report meets different normative and legislative standards [2, 33]. Indeed, each country has its regulations which distinguish it, but also which differ from other countries, which makes necessary the use of a single model of the audit report that could be applied to all contexts, like the international audit report. The role assigned to the external auditor consists of giving his opinion on the accounts and the economic statements of the companies as well as on the various information such as the activity reports provided to the shareholders. He is thus the guarantor of the regularity and the sincerity of the data presented in the context of carrying out the due diligence deemed necessary according to the profession's standards. This description of the auditor's role shows that he is indeed a regulator of the accounting quality and financial information. However, it should be noted that this task requires permanent control of the company's accounting system [7].

The external auditor's report is often considered a significant communication tool for users of financial statements. It is, therefore, interesting to study the auditor's role, as an intermediary between the company and external investors. However, it's possible to understand this role through a theoretical and econometric analysis of the informative content of the auditor's report and, in particular, of the reservations that he has formulated.

This contribution attempts to answer an essential question: what behaviors do shareholders adopt around the dates on which auditors issue reservations on certain accounting items likely to affect the financial statements materially? To provide some answers, we wanted to understand the impact of the auditor's report through the study of the evolution of company prices at the time of its publication.

In the first section, we will make a synopsis of the primary research carried out in the field, the second section will detail the approach followed for the collection of data, the sources of the data, the rules retained in the constitution of the sample, the methodology adopted as well as than statistical tests. A third section after that will present the various tests

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carried out on the price share behavior around the dates on which the auditor's issue reservations on certain accounting items likely to affect the financial statements and last section significantly will summarize the main results and conclude.

## II. OVERVIEW OF PREVIOUS RESEARCH

### a) *Some preliminary observations*

One of the pioneering studies, from the point of view of the methodology used, and the size of the sample of audit reservations, is that of [14], who highlighted three series of methodological difficulties faced by event tests in general and in particular those concerning the effect of the auditor's stock price reservations. The authors show that, on the whole, the informative content of the auditor's report for the American market seems relatively weak, and, limited to the most serious cases of reservations. In another study, [15] concluded that press announcements of audit reserves "subject to" are rare, but if they occur, they induce adverse heritage effects on the stock price concerned. The study done by [17] leads to the same result. However, these results contrast with several other studies, which did not detect this adverse price reaction.

[14] (DDHL hereafter) studied the behavior of stock prices around the dates on which auditors' express reservations relating to uncertainty on certain accounting items, significant delays likely to materially affect the financial statements ("Subject to" qualified audit opinion). The sign and the significance of the abnormal returns of the shares of the companies for which the auditor could not express an opinion, for lack of having the necessary means for his audit work ("disclaimers of audit opinion") are also examined.

The authors consider all of these methodological, conceptual, and procedural problems by developing an original methodology. Indeed, unlike previous studies, DDHL took care to identify the announcement date with great precision.

Their sample is large enough to allow them to analyze the effects on prices of several types of reservations issued by the auditor. The tests on the behavior of cost and the underlying informative content of the reservations issued by the auditor come up against three significant problems: the definition of the date of public announcement, the anticipations, and the previous revelations, and finally, the concomitant revelations.

Regarding the first obstacle, the problem of identifying the announcement date arises in the majority of event studies. The difficulty here stems from the fact that, the first public announcement of a qualified opinion auditor's reservation may occur when the annual accounting result is publicly announced for the first time, when the annual report is available to the public, when the 10 -K is revealed to the public or else when the

company publishes an announcement in the press stating the auditor's reservations and often the difficulties encountered by the company. Studies that assume that the public announcement of a formulated reservation by the auditor is linked to a fixed date (for example the first announcement of accounting profit in the Wall Street Journal) therefore, have a minimal scope. Research undertaken by the authors reveals that it is difficult, if not impossible, to specify a single event date that represents the date of the public announcement of reserve notices for all companies.

Regarding the second hurdle, a qualified audit opinion is informative only to the extent that it reveals information not embodied in the lectures. Some reservations have been anticipated by the market following previous details. Thus, a reservation opinion which a priori is not good news for the company, can represent positive (negative) information for the market if the latter had expected a more (less) severe judgment from the auditor. The authors did not content themselves with observing the sign and the significance of average abnormal returns. They were able to control the problems related to expectations by constructing initial tests based on the technique of squared standardized forecast errors, developed by [6] and [35].

The problem of concurrent information is also difficult to solve. To reduce the impact, the authors examined abnormal returns over short intervals (3 to 5 days), ensuring that the publication of the accounting results is earlier.

### b) *Process for changing audit reports in France*

For a very long time in France, audit reports have suffered from a negative image among readers who say they do not use them as a privileged source of information. These reports are often assimilated by their readers into a component of financial statements devoid of any actual informational content [38].

The evolution of the current French audit report to its present form has gone through several stages. First, the reform initiated by the CNCC<sup>1</sup> in 1995 is analysed by [23], who identifies five innovations, based on criticisms formulated by users of the audit report. These innovations concern the respective responsibilities of managers and statutory auditors, the nature of the assurance provided by the audit opinion, the scope of the tests carried out within the framework of the audit mission, more particularly, the appeal, the sampling approach, the nature of the reservations expressed by the auditor in his general report and the addition of a certain number of additional observations to the new audit report [18].

The second phase of the process of evolution of the French audit report corresponds to the introduction by the CNCC, in 2003, of two standards,

<sup>1</sup> National Company of Statutory Auditors.

"N°2-601: general report on the annual accounts" for the annual accounts of individual companies and standard "No. 2-602: report on the consolidated accounts" for the consolidated statements. The same year, there was the integration by the LSF<sup>2</sup>. Of the second part of the audit report, "Justification of the assessments" of the auditor.

Another milestone in the process of changing the audit report in France corresponds to the introduction of the "NEP 700 and 705."<sup>3</sup> standards respectively in 2007 and 2006. It should be noted that since the LSF in 2003, the standards audit has acquired the status of a ministerial decree which has made it possible to reinforce their applicability. This public nature makes these NSPs opposable to third parties and institutionalizes the normalizing role of the Company<sup>4</sup>.

c) *Perception of the usefulness and use of the audit report by shareholders and other economic actors*

Shareholders and investors nowadays seek to diversify the sources of information they consult to form an opinion on the solvency and profitability of the company. Among the documents required, we can cite the certified financial statements, mentioning the auditor's opinion on the reliability of the audited accounts. The place of audit reports among the sources of information mobilized by bankers, for example, has been dealt with by certain researchers) [31,32; 19; 5;25;4; 30]. The main observation resulting from this work reveals that this report is only one element among others that shareholders and potential investors consult [25; 39; 21; 38]. In addition, the usefulness of this report varies according to its informational content, more particularly, according to the nature of the audit opinion expressed.

In France, [38] specifies that the audit report occupies the 3rd place among the sources of information used by bankers, just after the financial statements, the appendices, and economic and sectoral data. In a study by [33] concerning the perception of audit reports with reservations by a sample of users, including bankers, the authors point out that the latter have difficulty understanding the sampling principle "testing" applied by auditors during their account verification. As for [33; 2], they highlight bankers' perception of the level of assurance provided by the audit report. Indeed, the audit opinion constitutes a form of guarantee for users regarding the reliability of the company's accounts. Similarly, this level of commitment is, in some cases, confronted with the materiality of the audit, which favors quantitative techniques, subject to criticism from bankers. These increasingly recurrent

criticisms, open the way to materiality of the audit<sup>5</sup> based on qualitative factors [29].

In another study carried out, the American context, [2] specify that the extent to which stakeholders use the standard audit report (SAR)<sup>6</sup> depends on their understanding of the message transmitted by the auditor. The authors emphasize the persistence of the gap in bankers' knowledge of the audit message. The common use of the audit report by bankers cannot be explained solely by factors related to its content but also by the very architecture of this document, which lacks consubstantiality. Similarly, the length of the audit report [11; 34] and the brevity of the information it contains [28; 37] seem to be at the origin of the weak attractiveness of this report to users.

The review of these studies allows us to note the existence of a certain ambiguity around the working methods adopted by the auditors, also, in the understanding of specific technical terms [2], which therefore influence their perception of the audit opinion. Indeed, the vagueness that surrounds the auditor's work can then explain the low use of the audit report by bankers or even certain economic operators.

### III. INFORMATIONAL AND COMMUNICATIONAL VALUE OF THE FRENCH AUDIT REPORT

The audit report has often been the subject of numerous criticisms relating to its informational contribution and the content of the message it conveys. The communicative value of this report is called into question by authors who highlight the limited communicative potential of this report that does not manage to compete with other information media.

a) *Use of the audit report by companies*

Audit reports used by several professionals has been the subject of several studies [19; 33], mainly in the Anglo-Saxon context. Most of this research shows the low usefulness of the audit report, which unfortunately does not constitute a significant source of information for readers.

In the French context, the work of [22] shows the insufficient attention paid by readers to the financial information contained in audit reports. These raises questions about the communication ensured by the audit reports. One of the elements that may explain the low attractiveness of the audit report is the binary nature of this document, whether or not it validates the financial

<sup>2</sup> Financial Security Law of 08/01/2003.

<sup>3</sup> The NEP 700 standard was revised and approved by order of May 26, 2017.

<sup>4</sup> Source: <https://www.cncc.fr>

<sup>5</sup> The materiality of the audit allows the auditor to determine the extent of the audit work, to make a judgment on the material nature of the accounting anomalies that he may have identified and to ultimately issue an opinion on the reliability and the sincerity of the accounting documents. Materiality is set according to quantitative criteria, but also qualitative criteria defined by professional standards (Lahbari and Manita, 2011).

<sup>6</sup> Unqualified audit report.

statements, without providing additional information to these documents. In this sense, [34] specify that the communication model adopted in the audit report is triangular since it is the result of the interaction of the relationships between the person who produces the description (auditor), the message, or the text (the auditor's account). audit) and the referent (financial statements).

In the first study on the audit report, [21] analyses the information content and the communicative function of this document based on Shannon's <sup>7</sup> communication model. The author studies the audit report forms used by professionals such as financial analysts. The main results of this research show that the French professionals interviewed do not use this report in their decision-making processes since it does not allow the audit opinion expressed by the auditor to be transmitted effectively.

#### b) *Insufficient informational value of the audit report*

The reliability and completeness of the financial information provided by companies are among the main criteria observed by users. They pay particular attention to the quality of the information disclosed and its informational potential. However, since this document is included in the annual report, it does not arouse the users interest in a significant way, and, it often goes unnoticed in the mass of information communicated. Thus, the audit report is often described as a "standard" report (Mock et al. 2013) with low communicative value [11; 12] with no accurate informational content [33].

The research conducted by [11; 12; 34] in different contexts leads to the same conclusions on several points. The audit report, although it is read by several users, is still considered a binary "pass/fail report," which does not provide additional information. The extent of the criticism leveled at this document, and its common use have prompted some legislators to rethink the form and content of this report so it can better meet the expectations of its readers. Therefore, [33] recommend adding additional information to the audit reporting process to strengthen communication around the work done by the auditor. Other authors [41] justify the low use of the audit report by the nature of the information it contains. The authors point out that the current form of this report lacks transparency since it does not provide information on the anomalies not corrected by the management of the company as well as the cases of disagreement with the management (in addition to those which are considered to be insignificant by the listener).

## IV. DATA AND METHODOLOGIES

The study covers the period 2010-2020; it concerns 4,402 annual reports of 691 listed companies, according to the distribution indicated in table 1. The total number of consolidated statements is 2,049<sup>8</sup>.

<sup>7</sup> The communication model of Shannon and Weaver (1948) or the general system of communication.

<sup>8</sup> Certain reports concerning the period 2005-2009 were also examined. But due to their small number (34 in total), these reports are excluded from the study.



*Table 1:* Number of reports examined over the period

Year	Number of reports	Number of Companies	Year	Number of reports	Number of Companies
2010	57	46	2016	610	18
2011	162	114	2017	623	10
2012	498	342	2018	606	17
2013	551	90	2019	107	3
2014	575	36	2020	30	-
2015	583	15	<b>2010 to 2020</b>	<b>4 402</b>	<b>691</b>

The review of the reports led to an initial taxonomy of the opinions expressed. The views expressed are divided into five major groups: reports without reservations and observations (01); reports with reservations (02); reports with comments (03), reports with remarks and findings (04); and finally, writes with refusal to certify (05)<sup>9</sup>.

The reasons that led to the formulation of these reservations are ten in number. Out of 304 counted reports, 288 are used<sup>10</sup>. Their breakdown by reason is given in Table 2.

*Table 2:* Breakdown of reports by type of reservation

Year	Number of reports
Uncertainty	88
Limitation of work	39
Accounting principles	40
Non-recognition of transactions and provisions	27
Commitment to pensions and leave	37
Non-compliance with consolidated principles	44
Refusal to certify	13
<b>Reports with reservations</b>	<b>288</b>

#### a) *Choosing the date of the event*

One of the hurdles of informational content event testing is the problem of identifying the announcement date. Previous research reveals that it is difficult, if not impossible, to specify a single (or pure) event date that represents the date of the public announcement of reserve notices for all companies.

For each of the companies selected, five dates was noted: the date of the General Meeting; the date of signature of the statutory auditor in the annual and consolidated report; the date of the end of the financial

year; the date of publication of informations in the Bulletin d'Annonces Légales Obligatoires (BALO); the date of announcement of reservations in the press.

It appeared that the report's publication in the BALO occurred after the date of signature by the auditor. As for the publication of reservations in the press, this practice is almost non-existent since only three announcements are listed there. Three hypotheses has been formulated: the first retains a date to fifteen days before the General Meeting of Shareholders (GM-15); the second corresponds to the date of signature by the statutory auditor of the annual and consolidated reports; the third corresponds to the average of the two dates.

Unlike the studies carried out in the United States, this study covers all the reservations expressed on the accounts of listed companies. Despite their interesting methodological approaches, the three most important studies in this area [14; 15; 17] have certain limitations, particularly with regard to the informative content of audit reports.

Apart from the DDHL study, which uses the reservation "Subject to" and "the refusal to certify," and the study by [15], which uses the announcement of reservations in the press, the other works are entirely devoted to examining the first category of "subject" reservations. Part of this limitation is linked to the fact that the different types of reserves are not considered to be material elements, in particular by audit professionals in the United States. However, it should be remembered that opinions such as "adverse opinion" and "refusal to certify" can have a pretty different impact from that of "subject to," even if by the number, the latter is more important. In this study, all the types of reservations and the reasons concerned are examined to carry out various tests in this area.

In addition, in previous studies, several methodological obstacles, among which the determination of the date of event are observed. In this regard, DDHL considers a few critical issues in this type of event study: determining the size of the period, determining the date of publication of audit reports, the effect of concurrent information not taken into account by the models, and the rigorous integration of the phenomenon of anticipation.

<sup>9</sup> Certain reports are excluded from this classification; these are reports in which reserve elements are brought together in accordance with the standards of the Compagnie Nationale des Commissaires aux Comptes (CNCC) but which have not been formally mentioned in the paragraph reserved for the opinion of the auditor. Sixty-seven reservations of this type over the study period are observed. For this category of reservations, the tests concerned are carried out separately and, out of caution, only the reservations formally issued by the statutory auditors are retained for the empirical study.

<sup>10</sup> For three types of reserves, due to low numbers, event tests are not carried out.

The disclosure, for example, in the press of the reservations expressed by the auditor before the publication of the annual reports is rare, even in the United States. The study by [15] concerning this subject is carried out on 114 cases of "subject to" reservations published in the Wall Street Journal. In France, this phenomenon is almost non-existent. The publication of reserves, like other types of accounting information, is observed in the BALO simply after the publication of annual and consolidated reports.

#### b) Quantification of shareholder reaction

The shareholder's reaction to the publication of audit reports cannot be equated with observed profitability, insofar as other information published simultaneously is likely to affect prices. The methodology of the event study consists of a modeling of "normal" profitability, the "abnormal" part or attributable to the event studied being evaluated by difference with the observed profitability [3].

Simulations by [8; 9] have shown that other simpler variants than the CAPM can be, under certain conditions, as efficient as the most sophisticated models. These results were confirmed by the studies of [16; 26, 27].

In the event of missing data, the missing prices are replaced by the uniform distribution method justified by [24]. The study window or event period is set at thirty sessions on either side of the announcement date.

Different approaches are used to define the norm: the naive system, which consists of equating the standards with the profitability of the market (which is equivalent to assuming that the beta of the security is equal to one), and the market model. In the latter case, several approaches have been used to estimate the beta coefficient: ordinary least squares (OLS), the estimator of [13], that of [36], and finally that of [20]. The index used is weighted by market capitalization. The results obtained using an equally weighted index are not significant. It could be linked to the fact that a substantial number of reservations expressed by auditors relate to large companies. Therefore, when estimating the market model and that of Dimson with an equal-weighted index, the importance of the capitalization of these companies is not reflected.

#### c) Testing the significance of shareholder reaction

The average return in excess at a given session  $t$  is formulated by relation 1.

$$MAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t} \quad \forall t = -30, \dots, +30 \quad (1)$$

With  $MAR_t$  the average abnormal return of the sample considered over the interval  $t$ ;  $AR_{i,t}$ , the abnormal return of security  $i$  over the interval  $t$  and  $N$  the number of observations.

The cumulative average abnormal return at date  $t$  ( $CMAR_t$ ) is defined by relation 2.

$$CMAR_t = \sum_{t=-30}^t MAR_t \quad (2)$$

A Student's test makes it possible to decide on the significant nature of a return; thus, for a given session  $t$ , relation 3 gives the Student's tests applied to the average of the excess returns, and relation 4, that applied to the cumulative return mean.

$$T_t = \frac{MAR_t}{\sigma_{MAR_t}} \quad (3)$$

$$CT_t = \frac{CMAR_t}{\sqrt{n} \cdot \sigma_{MAR_t}} \quad (4)$$

The variance of the average abnormal return is estimated over a period preceding the study window and using two methods. The first assumes the independence of the excess average returns from one security to another: the standard deviation calculated on the time series  $MAR_t$  is expressed according to relationship 5.

$$\sigma_{MAR_t} = \sqrt{\frac{1}{179} \sum_{t=-211}^{-30} (MAR_t - \overline{MAR})^2} \quad (5)$$

$$\text{With } \overline{MAR} = \frac{1}{180} \sum_{t=-210}^{-31} MAR_t$$

The second method:

$$\sigma_{MAR_t} = \sqrt{\frac{1}{N^2} \sum_{i=1}^N \sigma_{AR_{i,t}}^2} \quad (6)$$

With

$$\sigma_{AR_{i,t}}^2 = \frac{1}{179} \sum_{t=-211}^{-31} (AR_{i,t} - \overline{AR_i})^2 \text{ et } \overline{AR_i} = \frac{1}{180} \sum_{t=-211}^{-31} AR_{i,t} \quad (7)$$

The Student statistic  $TC_t$  as calculated assumes that:

$\sigma_{CMAR_t}^2 = (t + 30 + 1) \sigma_{MAR_t}^2$  from the assumption of serial independence.

For a significance level set at 5%, the  $T_t$  statistic follows a Student law with  $N-1$  degrees of freedom where  $N$  is the number of securities in the sample.

## V. THE REACTION OF SHAREHOLDERS TO THE PUBLICATION OF AUDIT REPORTS

In a first step, the behavior of share prices is studied around the dates on which the auditors issue reservations on the financial statements. The sign and the significance of the abnormal returns of the shares of the companies for which the auditor was unable to express an opinion are also examined, either because of the seriousness of the reservations observed in the financial statements, or because of the absence of sufficient means to carry out the verifications necessary for its mission.

Most of the studies carried out in the United States use the information contained in the "National Automated Accounting Research System" (NAARS) database to collect data concerning reservations



expressed by auditors. In the absence of such a database in France, direct research is undertaken to gather the necessary information concerning this study. It can be considered an essential factor concerning the reliability and validity of the results obtained.

To better explain the impact of reserves on stock prices around the chosen event dates, the study is also conducted on the subgroups detailed in Table 2.

*Empirical tests are performed on the following data:*

- All reservations and refusals to certify are mentioned in the annual and consolidated reports;
- All reservations not explicitly mentioned in the paragraph of the auditor's opinion, in the annual and consolidated reports. It should be emphasized that certain information mentioned in words in the form of an observation or a remark is the basis of this investigation;
- All the reservations issued for the first time (and also for the second and third) in the annual and consolidated accounts of all the companies in the sample (the method chosen by DDHL);
- All of the reservations (except the first reservation) are expressed in the annual and consolidated accounts of the companies in the sample;
- All the reservations are expressed on the consolidated accounts from the year 2016.

All results assume an accumulation over the interval (-30, +30) around the chosen announcement date. To facilitate the presentation of the results, the interval -15 to +25 is retained on the graphs, it can be reduced in certain tables.

*a) The impact of the announcement of reservations and the refusal to certify issued by the statutory auditors*

In a first step, the average abnormal return and the cumulative average abnormal return were calculated for all the reservations and refusals to certify issued by the auditors. Table 3 shows the reservations and denials to certify mentioned by the statutory auditors in the annual and consolidated reports of the companies in the sample.

The results show an adverse reaction around the event date (from twenty days before the event date until the end of the study period)<sup>11</sup>. The average abnormal return is negative and significant one day before the event date (-0.32% with a t Student of 2.04). At date zero (date AG-15), the average abnormal return is 0.04% (t Student 0.29) but is insignificant. The magnitude of negative profitability in the following days becomes increasingly essential. From the third day after the date of the event (the return is 0.46% with a t Student

of 2.94 on the date t+3), these returns are often negative<sup>12</sup>.

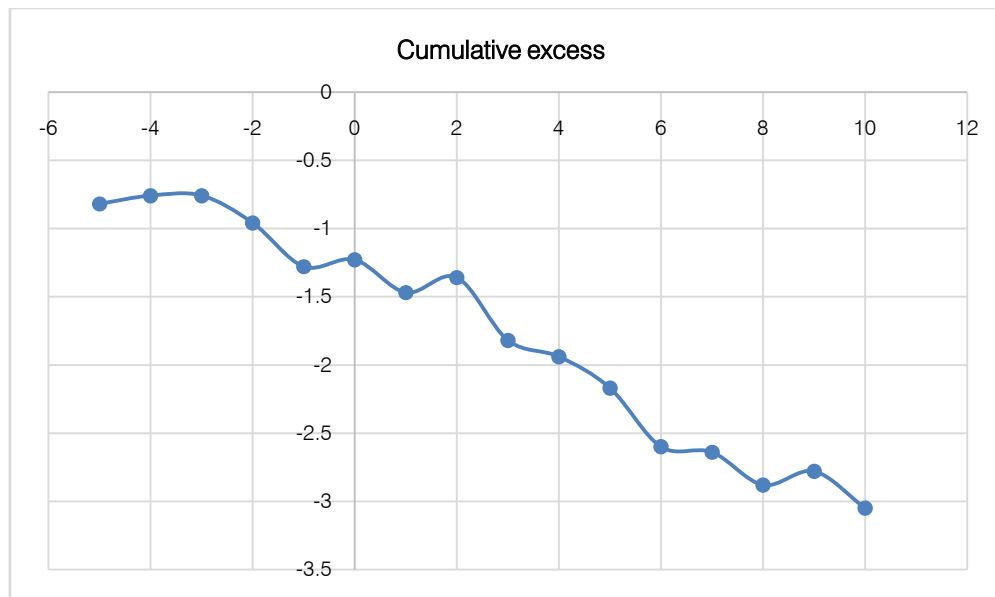
*Table 3: Overall impact of reservations and refusal to certify on shareholder wealth*

Date	Excess profitability	Cumulative excess	T-test	Cumulative T-test
-5	-0,30	-0,82	-1,93	-1,04
-4	0,06	-0,76	0,41	-0,94
-3	-0,13	-0,76	-0,01	-0,97
-2	-0,19	-0,96	-1,27	-1,14
-1	-0,32	-1,28	-2,04	-1,49
0	0,04	-1,23	0,29	-1,42
1	-0,24	-1,47	-1,55	-1,67
2	0,11	-1,36	0,71	-1,52
3	-0,46	-1,82	-2,94	-2,00
4	-0,12	-1,94	-0,76	-2,10
5	-0,22	-2,17	-1,43	-2,31
6	-0,43	-2,60	-2,77	-2,74
7	-0,04	-2,64	-0,25	-2,75
8	-0,24	-2,88	-1,51	-2,95
9	-0,09	-2,78	0,60	-2,81
10	-0,27	-3,05	-1,73	-3,05

*Note: Returns (excess and cumulative) are expressed as a percentage. Abnormal returns are defined concerning the market model; the announcement is assumed to be 15 trading days before the general meeting, and the number of observations is 288.*

<sup>11</sup> The results in Table 3 are obtained by the naive approach of deducting the return of the index from that of the stock. However, the results obtained are not very sensitive to methodological variants Soltani [1992].

<sup>12</sup> When using the second and third event date, the results are also significant even one day after the event date. The average abnormal return is 0.61% with a t Student of 4.12 on date t1 one day before the second event date; date of signature of the auditor's report. In the case of the third event date, the significance of the returns is observed from the first day after date zero (the return of -0.44% with a t student of 2.84 on date t1, these results are not detailed here, see Soltani [1993]).



Note: This graph represents the cumulative returns over Table 3, 15 sessions before and 25 after the announcement date, which is supposed to be 15 days before the date of the general meeting.

Graph 1: Excess returns around the announcement of reserves

From the results of the tests of the impact of the announcement of reservations and the refusal to certify issued by the statutory auditors on the annual and consolidated financial statements, three main ideas emerge:

- Average abnormal returns are negative around the different event dates. These returns are significant, especially in the interval -1, +3 (one day before and three days after the event dates);
- Among the event dates used, the one corresponding to 15 days before the general meeting gives the most satisfactory results;
- The application of the two market models, simple and Dimson, leads to often similar results in the case of each event date.

The issuance of reservations and the refusal expressed by the statutory auditors in the annual and consolidated reports have a negative and significant impact around the date of the event. It shows that the market reacts to this lousy news well before the announcement date (15 days before the date of the general meeting). This trend will also continue after the event date.

However, the choice of the announcement date is essential. Among the three hypotheses retained concerning the date of the event, it seems that fifteen days before the date of the general meeting, the announcement of reserves becomes public, and investors react unfavorably to this bad news.

#### b) *The impact of reservations observed but not explicitly mentioned in the paragraph of the auditor's opinion*

To identify the reservations expressed by the statutory auditors, over four thousand annual and

consolidated company reports were examined. Regarding the opinion of the auditors, several types are mentioned in the reports. These are opinions expressed mainly in reservations, observations, remarks, and refusals to certify. In addition, the research carried out reveals certain types of anomalies concerning the conformity of the contents of the reports with the standards established by the CNCC. Among these anomalies, we can mention elements of reservations that are gathered following the standards of the CNCC but that have not been the subject of formal mention in the paragraph reserved for the opinion of the auditor. According to the research, sixty-seven such reserves were observed over the study period. For this category of reservations, the tests concerned are carried out separately, out of caution, only the reservations formally issued by the statutory auditors are retained for the empirical study. However, it is interesting to see whether the publication of information that is not officially expressed in the form of reservations in the reports of the statutory auditors, but which nevertheless contains elements of reservations according to CNCC standards, has an impact or not on stock prices. The same tests carried out on the reservations formally expressed in the reports of the statutory auditors are applied to this type of reservation.

The results show (even though this information is not mentioned in the form of reservations formulated by the auditors in the annual reports) that the market reacts to this type of information. When we use the simple market model with a weighted index (Table 4), for the third event date (the average of two event dates), we observe negative abnormal returns, especially after the event date (-0.69% with a t Student of 2.17 on date 1+4,

four days after the event date). These returns are often negative and significant in the days following the date of the event<sup>13</sup>.

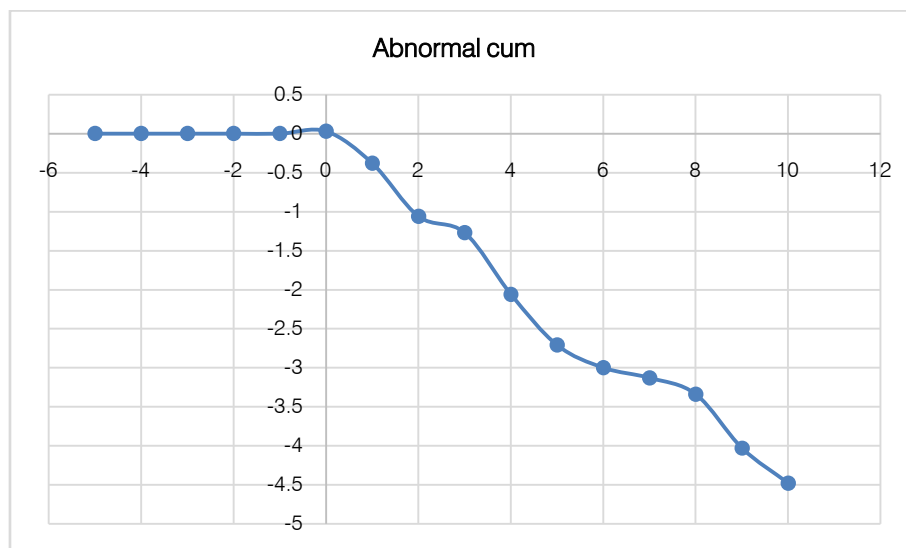
Regarding the second and third event dates, the results obtained are not significant until a few days

later. However, we still observe negative abnormal returns around the event dates.

*Table 4:* Announcement of reservations not mentioned in the reports

Date	Abnormal profitability	T-Test	Abnormal Cum.	T-test
-5	-0,12	-0,38	0	0
-4	-0,10	-0,33	0	0
-3	-0,18	-0,56	0	0
-2	-0,54	-1,72	0	0
-1	-0,50	-1,59	0	0
0	0,02	0,08	0,03	0,08
1	0,01	0,32	-0,38	-0,69
2	-0,14	-0,44	-1,06	-1,50
3	-0,03	-0,09	-1,27	-1,52
4	-0,69	-2,17	-2,06	-2,17
5	-0,53	-1,67	-2,71	-2,58
6	-0,45	-0,44	-3,00	-2,63
7	-0,72	-2,27	-3,13	-2,56
8	-0,02	-0,07	-3,34	-2,56
9	-0,71	-2,25	-4,03	-2,93
10	-0,29	-0,93	-4,48	-3,09

*Note:* The returns (excess and cumulative) are expressed in percentages. 59 events are used. The assumed announcement date is set in the middle of the interval between 15 days before the date of the AGM and the date of signature by the auditor of the reports. Abnormal returns are defined regarding the market model.  $R_{it} = \alpha_j + b_j R_{mt} + e_{jt}$ .



*Note:* Based on the data in Table 4. The cumulative excess returns are marked by dots joined by a solid line.

*Graph 2:* Announcement of reservations not mentioned in the reports

As in the previous case (when the second and third event dates are used), average abnormal returns are observed around the intervals used. These results, although significant, are less good than those obtained by using the event date the day (d0 -15) before the date of the general meeting.

Note that, in the previous table, for a date t, the cumulative average abnormal return is calculated by the

sum of the average abnormal returns between -t and +t. For example, for t5, this return represents the sum of the average abnormal returns from t = -5 to t = +5.

<sup>13</sup> The use of the Dimson model with a weighted index leads to similar results, because at date t+3 (three days after the first event date), the average abnormal return is significant and different from zero (the return is 0.74% with a t student of 2.11).

These results show that the market is reacting to this bad news. However, this negative impact is less significant than when the reservations are clearly expressed by the auditors in the annual reports.

Insofar as these unmentioned reservations are expressed in the form of an observation or a remark which turns into a reservation in the following years, the market may interpret these observations or these remarks as valid reservations.

One of the significant difficulties concerning the interpretation of the reports of French auditors is the existence of several types of information such as observation, remark, observation, etc., that are not expressed in a standardized form. While the existence of such data in auditors' reports is considered valuable, it may increase the risk of misunderstanding by investors and other interested parties.

c) *The reservations expressed by the auditors on the accounts of several years*

i. *The informative content of the first reservation issued by the statutory auditors*

When the auditor notices errors, anomalies, or irregularities in the accounting principles application or when he sees one or more uncertainties affecting the

annual or consolidated accounts, he expresses his opinion on the statement with a reservation. In subsequent years, the company is likely to take into account the opinion expressed by the auditor and correct any errors or anomalies mentioned in his report. However, there are several cases where the auditor says reservations about the accounts of a company for several successive years. For example, in the previous case, when anomalies that led to reservations or refusal to certify the annual or consolidated accounts for the previous financial year no longer exist at the end of the financial year, the auditor must examine the consequences possible of the impact of the reservations made on the accounts of the previous financial year. Another example relates to the anomaly or error that gave rise to a reservation that remains.

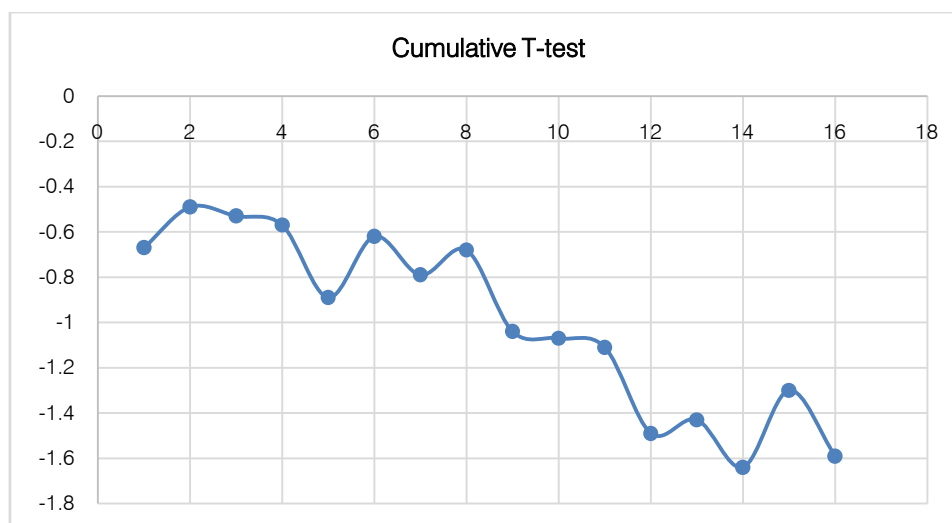
In order to determine the effect of the reservation expressed for the first time in the reports of the Statutory Auditors, the event tests are carried out on all the companies in the sample for which one or more reservations are expressed for the first time. This is consistent with the study done by DDHL, which consider only the first public announcement of a reserve.

*Table 5: Announcement of reservations and refusal to certify issued for the first time*

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	-0,08	-0,43	-0,60	-0,67
-4	0,15	0,89	-0,45	-0,49
-3	-0,04	-0,24	-0,49	-0,53
-2	-0,05	-0,30	-0,54	-0,57
-1	-0,31	-1,78	-86	-0,89
0	0,25	1,44	-0,60	-0,62
1	-0,19	-1,07	-0,78	-0,79
2	0,11	0,61	-0,68	-0,68
3-	-0,38	-2,16	-1,06	-1,04
4	-0,05	-0,28	-1,11	-1,07
5	-0,05	-0,31	-1,16	-1,11
6	-0,43	-2,44	-1,59	-1,49
7	0,04	0,25	-1,54	-1,43
8	-0,25	-1,44	-1,79	-1,64
9	0,36	2,07	-1,43	-1,30
10	-0,35	-1,99	-1,78	-1,59

*Note: Returns (excess and cumulative) are expressed as a percentage. One hundred ten events are used. The supposed announcement date is set 15 days before the GA date. Abnormal returns are defined regarding the market model. ( $R_{it} = a_i + b_j R_{mt} + e_{jt}$ ).*

Table 5 shows the average abnormal returns around the first event date (AG - 15) using the simple market model. As this table shows, average abnormal returns are negative around the event date. These returns are significant, particularly on the third day after the event date (-0.38% with a Student's t of 2.16) and on date, t6 (-0.43% with a Student's t of 2.44).



Note: Based on the data in Table 5. The points joined by a solid line represent the average cumulative abnormal returns (CMARt).

Graph 3: Announcement of reservations and refusal to certify issued for the first time

ii. The impact of all the reservations except that of the first reservation

After examining the informative content of the reservations issued for the first time, one can wonder whether all the reservations mentioned in the auditor's reports in the following years can have an impact on stock prices. These makes it possible to show the importance of the reaction of the stock market to the information mentioned in the reports of the auditors, knowing that the investors already hold information concerning the reserves announced in the first year.

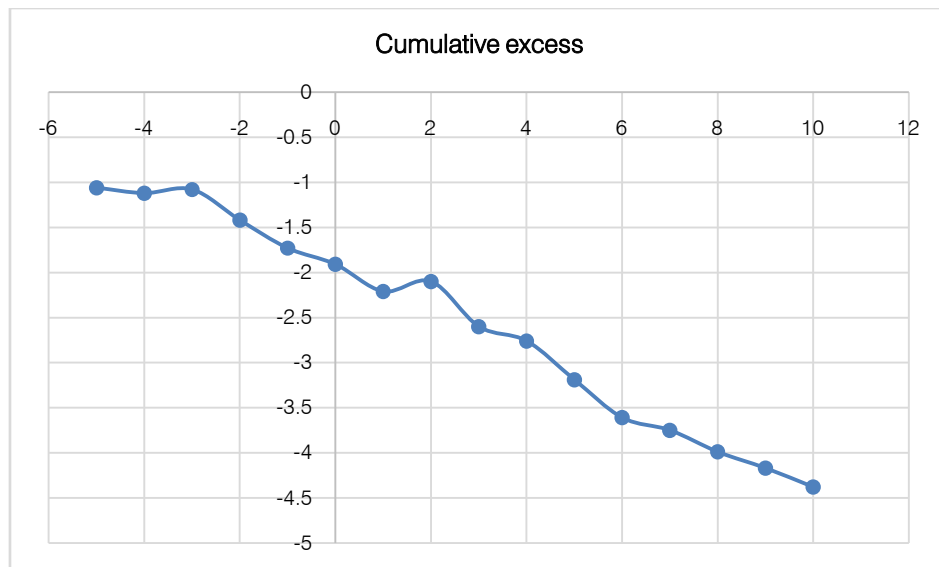
Despite information concerning reservations due to the announcement of this by auditors on company accounts in the past, the following results show that the impact of reservations and refusals to

certify on stock prices is always negative and significant. Table 6 shows the average and cumulative abnormal returns around the first event date (AG-15). These returns are unfavorable well before the event date. For example, five days before the event date, profitability is significantly different from zero at the 5% threshold (-0.50% with a t student of 2.04). These results show that investors can anticipate reservations issued by auditors on specific companies, because the information of the first reservation on these companies already exists. In addition, the significance of the results after the event date shows that the renewal of reservations and refusals to certify a very significant impact on the share prices of the companies concerned.

Table 6: Announcement of reservations and refusal to certify issued except for the first time

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	-0,50	-2,04	-1,06	-0,85
-4	-0,06	-0,23	-1,12	-0,87
-3	0,04	0,04	-1,08	-0,83
-2	-0,35	-0,35	-1,42	-1,08
-1	-0,31	-0,31	-1,73	-1,28
0	-0,19	-0,19	-1,91	-1,39
1	-0,29	-0,29	-2,21	-1,59
2	0,12	0,12	-2,10	-1,49
3	-0,51	-0,51	-2,60	-1,82
4	-0,15	-0,15	-2,76	-1,89
5	-0,44	-0,44	-3,19	-2,17
6	-0,41	-0,41	-3,61	-2,41
7	-0,14	-0,14	-3,75	-2,48
8	-0,24	-0,24	-3,99	-2,60
9	-0,19	-0,19	-4,17	-2,69
10	-0,21	-0,21	-4,38	-2,79

Note: The returns (excess and cumulative) are expressed in percentages. One hundred seven events are used. The supposed announcement date is set 15 days before the GA date. Abnormal returns are defined with reference to the market model ( $R_{it} = a_j + b_j R_{mt} + e_{jt}$ ).



Note: Based on the data in Table 6. The points joined by a solid line represent the average cumulative abnormal returns (CMARt).

Graph 4: Announcement of reservations and refusal to certify except for the first time

iii. *The impact of reservations issued on company accounts for the second time*

According to the standards established by the CNCC, when elements give rise to a reservation from the auditor on the financial statements of a company in a specific year and persist the following year, the latter can mention in his report the reservation expressed previously. Three cases are mentioned in the CNCC standards under the heading of "resumption of reservations and refusal to certify from the previous year."

- The reasons for the reservation or refusal remain: the auditor quantifies the impact on the result and

expresses a reservation or refuses to certify the annual accounts.

- The reasons for the reservation or refusal no longer exist due to the corrections made by the company, the modifications have affected the result of the current financial year and justified a new reservation.
- Corrections made by the company corrected the anomaly without impacting the current result. If the statutory auditor deems it necessary to ensure a follow-up, he may mention it in the context of the observations provided for by the regulations in force.

Table 7: Announcement of reservations and refusal to certify issued for the second time

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	-0,21	-0,74	-0,41	-0,01
-4	-0,61	-2,12	-0,62	-0,41
-3	-0,20	-0,69	-0,82	-0,54
-2	-0,63	-2,18	-1,45	-0,93
-1	-0,87	-3,01	-2,32	-1,47
0	-0,01	-0,05	-2,33	-1,45
1	-0,65	-2,27	-2,98	-1,83
2	0,46	1,59	-2,52	-1,53
3	-0,83	-2,88	-3,35	-1,99
4	-0,16	-0,55	-3,51	-2,06
5	0,08	0,28	-3,43	-1,99

Note: Returns (excess and cumulative) are expressed as a percentage. Forty-nine reservations and refusals to certify are used. The assumed announcement date is that of the report's signature by the auditors. Abnormal returns are defined regarding the market model ( $R_{it} = \alpha_j + \beta_j R_{mt} + e_{jt}$ ).

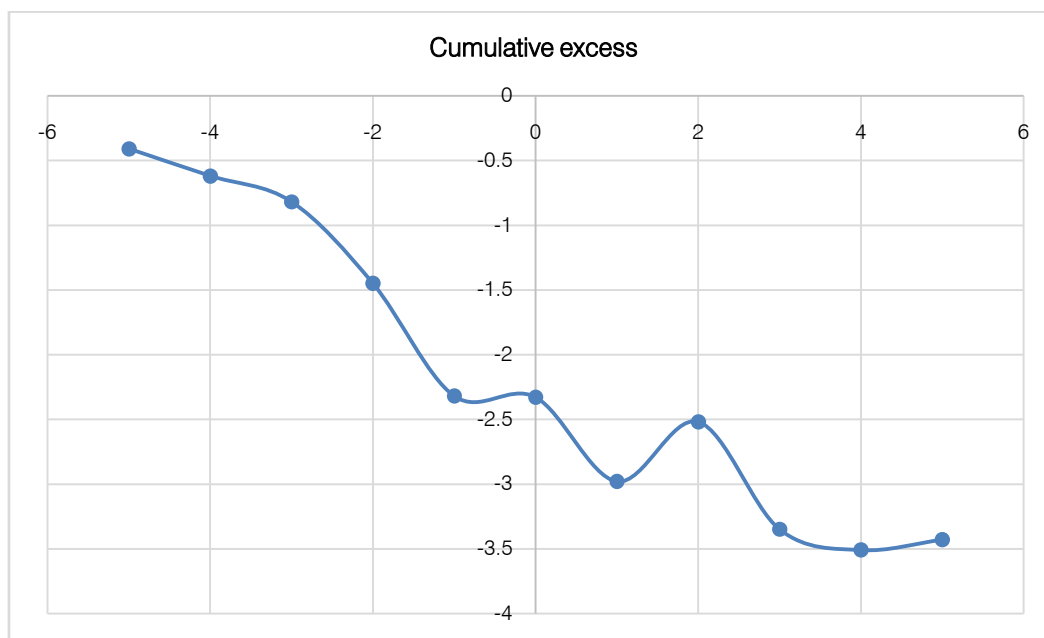
To examine the impact of the reservations expressed by the auditors on the financial statements of the companies in the following years, various event tests are carried out. Table 7 shows the average and cumulative abnormal returns around the second event

date (date of the signature of the report by the auditor) using the simple market model. It should be recalled that the use of the Dimson model leads to similar results.



As shown in Table 7, the reversal of reserves and the refusal to certify the previous year have a negative and very significant impact on the prices of the securities of the companies in the sample. The average

abnormal returns are very substantial over the interval -1, +1, (-0.87% with a t student of 3.01 and -0.65% with a t student of 2.27, respectively).



Note: according to the data in Table 7. The points joined by a solid line represent the cumulative average abnormal returns (CMAR<sub>t</sub>).

Graph 5: Announcement of reservations and refusal to certify issued for the second time

It means that users of the auditors' reports examine with greater attention the impact of the reservations made on the annual and consolidated accounts for the previous financial year. It is observed that these results are more significant than those of the reservation formulated for the first time. In addition, even if the nature of the reservations is often identical, the impact of these reservations is considered by investors as bad news, mainly when information concerning these reservations in the first year is available.

However, when reservations expressed for the third time (25 reservations) by the auditors on the annual or consolidated financial statements are used, the results (average abnormal returns) are not significant. However, there are always negative returns around the event date.

d) *The informative content of the various reasons for reservations mentioned in the annual and consolidated reports*

As shown in Table 2, 304 reservations and refusals to certify are broken down by reason into ten different classes. For the following six types of reservations observed in the annual or consolidated reports of the companies in the sample, event tests are carried out: uncertainty, limitation of work, accounting principles, non-recognition of operations and provisions, pension commitments, and leave, non-compliance with international regulations. In this work, the results

concerning three types of reservations are presented: "uncertainty," "limitation of work," and "disagreement on accounting rules and principles."<sup>14</sup>

i. *The informative content of the "uncertainty" reservations*

In certain circumstances, the company's managers do not have sufficient information to translate a situation according to which a concrete decision can be made. For example, when the auditor prepares his report, there are risks relating to certain transactions which cannot be provisioned, or the amount of which can only be provided to a reasonable approximation because their amount is uncertain or not known, or the probability of occurrence is doubtful.

Whether the risk is provisioned or not, the auditor could not obtain sufficient evidence to justify the amount provided or the absence of provision. In addition, going concern risk may be a particular case of uncertainty.

In the present study, among the 304 reserves that are the subject of event tests, 88 are for reasons of uncertainty. Table 8 shows the results for event tests performed on the uncertainty reserves, choosing the third event date (the average between the first two dates).

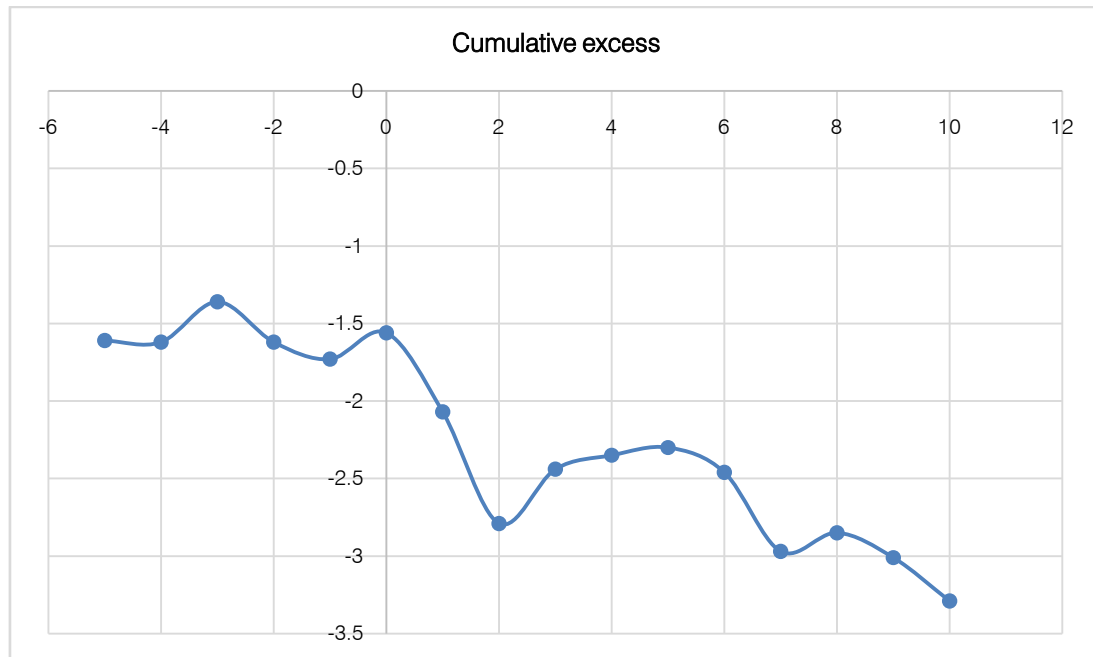
<sup>14</sup> For other types of reserves, see Soltani [1993]

Table 8: Announcement of "uncertainty" reserves

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	-0,26	-1,02	-1,61	-1,21
-4	-0,01	-0,04	-1,62	-1,19
-3	0,26	1,01	-1,36	-0,99
-2	-0,26	-1,02	-1,62	-1,16
-1	-0,11	-0,43	-1,73	-1,22
0	0,17	0,66	-1,56	-1,08
1	-0,51	-1,97	-2,07	-1,41
2	-0,71	-2,75	-2,79	-1,87
3	0,35	1,34	-2,44	-1,62
4	0,09	0,36	-2,35	-1,53
5	0,08	0,18	-2,30	-1,48
6	-0,16	-0,64	-2,46	-1,56
7	-0,51	-1,95	-2,97	-1,86
8	0,12	0,45	-2,85	-1,76
9	-0,15	-0,59	-3,01	-1,83
10	-0,29	-1,10	-3,29	-1,98

Note: Returns are expressed as a percentage. sixty-nine events are used. The assumed announcement date is set in the middle of the interval between 15 days before the date of the AGM and the date of signature of the reports by the auditor. Abnormal returns are defined regarding the Dimson model, according to the specification:

$$R_{i,t} = a_i + \sum_{\tau=-2}^{+2} \beta_{i,t-\tau} RM_{t-\tau} + e_{i,t}; \text{ With RM the index returns, and e the excess returns.}$$



Note: The points joined by a solid line represent the cumulative average abnormal returns (CMARt).

Graph 6: Announcement of "uncertainty" reserves

As the results show, average abnormal returns are negative around the event date. However, these returns are not always significant. Two days after the event date, the profitability is -0.71% (Student's t 2.75) when applying the Dimson model (that for the market model is -0.66% with a t of Student of 2.52). Overall, the results show the seriousness of this type of reserve, because before and after the three-event dates, abnormal returns are often negative.

#### ii. The "work limitation" reserve and its impact on stock market prices

According to the standards established by the CNCC, the limitations constitute an impossibility for the statutory auditor to implement the procedures that he deemed necessary, and those concerning the collection of evidence.

Table 9: Announcement of reservations “limitation of work”

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	-0,52	-0,99	-0,67	-0,25
-4	-0,79	-1,50	-1,47	-0,54
-3	-0,58	-1,08	-2,04	-0,73
-2	0,34	0,65	-1,70	-0,60
-1	-0,14	-0,26	-1,83	-0,64
0	-0,31	-0,59	-2,14	-0,73
1	-1,16	-2,21	-3,31	-1,11
2	-0,69	-1,31	-3,99	-1,32
3	-1,16	-2,20	-5,15	-1,68
4	0,46	0,88	-4,69	-1,51
5	0,12	0,23	-4,57	-1,45
6	-1,22	-2,23	-5,79	-1,81
7	-0,12	-0,23	-5,91	-1,82
8	0,02	0,04	-5,89	-1,78
9	0,37	0,71	-5,51	-1,66
10	-1,01	-1,92	-6,52	-1,94

Note: The returns (excess and cumulative) are expressed in percentages. Twenty-five events are used. The assumed announcement date is set 15 days before the AGM date - Abnormal returns are defined regarding the Dimson model, according to the specification:

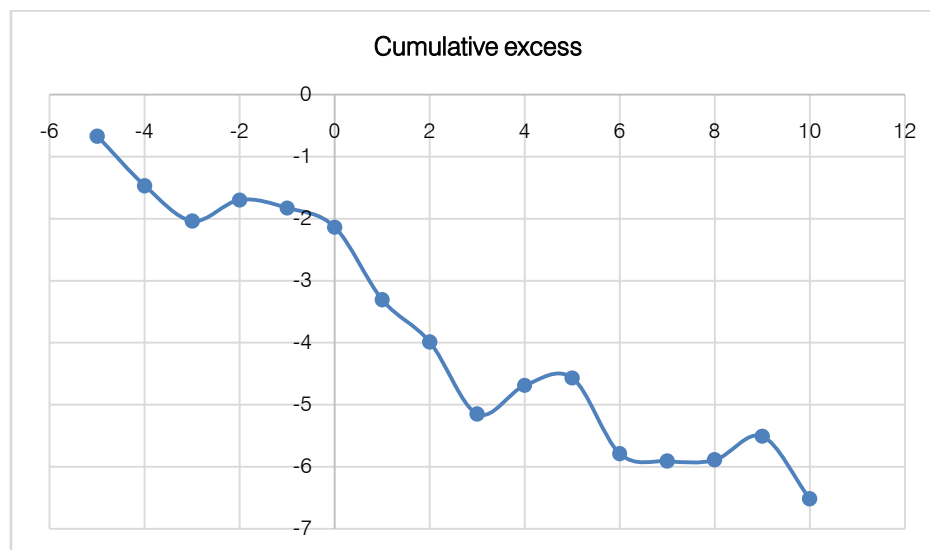
$$R_{i,t} = a_i + \sum_{\tau=-2}^{+2} \beta_{i,t-\tau} RM_{t-\tau} + e_{i,t} ; \text{ With RM the index returns, and e the excess returns.}$$

Limitations may be imposed by circumstances or by company management. In the first case, the statutory auditor could not carry out the due diligence he considered necessary. This type of certification is used when the limitation, although significant, is insufficient to refuse to certify. For example, the appointment of the auditor after the end of the financial year prevented him from attending the physical inventories, and he was unable to ascertain the quantities by other means of control.

In the second case, the elements of limitation constitute the offense of obstructing the mission of the auditor and must therefore be exceptional. In general,

during the interview on the terms of implementation of the mission, the managers must be informed of the consequences of such a limitation on the general report. As an example, we can also cite the case where the management refuses the auditor to send documents confirming the balances when he considers this procedure essential.

Out of 304 reserves used to perform event tests, 39 are used for limitation reasons of various kinds. These reserves are subject to multiple event tests. Table 9 shows the results obtained by choosing the first date (AG - 15) as the event date.



Note: Based on the data in Table 9. The points joined by a solid line represent the cumulative average abnormal returns (CMARt).

Graph 7: Announcement of “work limitation” reservations

The reading of the results shows that the average abnormal returns are negative and significant around the date of the event when we consider the impact on stock market prices of the reservation issued for a reason "limitation of work" by the auditor. This profitability (-1.16%) is significantly different from zero at the 5% threshold on date  $t + 1$  one day after the event date (GA -15). It should be noted that the reason for "limitation of work" is considered a relatively severe type of reservation. For this reason, the average abnormal

returns are often negative and significant after the announcement of this type of reserve.

iii. *The informative content of the reservation "disagreement on accounting rules and principles"*

The auditor, having carried out the due diligence he deemed necessary, noted an accounting irregularity that management refuses to correct. This disagreement is significant enough to have an impact on the certification.

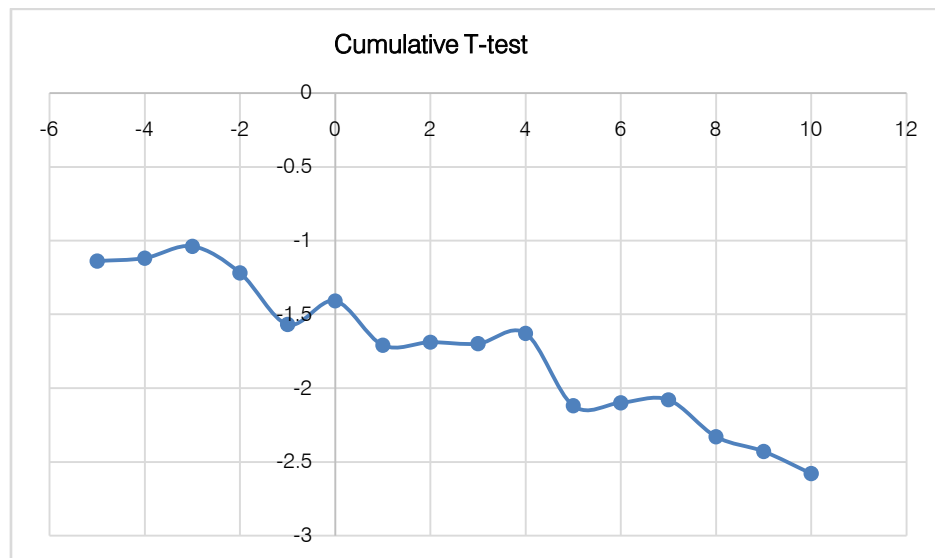
Table 10: Announcement of "disagreement on accounting principles" reservations

Date	Excess return	T-test	Cumulative excess	T-test on cumulative
-5	0,08	0,21	-2,41	-1,14
-4	-0,05	-0,01	-2,41	-1,12
-3	0,12	0,31	-2,28	-1,04
-2	-0,43	-1,05	-2,72	-1,22
-1	-0,83	-2,02	-3,55	-1,57
0	0,31	0,75	-3,24	-1,41
1	-0,75	-1,83	-3,99	-1,71
2	0,02	0,05	-3,97	-1,69
3	-0,13	-0,31	-4,10	-1,70
4	0,12	0,29	-3,98	-1,63
5	-1,26	-3,06	-5,25	-2,12
6	0,01	0,01	-5,24	-2,10
7	0,03	0,09	-5,21	-2,08
8	-0,81	-1,98	6,02	-2,33
9	-0,32	-0,78	-6,34	-2,43
10	-0,48	-1,17	-6,83	-2,58

Note: Returns are expressed in percentages. The supposed announcement date is set 15 days before the GA date. Abnormal returns are defined with reference to the market model  $R_{it} = a_j + b_j R_{mt} + e_{jt}$ .

The examination of the reports of the statutory auditors during the period 2010-2020 makes it possible to identify 40 reservations of reason "disagreement on the rules and accounting principles." These reserves are

subject to various event tests (Table 10). The following results relate to the average abnormal returns around the second event date (date of the signature of the report by the auditor).



Note: According to the data in Table 10. The triangles joined by a solid line represent the cumulative average abnormal returns (CMARt)

Graph 8: Announcement of "disagreement on accounting principles" reservations

The results show that the average abnormal returns are negative before and after the event. These returns are significant, especially on the eve of the day event date (-0.83% with a Student's t of 2.02). After the event date, we can also observe an average abnormal return significantly different from zero at the 5% threshold on date  $t+5$  (-1.26% with a t student of 3.06), which means that the informative content of the "disagreement on accounting rules and principles" reservation on the price of securities can be considerable. However, the magnitude of these results is less significant than the two aforementioned types of reservations, which is consistent with the level of seriousness of this reservation.

## VI. CONCLUSION

In this work, the analysis of 4,402 reports and 2,049 consolidated reports concerning 691 French companies from 2010 to 2020, as well as the systematic study of the reactions of shareholders to the announcement of the reservations issued by the auditors, was undertaken.

The results show that reservations and refusals to certify expressed by auditors hurt stock market prices. However, the choice of the announcement date is essential. Among the three hypotheses retained concerning the date of the event, it seems that fifteen days before the date of the general meeting, the announcement of reserves becomes public, and investors react unfavorably to this bad news.

Regarding the reservations which are not formally expressed by the auditors in the annual or consolidated reports, but which contain elements of reservations according to CNCC standards, the results are also significant. These results show that, when the information elements concerning the reserves are mentioned in the annual and consolidated reports (even if this was not done subject to the reservations expressed in the paragraph reserved for the opinions of the auditors) the market reacts to this bad news.

Moreover, it has been demonstrated that one of the significant difficulties concerning the interpretation of the auditor's reports is the existence of several types of information, such as observation, remark, and observation, which are not expressed, in a standardized form. Although the presence of such data in auditors' reports may be considered valuable, it may nevertheless create confusion.

In the case of refusal to certify, which constitutes the most severe reservation, the results show that the returns observed around the date of the event are not significant, even if they are often negative. However, the results should be interpreted with caution given the small sample size.

The comparative results concerning event tests applied in the case of annual and consolidated reports

show that, even though the reservations and refusals to certify mentioned in the writings of the auditors on the annual accounts, have an impact negative on stock market prices, the results are often not significant. It can be explained by the fact that the annual report is not the most critical piece of information for investors. Consolidated reports that contain all the information regarding groups of companies are used more often by external investors and bankers in the decision-making process.

Concerning event tests carried out in the case of different types of reserves (uncertainty, limitation of the work of the statutory auditor, non-compliance with accounting principles, non-recognition of operations and provisions, and pension and holidays), as the results show, the average abnormal returns are negative around the date of the event. However, the extent of these results depends on the type of reservation, which is consistent with the level of seriousness of the reservations expressed by the statutory auditors on the accounts and financial statements of the companies.

Unlike the studies carried out in the United States, this study covers all the reservations expressed on the accounts of listed companies. The discrepancy between the results of this study and those of studies carried out in other countries, particularly the United States, undoubtedly finds its explanation in institutional, economic, and cultural factors - not to mention the differences in terms of accounting standardization and auditing practice. However, given the current trend of harmonizing organizational standards and practices globally, it is clear that such contradictions will diminish.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# The Effects of Entity Shielding on Claims to Assets: Implications for Financial Reporting

By Todd Sayre

**Abstract-** Strong entity shielding enables corporations to shield firm assets not only from shareholders but also from each shareholder's personal creditors. This implies that corporations, not shareholders, own the firm assets. This paper tests this implication by examining legal scholarship on shareholder ownership. The results indicate that, unlike sole proprietors, shareholders have no legal claims to firm assets. This result responds to FASB/ISAB convergence discussions regarding whether corporate reports should take a proprietary or entity perspective. Shareholders have no claims to firm assets, yet balance sheets imply shareholders have exclusive claims to net assets, identical to those of sole proprietors. Therefore, the propriety perspective appears inappropriate for corporate balance sheets. The paper discusses how standard setters can use entity shielding to determine claims to firm assets as a principled approach to differentiate reporting perspectives among reporting entities.

**Keywords:** reporting entity; reporting perspective; entity shielding; liquidation protection.

**GJMBR-D Classification:** DDC Code: 346.410666 LCC Code: KD2100



*Strictly as per the compliance and regulations of:*



# The Effects of Entity Shielding on Claims to Assets: Implications for Financial Reporting

Todd Sayre

**Abstract-** Strong entity shielding enables corporations to shield firm assets not only from shareholders but also from each shareholder's personal creditors. This implies that corporations, not shareholders, own the firm assets. This paper tests this implication by examining legal scholarship on shareholder ownership. The results indicate that, unlike sole proprietors, shareholders have no legal claims to firm assets. This result responds to FASB/ISAB convergence discussions regarding whether corporate reports should take a proprietary or entity perspective. Shareholders have no claims to firm assets, yet balance sheets imply shareholders have exclusive claims to net assets, identical to those of sole proprietors. Therefore, the propriety perspective appears inappropriate for corporate balance sheets. The paper discusses how standard setters can use entity shielding to determine claims to firm assets as a principled approach to differentiate reporting perspectives among reporting entities.

**Keywords:** *reporting entity; reporting perspective; entity shielding; liquidity protection.*

## 1. INTRODUCTION

The IASB and FASB's goal to converge accounting standards faltered over conflicts regarding the "nature of the reporting entity," which is part of the Conceptual Framework Reporting Entity, Phase D. In a 2008 joint Exposure Draft, IASB and FASB recommended that "[a]n entity's financial reporting should be prepared from the perspective of the entity (entity perspective) rather than the perspective of its owners or a particular class of owners (proprietary perspective)" (IASB 2008, 5). But when FASB realized that a business corporation's balance sheet from the entity perspective would not label net assets as Shareholders' Equity, it abandoned plans to converge reporting entity perspectives.<sup>1</sup>

An entity perspective for business corporations would have balance sheet simply that the corporation itself holds exclusive ownership claims to the net assets. For example, FASB requires that nonprofit corporations label the net assets as "Net Assets." In contrast, FASB continues to require business corporations to use the proprietary perspective, which show shareholders with exclusive ownership claims to the firm's net assets, including the profit.

The reporting perspective most appropriate for each reporting entity (i.e., firm) should depend on underlying principles to which standard setters agree.

This paper assumes that the claims that various entities (i.e., firm-members) have to the firm's resources (i.e., firm-assets) implies what reporting perspective is appropriate for each type of reporting entity (i.e., firm-type).

The paper finds that shareholders, unlike sole proprietors, of business corporations have no legal claims to the corporation's net assets or profit. Instead, shareholders of business corporations have similar claims to those of beneficiaries of nonprofit corporations. The reason for the similarity is that both business and nonprofit corporations have liquidity protection because their firm-assets are shielded from firm-members, as well as the firm-members' creditors. The ability to shield the creditors of firm-members cannot be accomplished through private contracting and, as such, this type of liquidity protection distinguishes the business corporation from other business firm-types (e.g., partnerships).

The paper concludes that this unique feature of liquidity protection afforded to business corporations necessarily restricts shareholders' claims to firm-assets. Specifically, shareholders, because of liquidity protection, have no claims to the firm's net assets, while sole proprietors with no liquidity protection have exclusive claims to firm-assets. Therefore, requiring business corporations to present net assets as part of Shareholders' Equity misrepresents shareholders claims to the net assets. Shareholders do not have identical claims to firm-assets to those of sole proprietors; rather the opposite is true, they have no claims. The shareholders' lack of claims is more similar to those of nonprofit corporation's beneficiaries, who also lack claims.

The shareholders' lack of claims to the firm-assets implies that the proprietary perspective is inappropriate for the balance sheet of the business corporation. FASB is aware of the inconsistency, recently replacing FASB (1978 paragraph 30) "claims to those resources," (i.e., firm-assets) with FASB (2008 OB12), "claims against the reporting entity." Unfortunately, this adjustment was not based on any explicit underlying principle useful to the goal of converging accounting standards.

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<sup>1</sup> [www.iasplus.com/en/meeting-notes/iasb/2010/agenda\\_1011/agenda\\_1551#entity-versus-proprietary-perspective](http://www.iasplus.com/en/meeting-notes/iasb/2010/agenda_1011/agenda_1551#entity-versus-proprietary-perspective)

The goal of the FASB/IASB joint convergence project was to find underlying principals to guide the rules of standard setters. Toward this end, Van Mourik (2014) recommends categorizing firms according to whether they have limited liability or not, based on Demsetz (1967). Demsetz (1967, 358) defines the public corporation as having 3 characteristics, a legal personality, limited liability, and transferable shares. But, as this paper explains, limited liability is unnecessary for corporations to exist and can be privately contracted to a large degree. More importantly, Demsetz' definition does not include entity shielding as a characteristic of a corporation when, without it, transferable shares could not exist. If stock markets can and have existed with limited liability, but not entity shielding, which is a more important characteristic of the firm?

Instead, to determine the appropriate reporting perspective for each firm-type, academics should focus on how entity shielding affects firm-members' claim to the net assets. Entity shielding uniquely identifies firm-type, cannot be privately contracted, and enables transferable shares, without which founders could not maintain personal liquidity. Entity shielding, not limited liability, should serve standard setters as the principle underlying determining the reporting perspective is required for each firm-type.

## II. ENTITY SHIELDING

Hansmann, Kraakman, and Squire (2006, 1336) explains that firms, like individuals, are legal persons in the sense that they "...enjoy the legal power to commit assets to bond their agreements with their creditors and, correlatively, to shield those assets from the claims of their owners' personal creditors." Firms differ from natural persons in that their firm-assets or "bonding assets are, at least in part, distinct from assets owned by the firm's owners or managers, in the sense that the firm's creditors have a claim on those assets that is prior to that of the personal creditors of the firm's owners or managers." In the quote, the authors use the term "owners" loosely to include sole proprietors, partners, founders, investors, shareholders, creditors, managers, employees, and customers. In this paper, "firm-members" is used to describe these groups.

### a) Types of Entity Shielding

Hansmann et al. (2006, 1337-1338) call this separation of firm-assets from personal assets, "entity shielding," defining 3 types. The first type is "weak entity shielding," which provides the claims of the firm's creditors priority over those of personal creditors. Weak entity shielding is found in all firms, including sole proprietorships and general partnerships. The second type is "strong entity shielding," which provides weak entity shielding as well as two forms of "liquidation protection," one that shields firm-assets from firm-members, like shareholders, and another that shields

firm-assets from the personal creditors of firm-members. Strong entity shielding is found in business corporations. The third type of entity shielding, called "complete entity shielding," provides complete liquidity protection by more strongly, relative to strong entity shielding, restricting firm-members and their personal creditors from any claim to the firm-assets. This form of entity shielding is found in nonprofit corporations.

### b) Liquidity Protection

In strong and complete entity shielding, there are 2 types of liquidation protection. The first type of liquidation protection bars firm-members (e.g., shareholders, partners) from unilaterally withdrawing any portion of the firm-assets. Partnerships, through private contracting, have never achieved this type of long-term liquidation protection, as courts have been, "reluctant to enforce restrictions on free alienation of property if made in perpetuity." (Hansmann et al. 2006, 1342)

The second type of liquidation protection bars the personal creditors of firm-members (e.g., shareholders) from forcing withdrawals to satisfy personal debts. Partnership have not accomplished this type of liquidation protection, even in the short-run, as it cannot be accomplished through private contracting and, instead, requires special rules of entity law. For corporations to contractually shield firm-assets from the personal creditors of shareholders, it requires that corporations secure contractual waivers from all shareholders' personal creditors. Since such waivers would increase personal borrowing costs, shareholders would have an incentive to conceal their personal creditors. This problem increases as more shareholders are added and shares are made freely transferrable. According to Hansmann et al. (2006, 1338), "These problems can be solved only by impairing the rights of personal creditors without their contractual consent [through] a special rule of property law respecting assets committed to the firm, and entity law provides that rule."

### c) Benefits of Entity Shielding

Entity shielding enables firms to embrace relatively longer-term and larger-scale projects with longer-term contracts, bonded by locked-in assets. Specifically, according to Ciepley (2013, 144), strong entity shielding enables the firm to "...increases its productivity (by enabling asset and labor specialization) and lowers its capital costs (by lowering the risk and monitoring costs of its creditors and investors)." Moreover liquidity protection enables tradable shares, which, in turn, enables founders to relinquish their personal assets to the corporation, yet maintain personal liquidity.

Dari-Mattiacci (2017) documents anecdotal evidence on how entity shielding benefits productivity by examining differences between the Dutch East India Company (VOC), founded in 1602 and the British East

India Company (EIC), founded in 1600. Dari-Mattiacci (2017, 196) explains that “[t]he two companies started with comparable capital but differed in an important dimension: the VOC charter adopted a longer maturity for its equity. This induced immediately another innovation, namely the free transferability of shares to ensure liquidity for the locked-in capital.” When the States General of the Netherlands granted the (VOC) strong entity shielding in 1612 “...for the first time in history, a private firm had gained the prospect of indefinite life.” As a result, “...VOC could thus outspend and outperform the EIC for decades,” consistent with the assertion above that entity shielding results in increased productivity.

#### d) *Limited Liability*

Hansmann et al. (2006, 1338) assert that entity shielding is the core defining feature or the “sine qua non of the legal entity...” Corporations cannot exist without government-granted liquidity protection against the shareholders’ personal creditors. In contrast corporations can exist without limited liability. In fact, corporations existed for over 250 years until England and America enacted limited liability protection for shareholders in the mid-1800s. In America, California did not grant limited liability until 1931. Moreover, firms can privately contract with creditors to provide shareholders with limited liability protection against firm creditors. Although they cannot do the same against torts, if the risks are known and reserves established, the effect on stock prices should be minimal. (See Weinstein 2003, 2005; Hessen 1979)

Thus, liquidity protection is necessary for corporations to exist, but limited liability is not. The same is true for freely tradable shares. Hansmann et al. (2006, 1350) notes that, “...firms with unlimited liability have been traded in public markets into the twentieth century;” therefore, unlike liquidity protection, “...limited liability is in fact neither necessary nor sufficient for freely tradable shares to exist.”

### III. PREDICTIONS

This paper focuses on the effects of entity shielding on firm-members’ legal claims to firm-assets in order to potentially provide standard setters with a principled basis on which to determine the appropriate reporting perspective (e.g., entity, proprietorship) for each firm-type (e.g., partnership, nonprofit corporation). Specifically, the prediction focuses on the effects of entity shielding on firm-members’ claims to firm-assets.

*Alternative Hypothesis 1:* Firm-members of firm-types with liquidity protection have less legal ownership claims

to firm-assets than do firm-members of firm-types without liquidity protection.<sup>2</sup>

FASB (1985, 10) requires that “[E]quity (net assets) describe levels or amounts of resources or claims to or interests in resources at a moment in time.”<sup>3</sup> If the results show that the legal claims of firm-members to the firm-assets vary across reporting entities (i.e., firm-type), the balance sheet should reflect this in its reporting perspective. To the extent the paper indicates a mismatch between reporting perspective and legal claims to firm-assets, the results are potentially useful in resolving the conflict over reporting perspective between the FASB and IASB.

### IV. EVIDENCE

#### a) *Assumptions and Method*

To test Alternative Hypothesis 1, this paper examines the legal claims firm-members have to firm-assets across firm-types. To this end, we evaluate firm-members with regard to their legal rights (i.e., claims) and powers (i.e., ability to claim) to the firm-assets for the firm-types: sole proprietorship; general partnership; business corporation; and nonprofit corporation.

The paper assumes that the term, “claim,” as used in the standards, represents *legal* claims. This assumption is consistent with FASB (2010, BC 26), which states that, Wrong.

This paper assumes that the legal claims creditors have to firm-assets are uncontroversial, leaving the firm’s net assets for others to claim. For the sole proprietors and partners, the analysis is straightforward as they both have exclusive legal ownership claims to the firm’s net assets. For the nonprofit business, no firm-member at any time has any claim to the firm’s net assets. Therefore, the only firm-type that requires examination is the business corporation.

This section examines the shareholders’ legal claims to the corporation’s net assets and compares them to the firm-members’ claims in other firm-types. Given the assumed claims of the sole proprietors, partners, and firm-members of nonprofit corporations, the Null Hypothesis cannot be rejected. The test of the hypothesis continues with evaluating the shareholders’ claims to the business corporation’s net assets.

#### b) *Rights of Share Ownership*

To determine the extent to which shareholders have claims to the firm-assets, this paper first identifies the rights and powers engendered from share

<sup>2</sup> Since all firms have weak entity shielding, which gives priority to firm-creditors over the personal creditors of firm-members, it is not investigated. Firm-types differ in their degree of liquidity protection.

<sup>3</sup> FASB (2008), Concept Statement No. 8, replaces the term “claims to resources” with “claims against the reporting entity.” Without a clear definition otherwise, this paper interprets the phrases to mean the same thing, that the balance sheet should present the various firm-members legal claims to the firm-assets.



ownership. Blair and Stout (1999, 250-251) note that, "corporate assets belong not to the shareholders but to the corporation itself." Blair (2003, 293) explains that when founders incorporate, they become shareholders giving up the property rights to their personal assets in exchange for shares of the firm's stock, which maintains their liquidity.

Shareholders do not own the firm; they simply own the firm's shares. The rights and duties shareholders have to the firm-assets stems solely from the contractual rights of shares. Shareholders who own voting shares have the right (a) to sell the share, (b) receive dividends if declared, (c) file derivative lawsuits against the board, (d) vote the proxy in important decisions, and (e) nominate and vote in board member elections. These rights that accrue to shares provide shareholders with political influence over board decision, but they are not property rights.

#### c) *Rights of Property Ownership*

As discussed, the FASB's phrase, "claims to...resources" refers to the legal claims firm-members have to the firm-assets. Therefore, we use property law to evaluate the shareholders legal claims to firm-assets. While the notion of property ownership is embodied in the law, jurists have yet to "...capture the relation between the idea of ownership and the detailed rules of a private property system in a precise legal definition" (Waldron 1985, 334). Rather, our legal system defines ownership as a family of legal relationships to a thing,<sup>4</sup> sometimes referred to as a "bundle rights."<sup>5</sup> These "rights" are actually a collection of *rights*, *powers*, *duties*, and *liabilities*,<sup>6</sup> where any single "right" is neither necessary nor sufficient to conclude ownership.<sup>7</sup> Despite its subjectivity,<sup>8</sup> the bundle of rights approach to

the question of ownership represents the dominant paradigm of property law.

Legal scholars credit A. M. (Tony) Honoré (1921- ) with advancing the most generally accepted set of legal relations for ascertaining ownership.<sup>9</sup> In his seminal paper, "Ownership" (1961), Honoré lists 11 "standard incidents of ownership."<sup>10</sup> The list includes: the *rights* to (1) possess, (2) use, (3) manage, (4) income, (5) capital, and (6) residuary; the *powers* to (7) alienate (i.e., sell) and (8) transfer; the (9) *duty* to prohibit harmful use; the (10) *liability* to execution for personal debts and the (11) *immunity* (i.e., no liability) from expropriation.<sup>11</sup>

#### d) *Legal Relations*

These legal terms, *rights*, *powers*, *duties*, and *liabilities*, have precise meanings. Credit this to Wesley Newcomb Hohfeld (1879-1918),<sup>12</sup> a legal scholar who, tiring of the misuse of these terms, suggested a system of corresponding legal relations. Specifically, to exist, *rights* require *duties* and *powers* require *liabilities*, and vice versa. For example, in order for one to claim a *right* to possess a thing, others must have a *duty* to exclude themselves from that thing.<sup>13</sup> Similarly, in order for one to claim a *power* to create legal relations, another must have a corresponding *liability* to those relations once created.<sup>14</sup> For example, an agent has the *power* to create legal relations to which a principal will have a *liability*. "A general claim of most recent major works on the subject of property, especially the books of Becker, Waldron, and Munzer, is that the actual nature of property has been satisfactorily explained by the Hohfeld-Honoré bundle of rights analysis." (Penner

<sup>4</sup> For instance, "You have property in the suit of clothes you are wearing; your property is not the suit of clothes, but the rights you have in it..." (Bowen 1926, 41). "Property relates to the legal relationship with a thing and the power that is able to be exercised over the thing - not the thing itself (*Yanner v. Eaton* 1999, HCA 53 per the majority Gleeson, CJ, Gaudron, Kirby and Hayne, JJ)." (Toner 2006, 81).

<sup>5</sup> "The currently prevailing understanding of property in what might be called mainstream Anglo-American legal philosophy is that property is best understood as a "bundle of rights." (Penner 1996). Also, "The conception of property as an infinitely variable collection of rights, powers, and duties has today become a kind of orthodoxy." (Merrill & Smith 2001, 365).

<sup>6</sup> Black's Law Dictionary (2009, 1138) defines ownership as, "The bundle of rights allowing one to use, manage, and enjoy property, including the right to convey it to others."

<sup>7</sup> Honoré (1961, 138), referring to "right" as an "incident," states that, "[These] incidents, though they may be together sufficient, are not individually necessary condition for the person of inheritance to be designated owner of a particular thing...the use of 'owner' will extend to cases in which not all the listed incidents are present."

<sup>8</sup> While the family of resemblances approach results in blurred edges, as when a duck fails to quack, the term "ownership" is still meaningful. "[T]here is no common essence shared by all things we call 'games': board games, football, solitaire, throwing ball against a wall, and so on. But we can nevertheless use the word 'game' meaningfully.

Wittgenstein uses the phrase 'family resemblance' to refer to this sort of overlapping and criss-crossing resemblance." (Warburton 2001, 232-233)

<sup>9</sup> Penner (1994,861) notes that Honoré's incidents of ownership, "[d]espite its oversimplicity,...still operates as a background understanding of property.." (p. 859) [...] "A.M. Honoré played a decisive role in advancing the bundle of rights metaphor by cataloguing a generally accepted list of the "incidents" of property or ownership."

<sup>10</sup> I have adapted these incidents at the margins based on Munzer (1990).

<sup>11</sup> If one has immunity from expropriation, this means that others have no power to take ownership. In terms of correlatives, if others have no power, the owner has no liability. Thus, immunity and no liability mean the same thing.

<sup>12</sup> Wesley Newcomb Hohfeld (1879-1918) posthumously authored the seminal text, *Fundamental Legal Conceptions, As Applied in Judicial Reasoning and Other Legal Essays* (1919), largely based on his articles published in 1913 and 1917 in the Yale Law Review.

<sup>13</sup> "The existence of a right is the existence of a state of affairs in which one person (the right-holder) has a claim on an act or forbearance from another person (the duty-bearer) in the sense that, should the claim be exercised or in force, and the act or forbearance not be done, it would be justifiable, other things being equal, to use coercive measures to extract either the performance required or compensation in lieu of that performance." (Becker 1977, 8)

<sup>14</sup> Regarding power, "The nearest synonym for any ordinary case seems to be (legal) 'ability.'" (Hohfeld 1913, 45)

1996, 713) Table 1 shows the Incidents of Ownership of Honoré sorted by Hohfeld's legal relations.<sup>15</sup> These legal relations capture whether firm-members have a claim to firm-assets.

Table 1: Incidents of Ownership

Legal Relations	Incidents of Ownership*
Rights	(1) Right to possess—to have exclusive control of the thing.
	(2) Right to use—personal use and enjoyment of the thing.
	(3) Right to income—to receive exclusive benefits from others using the thing
	(4) Right to capital—to have the exclusive control over destroying the thing and exclusive benefit of what remains.
	(5) Right to manage—to have exclusive control over use of the thing.
	(6) Right to residuary—to have the right to receive rights and powers of others when contracts expire.
Powers	(7) Power to alienate—the ability to sell ownership to others.
	(8) Power to transfer—the ability to transfer ownership to successors.
Duties	(9) Duty to prohibit harmful use—to have personal liability if the thing harms others.
Liabilities	(10) Liability of execution—to have liability in what you own for personal debt.
	(11) Immunity (i.e., no liability) from expropriation—the immunity from others taking ownership without consent (e.g., for debts).

Based on Honoré (1961), Munzer (1990)

#### e) Analysis

The sole proprietor has every incident of ownership, while the firm-members (e.g., beneficiaries) of nonprofit corporation have none. A shareholder of a business corporation can be its sole shareholder, its controlling shareholder, or its non-controlling shareholder. The analysis focuses on non-controlling shareholders since they represent most shareholders.

This paper provides a legal analysis of ownership claims to firm-assets for accountants, who are not legal experts. The legal experts agree that, "[c]ontrary to widely held 'common sense', shareholders do not own corporations; nor do they own the assets of corporations. Shareholders only own shares..."<sup>16</sup> (Also see Stout 2012)

While accountants as non-experts in law should accept the consensus of the legal experts, they should also understand the legal intuition as to why the legal experts conclude that shareholders do not own the firm-assets. That is, accounting standard setters should understand basic property law and corporation law if they require corporate balance sheets to show firm-members' claims to firm-assets. The following sections explain the shareholders' legal claims to net assets in terms of their legal rights, powers, duties, and liabilities of ownership.

#### f) Right to possess

Do shareholders have a *right to possess* corporate assets? As Professor Ian Lee states, "...shareholders have no property rights in the corporation's assets: a shareholder of Wal-Mart Stores, Inc. can be prosecuted for shoplifting from Wal-Mart." (Lee 2005 p. 11) Even "...a sole shareholder has no independent right which is violated by trespass upon or conversion of the corporation's property."<sup>17</sup> Rather, a sole shareholder, like other outsiders, has a *duty to exclude* him or herself from the corporate assets. Shareholders have no *right to possess* corporate assets.

#### g) Right to Use

Do shareholders have a *right to use* corporate assets? Although shareholders have no *right to possess*, but do they still have the power to contract with corporate assets, which is a form of *use*? The answer is, "no." The Model Business Corporation Act (MBCA) states that, "All corporate powers shall be exercised by or under the authority of, and the business and affairs of the corporation managed by or under the direction of, its board of directors..." (MBCA Ann. §8.01b 3d ed. Supp. 2000-2002) and Delaware General Corporation Law (DGCL) states that the corporation's business and affairs "shall be managed by or under the direction of a board of directors." [DGCL § 141 (a) (2001)]

Stout (2002, 1191) states that, "...shareholders...enjoy neither direct control over the firm's assets nor direct access to them..." and "...do

<sup>15</sup> Hohfeld's jural correlatives are rights and duties, powers and liabilities, privileges and no rights and immunities and disabilities. To simplify the discussion, I translated the latter two correlatives into opposites of the former two.

<sup>16</sup> For the quote and signatories, see <https://themoderncorporation.wordpress.com/company-law-memo/>

<sup>17</sup> Per *W. Clay Jackson Enterprises, Inc. v. Greyhound Leasing and Financial Corp.*, 463 F. Supp. 666, 670 (D. P.R. 1979) as quoted in Bainbridge (2002).

not have the right to exercise control over the corporation's assets. The corporation's board of director's holds that right." Thus, it is the board, not the shareholders, that has the *power to contract* with corporate assets. This finding, combined with the previous finding that shareholders have no *right to possess*, results in the verdict below. Shareholders have no *right to use* corporate assets.

#### h) *Liability of Execution*

Do shareholders have the *liability of execution* against corporate assets? The liability of execution is "the liability of the owner's interest to be taken away from him for debt, either by execution of a judgment debt or on insolvency..." (Honoré 1961, 123) In order for shareholders to have the *liability of execution*, personal creditors would need the *power* to legally enforce payment in corporate assets. Entity shielding, as defined in this paper, disables personal creditors from this *power*; thus, shareholders cannot have the *liability of execution*. Shareholders do not have the liability of execution.

#### i) *Prohibit Harmful Use*

Do shareholders have a duty to *prohibit harmful use* of the corporate assets? In order for shareholders to have a *duty to prohibit harmful use*, others must have corresponding *rights* to recourse, if the duty is breached. State statutes prohibit parties wronged by the corporation from pursuing recourse against the shareholders. For example, "A shareholder of a corporation is not personally liable for the acts or debts of the corporation..." (MBCA §6.22(b)) Thus, because of limited liability, the most shareholders can lose is the market value of their stock. Shareholders have no *duty to prohibit harmful use* of corporate assets.

#### j) *Right to Manage*

Do shareholders have a *right to manage* the corporate assets? Honoré defines the *right to manage* as the "...right to decide how and by whom the thing owned will be used." [...] "This right depends, legally, on a cluster of powers, chiefly powers of licensing acts which would otherwise be unlawful and powers of contracting: the power to admit others to one's land, to permit others to use one's things, to define the limits of such permission, and to contract effectively in regard to the use (in the literal sense) and exploitation of the thing owned." (Honoré 1961, 116)

The analysis on the *right to use*, established that shareholders cannot directly contract with corporate assets. But, as Honoré implies, the *right to manage* also includes the *power* to permit others to use the thing and to "define the limits of such permission." For our purposes, this definition translates to the following questions: (1) To what degree do shareholders have the *power* to designate board membership? (2) To what

degree do shareholders have the *power* to limit board discretion in managing corporate assets?

Related to the first question, legal experts maintain that the shareholder's right to vote in board elections gives shareholders negligible *power* to designate board membership. These experts cite several contributing factors. First, absent a proxy contest, the nominees of the existing board are automatically elected.<sup>18</sup> Second, shareholders who do launch proxy contests pay for the printing and distribution of the proxy materials, while incumbent directors and management pay with corporate funds. Third, shareholders are "rationally apathetic" toward proxy fights, in part, because they have the option to sell their shares.<sup>19</sup> Forth, boards can create obstacles for insurgents by staggering the terms of its members<sup>20</sup> and increasing the number and heterogeneity<sup>21</sup> of shareholders in order to reduce "...the incentive and ability of each shareholder to gather information and monitor effectively..." (Monks 2001, 102) The result, explains Former SEC Chair, Arthur Levitt Jr., is that "...board elections are one-party affairs, with the incumbent board's choices winning in virtually every case" [...] "A director has a better chance of being struck by lightning than losing an election." (Levitt 2006, 14) Others who voice similar opinions include Vice Chancellor of the Delaware Court of Chancery, Leo Strine,<sup>22</sup> and legal scholars Bob Monks,<sup>23</sup> Stephen Bainbridge,<sup>24</sup> and Jill Frisch.<sup>25</sup>

<sup>18</sup> "In practice...the election of directors (absent a proxy contest) is predetermined by the existing board nominating the next year's board." (Bainbridge 2002, footnote 10).

<sup>19</sup> "Rather than try to control the decisions of the management, which is harder to do with many stockholders than with only a few, unrestricted salability provides a more acceptable escape to each stockholder from continued policies with which he disagrees." (Alchian and Demsetz 1972, 13)

<sup>20</sup> Many boards are staggered, meaning that discontent shareholders must have their insurgents prevail in two consecutive elections in order to elect a majority of the board. Delaware General Corporation Law section 141(d) permits a corporation's charter to create up to three classes of directors, only one of which is elected each year, or boards may be classified with shareholder approval.

<sup>21</sup> To the extent shareholders differ in levels of information and preferences, they are a heterogeneous group. "When, as is often the case today, the corporation has a complicated capital structure consisting of several classes of shares or is part of a holding company system which has such a capital structure, the interests of the dominant shareholders may be widely divergent from those of the holders of other classes, particularly if the corporation fails to prosper." (Dodd 1941, 926)

<sup>22</sup> Vice Chancellor of the Delaware Court of Chancery, Leo Strine, has noted in a law review article that the "proxy mechanism is tilted heavily in favour of the management slate, and contested elections rarely occur outside the takeover context," [which of course raises questions about] "a corporate election process that is so heavily biased towards incumbents and their self-chosen successors." (Quoted in Donaldson 2005)

<sup>23</sup> "[T]he American shareholder cannot nominate directors, he cannot remove them, he cannot--except at the arbitrary pleasure of the SEC--communicate advice to them. Democracy is a cruelly misleading word

In addition, Professor Bebchuk studied proxy contests conducted by all listed companies between 1996 and 2004, finding that only seventeen corporations, with a market capitalization over \$200 million, experienced proxy contests to replace management outside of the takeover context. Of these, only two of the insurgents won. "A plausible interpretation of the evidence is that, even when shareholder dissatisfaction with board actions and decisions is substantial, challengers face considerable impediments to replacing boards." (Bebchuk 2005, 13) Thus, we can conclude that the shareholders' power to designate board membership is negligible.

This conclusion has implications for the second question involving the degree to which shareholders have the power to limit board discretion over corporate assets. The negligible power to designate board membership confers a similarly negligible threat to board discretion. Even so, shareholders hold political influence of the board, conferring some control over the firm-assets. At a higher political level, shareholder groups and advocates can lobby the SEC for more influence over board decisions.

The only other threat shareholders have over board discretion stems from their power to file derivative lawsuits against the board. But like to the right to vote, this power to sue has only a negligible affect over board discretion. First, the board has a fiduciary duty not to its shareholders, but to the corporation itself.<sup>26</sup> For this reason, shareholders do not file lawsuits for fiduciary breaches on their own behalf, but on that of the corporation, and recovery is typically for the sole benefit of the corporation.<sup>27</sup> Second, the "business judgment

rule" makes it difficult for shareholders to win suits against the board for breaches in fiduciary duties.<sup>28</sup> The business judgment rule shifts "...the duty of care from negligence to gross negligence: violations are found only where there is 'reckless indifference' to or a deliberate disregard of the interests of the whole body of stockholders."<sup>29</sup> (Dibadj 2006, 485) Third, constituency statutes, adopted by the majority of states since the early 1980's, authorize the board to consider the interests of other corporate constituents. Frisch (2004, 16) notes that "[i]n many cases, the statutes explicitly provide that directors will not be required to regard the effects of a corporate decision on any particular group – including shareholders – as a dominant factor."<sup>30</sup> Fourth, corporations may include in the articles of incorporation provisions that, in effect, insulate directors from monetary damages for breaching the director's duty of care.<sup>31</sup>

corporation itself, where its benefits "accrue to all the corporation's stakeholders."

<sup>28</sup> The Delaware Supreme Court states that it "will not substitute its own notions of what is or is not sound business judgment" if "the directors of a corporation acted on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the company." The first quote is *Aronson v. Lewis*, 473 A.2d 805, 812 (Del. 1984) and the second, *Sinclair Oil Corp. v. Levien*, 280 A.2d 717, 720 (Del. 1971). Also, according to the business judgment rule, "...courts must defer to the board of directors' judgment absent highly unusual exceptions." (Bainbridge 2008, 6).

<sup>29</sup> "[I]n the rare instance where the Delaware Supreme Court found directors to have behaved in a grossly negligent manner, the Delaware legislature subsequently permitted corporations to contract out of even gross negligence, at least as to monetary liability..." [Moreover], "...directors invariably have indemnification rights and insurance, and courts have limited the ability of shareholders to obtain discovery in derivative actions alleging director misconduct." (Dibadj 2006, 486, quoting Loewenstein 2004, 377). Also, see Solomon & Palmiter (1994 §9.1.1).

<sup>30</sup> Corporate constituency statutes are, "...laws that either required or allowed corporate management to exercise their fiduciary duties with regard to the effects on employees, customers, and larger communities of interest. (Winkler 2004, 123) "As the court explained in *GAF v. Union Carbide Corp.*, the board must balance investors interests, on the one hand, and the legitimate concerns and interests of employees and management . . . on the other." (Frisch 2004, 17). "While most of these laws are permissive—allowing but not requiring directors to take into account the non-shareholder constituencies—at least one state, Connecticut, obliges management consideration of 'interests of the corporations employees, customers, creditors and suppliers, and ... community and societal considerations including those of any community in which any office or other facility of the corporation is located.'" (Winkler 2004, 123)

<sup>31</sup> "Following the court's decision in *Smith v. Van Gorkom*, and in reaction to it, the Delaware General Assembly enacted Del. Gen. Corp. Laws Section § 102(b)(7). Section 102(b)(7) permits a corporation to include in its articles of incorporation a provision, which states, in essence, that no director shall be liable in monetary damages for a breach of the director's duty of care. Section 102(b)(7) was intended to eliminate director liability for conduct that, at worst, involved mere breaches of the duty of care. Importantly, though, it was also intended to protect directors from protracted, expensive and time-consuming litigation." (Bodner 2005, 6) "Daines and Klausner have even found cases in which corporations in states that lacked statutory non-shareholder constituency provisions, such as Delaware, adopted such provisions in their charters." (Frisch 2004, 18)

to describe the situation of the American shareholder in 2006." (Bob Monks quoted in *The Economist*, Mar 09, 2006).

<sup>24</sup> Even in contested elections, the proxy regulatory regime discourages even large shareholders from conducting proxy fights. (See Bainbridge 2002, footnote 92).

<sup>25</sup> "[W]hile shareholders nominally have the right to elect directors, their limited power over the nominating process and the corporate proxy machinery prevent shareholders from using their voting rights." (Frisch 2004, 16).

<sup>26</sup> Under the Standard of Conduct for Directors: "Each member of the board of directors, when discharging the duties of a director, shall act: (1) in good faith, and (2) in a manner the director reasonably believes to be in the best interests of the corporation." (RMBCA §8.30 (a)). "Under Delaware law, the board of directors owes the corporation the fiduciary duties of care good faith, and loyalty." (Bainbridge 2002)

<sup>27</sup> "A stockholder seeking redress for a wrong done to the corporation as of which the directors fail to act may bring suit derivatively in the name of the corporation. In addition to the real defendants (i.e., the alleged wrongdoers), the corporation is included as a nominal defendant. Yet, the suit proceeds on its behalf, and ordinarily recovery is solely for the benefit of the corporation." [...] "A derivative action is the functional equivalent of a suit by a stockholder to compel the corporation to sue plus a suit by the corporation, asserted by the stockholder on its behalf, against those liable to it. Since a derivative action asserts a right belonging to the corporation, the recovery belongs to the corporation." (Bork 2005 p. 6) Also, see Blair & Stout, (1999, 294-95 footnote 48) stating, "management's fiduciary duty to shareholders is payable, not to those shareholders, but to the



In summary, shareholders have negligible power to designate board membership. In addition threats deriving from the shareholder's rights to vote and sue have negligible impact on limiting board discretion. Indeed, other constituents, such as labor, arguably have more influence over board discretion than do shareholders. Shareholders have no *right to manage*.

#### k) *Right to Income*

Do shareholders have a *right to income* of the corporation? Honoré (1961, 169) defines income as "...a surrogate of use, a benefit derived from forgoing personal use of a thing and allowing others to use it for reward." In order for shareholders to have a *right to income*, others must have a corresponding *duty to exclude* themselves. But corporate law does not prohibit other corporate constituents (e.g., labor) from seeking to obtain this same income. Therefore, shareholders do not have an exclusive right to *all* income. This does not necessarily imply, however, that shareholders have no right to *any* income.

In order for shareholders to have a *right to any income*, the board would need a *duty* to declare dividends. State statutes *permit* the board to declare dividends from corporate income, but there is no legal obligation.<sup>32</sup> Therefore, strictly speaking, shareholders have no right to *any* corporate income.

Still, for the sake of argument, shareholders could have the *power* to force the board to declare dividends and thus, in effect, they would have the *right* to at least some income. This issue is related to the *right to manage*, regarding whether shareholders have the *power* to limit board discretion. The difference is that the board decision under examination here is not one of general management, but is specific to declaring dividends.

The classic case law on this subject is Dodge v. Ford Motor Company (Mich. 1919) in which the Michigan Supreme Court ruled in favor of Dodge, ordering Ford to pay a special dividend of \$19 million--\$1.9 million to Dodge and over \$10 million to Ford. The specifics of this case were unique. First, Dodge owned a large (i.e., 10%) minority interest. Second, Dodge argued that, "...Ford was cutting off dividends to kill one competitor (the Dodges) and building a huge new factory to threaten the competitive position of them and others." Third, Ford's testimony professed a business strategy antithetical to capitalism.<sup>33</sup> These special

circumstances make the ruling difficult to generalize to other situations.<sup>34</sup>

The precedent for Dodge v. Ford is expressed in Pyle v. Gallaher, 75 A. 373 (Del. 1908) has been that "[t]hat a shareholder in a corporation has no property interest in the profits of the business carried on by the corporation until a dividend has been declared out of such profits" is "substantially correct", which the court applied in Dodge v. Ford follows:

It is a well-recognized principle of law that the directors of a corporation, and they alone, have the power to declare a dividend of the earnings of the corporation, and to determine its amount. Courts of equity will not interfere in the management of the directors unless it is clearly made to appear that they are guilty of fraud or misappropriation of the corporate funds, or refuse to declare a dividend when the corporation has a surplus of net profits which it can, without detriment to its business, divide among its stockholders, and when a refusal to do so would amount to such an abuse of discretion as would constitute a fraud, or breach of that good faith which they are bound to exercise towards the stockholders...so long as they do not abuse their discretionary powers, or violate the company's charter, the courts cannot interfere. (Dodge, 204 Mich. at 500.)

This summary illustrates the obstacles shareholders face in bringing lawsuits against the large, diversified corporation for the board not paying dividends. As a result, to my knowledge, there has not been another successful shareholder lawsuit for dividends against a large corporation.

Legal experts agree, the business judgment rule obliterates the power of shareholders to force boards to declare dividends. Professor M. Todd Henderson states that, "The decision to withhold dividends and invest in new businesses is, under current law, unassailable." (Henderson 2007, 28) Professor Ken Greenwood states that, "...legal doctrine makes clear that shareholders have the same legal right to dividends as waiters have to tips: an expectation that is not enforceable in court..." (Greenwood 2006, 108). Professor Lynn Stout explains that corporate profit can be used to, "...raise managers' salaries, start an on-site childcare center, improve customer service, beef up retirees' pensions, or make donations to charity." (Stout 2002, 1194)

<sup>32</sup> If anything, state statutes place restrictions on the size of the dividend the board can declare. "No distribution may be made if, after giving it effect: (1) the corporation would not be able to pay its debts as they become due in the usual course of business..." (MBCA 2002 § 6.40(c))

<sup>33</sup> "Ford's testimony was too much for the trial court to bear. After all, if a firm as large and important to the American economy were permitted to pursue an overtly socialist strategy, the political impact and the effect on other firms could be enormous. The geopolitical context of the trial made this point clear." (Henderson 2007, 21)

<sup>34</sup> Some use this decision to argue that corporations have a legal obligation to maximize profit for shareholders. First, legal scholars disagree with this interpretation. For example, "Dodge is often misread or mist aught as setting a legal rule of shareholder wealth maximization. This was not and is not the law." (Henderson 2007, 1) Second, case law related to takeovers suggests that corporations have no such obligation. For example, in *Paramount Communications Inc. v. Time Inc.* Delaware Supreme Court, 1990. 571 A.2d 1140: "[A] board of directors . . . is not under any per se duty to maximize shareholder value."



In conclusion, shareholders have no *right* to *any* of the corporate income because state statutes do not force the board to declare dividends. Moreover, case law shows that courts will force the board to declare dividends only under idiosyncratic circumstances. Thus, legal experts agree that shareholders have negligible *power* to force the board to declare dividends.

#### l) *Right to Capital*

Do shareholders *have a right* to capital? One with the right to capital has the, "...liberty to consume, waste or destroy the whole or part of it." (Honoré 1961, 120) Taking this definition less literally, upon dissolution, shareholders may receive the remaining assets after all other claimants are paid. But for shareholders to claim the *right to capital*, they would need the *power* to dissolve the corporation. A shareholder does not have unilateral *power* to dissolve the corporation, as state statutes provide that the board has sole discretion.<sup>35</sup> Therefore, shareholders have no *right* to capital.<sup>36</sup>

#### m) *Right to Residuary*

Do shareholders have a *right to residuary* in the corporate assets or income? When a person's incident of ownership terminates, the person who receives that incident is said to have a "residuary right" to it.<sup>37</sup> For example, when a lease terminates, the lessor claims the *right to possess*; thus, the lessor has the *residuary right to possess*. In the principal-agent model, when the agency relationship terminates, the principal regains the right to manage. In this case, the principal has the *residuary right to manage*.

One might argue that the shareholder's right to vote gives shareholders *residuary rights* to those incidents claimed by the board (e.g., the *right to manage*). Certainly, the more *power* shareholders have

to designate board membership, the more powerful their *residuary rights*. Since, as was noted, non-controlling shareholders have negligible power to designate board membership, their residuary rights are negligible.

For this incident of ownership, the situation is different for sole and controlling shareholders. The sole shareholder, through the exclusive *power* to nominate and elect the full board, has strong *residuary rights to manage and income*. Controlling shareholders have less power to designate board membership<sup>38</sup> and, thus, weaker *residuary rights to manage and income*.<sup>39</sup> In addition, controlling shareholders also have the *residuary right to capital*, which the sole shareholder has outright.<sup>40</sup> Non-controlling shareholders' residuary rights are negligible, while the sole shareholder and controlling shareholders have *residuary rights to manage and income*--the controlling shareholder also has the *residuary right to capital*.

Regarding the *power to alienate & transfer* and *immunity from expropriation*. An analysis is unnecessary for these 3 incidents of ownership since they are either subsumed by other incidents or contingent on the presumption of ownership.<sup>41</sup> That is, the presence of these incidents is contingent upon ownership, without which the incidents are meaningless. Since corporate assets cannot be transferred or expropriated if they are not owned in the first place, these incidents are not discussed further.

#### n) *Test of Hypothesis*

Table 2 summarizes the evidence, listing whether the legal relation necessary to claim an incident of ownership is present, absent, or a residuary right for each firm-type. As previous noted, the sole proprietor has every incident of ownership, while the firm-members

<sup>35</sup> Per DGCL § 275: "Dissolution generally; procedure. (a) If it should be deemed advisable in the judgment of the board of directors of any corporation that it should be dissolved, the board, after the adoption of a resolution to that effect by a majority of the whole board at any meeting called for that purpose, shall cause notice to be mailed to each stockholder entitled to vote thereon of the adoption of the resolution and of a meeting of stockholders to take action upon the resolution. (b) At the meeting a vote shall be taken upon the proposed dissolution. If a majority of the outstanding stock of the corporation entitled to vote thereon shall vote for the proposed dissolution, a certification of dissolution shall be filed with the Secretary of State pursuant to subsection..." Also, see RMBCA § 14.02.

<sup>36</sup> The sole shareholder is a special case. According to the DGCL § 275(c), "Dissolution of a corporation may also be authorized without action of the directors if all the stockholders entitled to vote thereon shall consent in writing and power to secure its vote." Thus, a sole shareholder has the power to dissolve the corporation, which, combined with the right to the capital upon dissolution, gives a sole shareholder the residuary right to the capital that remains after all other claimants are paid.

<sup>37</sup> Regarding the right to residuary, Honoré (1961, 127) states, "...whenever an interest less than ownership terminates, legal systems always provide for corresponding rights to vest in another. When easements terminate, the 'owner' can exercise the corresponding rights..."

<sup>38</sup> Technically, cumulative voting can, at times, reduce a controlling shareholder's power to vote in every board member.

<sup>39</sup> However, the controlling shareholder's residuary right to manage would be diminished by additional fiduciary duties to minority shareholders.

<sup>40</sup> The sole shareholder's power to propose dissolution combines with a sole shareholder's power to secure the vote, resulting in the right to capital (See footnote 36).

<sup>41</sup> The power to alienate refers to the transfer of ownership (i.e., a sale). Alienating "all or substantially all" corporate assets occurs upon dissolution, which is discussed later in relation to the "right to capital." Alienating *some* corporate assets falls under the "right to manage." Thus, the *power to alienate* is subsumed by other incidents of ownership. The incidents of ownership, *power to transfer* and *immunity from expropriation*, while they involve economic benefits, are only *contingently* related to ownership. Waldron (1985) argues that power to transfer is not, in fact, part of the definition of ownership, "but only contingently connected with it." "...in France the operation of the doctrine of *legitima portio* casts a different complexion on wills, bequest and inheritance altogether. What does this show? Does it show that the French have a different concept of ownership from the Americans and the English, so that it is a linguistic error to translate '*proprieté*' as 'ownership'? Or does it show that the power of transmissibility by will is not part of the definition of ownership but only contingently connected with it?" (Waldron 1985, 316)

(e.g., beneficiaries) of nonprofit corporations have no benchmarks for the claims of shareholders to the incidents of ownership. These firms serve as corporation's assets.

Table 2: Summary of Findings

Incidents of Ownership**	Liquidity Protection is Not Present		Liquidity Protection is Present			
	Sole Proprietor	General Partner	Sole Shareholder	Controlling Shareholder*	Non-Controlling Shareholder*	Nonprofit Member
Right to possess	Present	Present	Absent	Absent	Absent	Absent
Right to use	Present	Present	Absent	Absent	Absent	Absent
Right to income	Present	Present	Residuary	Residuary	Absent	Absent
Right to capital	Present	Present	Present	Residuary	Absent	Absent
Right to manage	Present	Present	Residuary	Residuary	Absent	Absent
Duty to prohibit harmful use	Present	Present	Absent	Absent	Absent	Absent
Liability of execution	Present	Present	Absent	Absent	Absent	Absent

\* Compared to the sole shareholder, these residuary rights are diminished by cumulative voting and fiduciary responsibilities to minority shareholders.

\*\* There are 7 incidents of ownership because 3 were eliminated from the analysis and the right of residuary relates to all other incidents.

Thus, the main result of the analyses is that, like firm-members of nonprofit corporations, the non-controlling shareholders have no incidents of ownership. They have no right to any of the corporate income or assets, and arguably less power than other firm-members (e.g., managers, employees) to obtain them. In no meaningful sense do these non-controlling shareholders possess ownership claims to the corporation's assets.

Regarding the Alternative Hypothesis, the evidence supports the hypothesis that firm-members of firm-types with liquidity protection have less legal ownership claims to firm-assets than do firm-members of firm-types without liquidity protection.<sup>42</sup> Specifically, the firm-members of those firm-types without liquidity protection (i.e., sole proprietorships and partnerships) have greater ownership claims to firm-assets than do firm-members of firm-types with liquidity protection (i.e., business corporations and nonprofit corporations). No statistical test is necessary because all firm-types legally must have identical incidents of ownership to the firm-assets.

## V. IMPLICATIONS FOR ACCOUNTING

In a sole proprietorship, the equality, assets equal liabilities plus net worth, ignoring measurement concerns, makes eminent economic sense. Calling the sole proprietor's net worth, "Owner's Equity" in order to imply that s/he has legal claim to the firm's net assets does not appear unreasonable. A balance sheet with a

"proprietary perspective" presents the firm's net assets, particularly the profits, as claimed by one type of firm-member. Calling the net assets, "Owner's Equity" shows that the sole proprietor has legal claims to the net assets.

Applying this "proprietary perspective," to large, widely held corporations, Sprague (1908) called net assets, "net worth," while Hatfield (1909) called net assets, "proprietorship." Couchman (1921) asserted that the "rights of persons to these assets" include "the rights of creditors, known as liabilities, and the rights of proprietors," the shareholders of corporations. In arguing that the proprietary perspective applies to the business corporation, Couchman (1921, 265) asserts that,

...surplus forms a part of the proprietorship, [as] it was either contributed to the organization by the proprietors themselves or has accrued to their credit within the organization...As to the surplus arising from earnings...[s]ome organization in their annual balance-sheets use the term "undivided profits" to display that portion of the net earnings of the preceding period which has not been appropriated, transferring the undivided profits of other periods to the surplus account. Portions of earned surplus may be set aside under many distinctive headings to show the purposes for which they are appropriated, such as "reserve for sinking fund," "reserve for betterments," "reserve for new factory...It is also desirable that in the balance-sheet the accountant should display surplus in such manner that the amount available for dividends may be readily ascertainable.<sup>43</sup>

<sup>42</sup> Obviously, everything could be restated using a null, rather than an alternative, hypothesis, but the result would be clumsy wording with no substantively different conclusion.

<sup>43</sup> Couchman (1921, 265) uses the term "surplus" "in its widest sense, that is, to measure any excess of asset value which a corporation may have over the sum of its liabilities and outstanding capital stock."

The larger size of the corporation, with more dispersed share ownership led to questioning whether the proprietary perspective was appropriate for such corporations. For example, Berle and Means (1932) called shareholders of such corporations “nominal owners,” arguing that they would more accurately be described as “creditors.” “By the late 1920’s, it had become commonplace to remark on the resemblance between shareholders and bondholders.” (Ireland 2001, 149; also, Lippman, 1914, 60-61)<sup>44</sup>

Accounting academics responded with what became known as “entity theory” or the “entity perspective.” For example, Paton (1922, p. 38) argued that “an equity” is a “value representation of a right in property...Properties connote equities and equities connote properties...” in order to prescribe listing the claims of shareholders and creditors as “equities.” This version of the entity perspective prescribing a balance sheet with assets equal to equities was included in Paton and Littleton (1940), a report commissioned by the American Accounting Association to establish a “framework of accounting theory” (Bedford & Zeigler 1975, 438). In 1941, the committee of the American Institute of Accountants rejected Paton and Littleton to avoid “...de-privileging of stockholders, inherent in entity theory” (Cilloni, Marinoni & Merino 2013, 61). Since then, standard setters have required the proprietary perspective for the balance sheets of business corporations.

FASB (1985, 18) states that, “In a business enterprise, the equity is the ownership interest. It stems from ownership rights (or the equivalent) and involves a relation between an enterprise and its owners as *owners* rather than as employees, suppliers, customers, lenders, or in some other nonowner role. FASB (1985, Footnote 30) continues, “Other entities with proprietary or ownership interests in a business enterprise are commonly known by specialized names, such as stockholders, partners, and proprietors...but all are also covered by the descriptive term *owners*.”

Therefore, the balance sheet of the business corporation substitutes the sole proprietor’s “Owner’s Equity” with “Shareholders’ Equity,” implying that shareholders and sole proprietors have identical claims to the firm’s net assets and profits. The only reasonable inference to draw from this balance sheet presentation is that shareholders, like sole proprietor’s and partners, have exclusive legal ownership claims to the corporation’s net assets and profits.

<sup>44</sup> According to Holstrom & Kaplan (2003, 15), until the late 1970s, “management was loyal to the corporation, not to the shareholder,” where management, “...was not to maximize shareholder wealth, but to ensure the growth (or at least the stability) of the enterprise by ‘balancing’ the claims of all important corporate ‘stakeholders’--employees, suppliers, and local communities, as well as shareholders.”

In contrast, according to the evidence, non-controlling shareholders have no ownership claims to the net assets or profits. Specifically, shareholders have far fewer legal claims to firm-assets than do sole proprietors and partners and only slightly more claims to firm-assets than beneficiaries of nonprofit corporations.

Nonprofit and business corporations both have liquidation protection and, as the evidence reveals, their firm-members (e.g., non-controlling shareholders for the business corporation) have no legal ownership claims to firm-assets. Therefore, perhaps the balance sheet of the business corporation should be more similar to those of the nonprofit corporation than to those of the sole proprietorship. For example, firm-members of nonprofit corporations have no claims to firm-assets; therefore, FASB requires nonprofits to label the net assets as, “Net Assets.” If the shareholders of business corporations have no claims to the firm-assets, how accurately does the balance sheet represent firm-members’ legal claims to corporation’s net assets if it calls them “Shareholders’ Equity”? Does calling the net assets of the business corporation “Net Assets,” like nonprofit corporation better represent the non-existent claims of firm-members, including shareholders, to the firm-assets?

This question is perhaps why a recent accounting standard, FASB (2008, OB12) Concepts Statements No. 8, uses the phrase “the claims against the reporting entity,” replacing, “the claims to those resources” and similar phrasing FASB used for decades.<sup>45</sup> FASB (2010, 14) provides the justification for the change, arguing, “...that in many cases, claims against an entity are not claims on specific resources. In addition, many claims will be satisfied using resources that will result from future net cash inflows. Thus, while all claims are claims against the entity, not all are claims against the entity’s existing resources.” The takeaway for this paper is that FASB itself knows that the balance sheet does not accurately show shareholders’ legal claims to net assets.

#### *What is the Solution?*

The IASB and FASB’s goal to converge accounting standards faltered over conflicts about whether financial reporting should take an entity or proprietary perspective, as noted in the introduction. Van Mourik (2014) examines the conflict, finding confusion on both sides and providing a list of papers on various types of equity theories, which would be helpful in understanding the different reporting perspectives. Ultimately, Van Mourik (2014) uses limited liability as the principle by which to determine reporting perspective for each firm-type. Van Mourik’s focus on limited liability is based on Demsetz (1967) three

<sup>45</sup> FASB (1978, 6) Concepts Statement No. 1 states, “Financial reporting should provide information about the economic resources of an enterprise, the claims to those resources...”

characteristics of public corporations: (1) its legal personality, (2) its limited liability for common shareholders, and (3) its free transferability of shares.

But, as this paper has explained, limited liability is unnecessary for a corporation to exist and can be privately contracted to a large degree. More importantly, Demsetz' definition does not include entity shielding as a characteristic of a corporation when, without it, transferable shares could not exist. If stock markets can and have existed with limited liability, but not entity shielding, which is a more important characteristic of the business corporation? Instead, to determine the appropriate reporting perspective for each firm-type, academics should focus on how entity shielding affects firm-members' (e.g., shareholders') claim to the firm-assets.

## VI. CONCLUSION

In a 2008 joint Exposure Draft, IASB and FASB recommended that "[A]n entity's financial reporting should be prepared from the perspective of the entity (entity perspective) rather than the perspective of its owners or a particular class of owners (proprietary perspective)" (IASB 2008, 5). But when FASB realized that an entity perspective would not list net assets and profits under Shareholders' Equity, it abandoned plans to converge reporting entity perspectives.<sup>46</sup> Instead, FASB continues to require the proprietary perspective for business corporations, which implies that shareholders have exclusive ownership claims to the firm's net assets, including the profit.

The reporting perspective most appropriate for each reporting entity should depend on underlying principles to which standard setters agree. This paper assumes that the claims firm-members have to the firm-assets implies what reporting perspective is appropriate for each firm-type.

This paper finds that shareholders, unlike sole proprietors, of business corporations have no legal claims to the corporation's net assets or profit. Instead, shareholders of business corporations have similar claims to those of beneficiaries of nonprofit corporations. The reason for the similarity is that both business and nonprofit corporations have liquidity protection because their firm-assets are shielded from firm-members, as well as the firm-members' creditors. The ability to shield the creditors of firm-members cannot be accomplished through private contracting and, as such, this type of liquidity protection distinguishes the business corporation from other business firm-types.

The unique feature of liquidity protection afforded to business corporations necessarily restricts shareholders' claims to firm-assets. Specifically,

shareholders, because of liquidity protection, have no claims to the firm's net assets, while sole proprietors with no liquidity protection have exclusive claims to firm-assets. Therefore, requiring business corporations to present net assets as part of Shareholders' Equity misrepresents shareholders claims to the net assets. Shareholders do not have identical claims to firm-assets to those of sole proprietors; rather the opposite is true, they have no claims.

The shareholders' lack of claims to the firm-assets implies that the proprietary perspective is inappropriate for the balance sheet of the business corporation. Academics should focus on how entity shielding affects each firm-members claim to the net assets., because entity shielding uniquely identifies firm-type, cannot be privately contracted, and enables transferable shares without which founders could not maintain personal liquidity. Entity shielding, not limited liability, should serve standard setters as the principle underlying what reporting perspective should be required for each firm-type.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# Human Resource Disclosure: A Case Study on Listed Banking Companies in Bangladesh

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*GJMBR-D Classification: DC Code: 658.15226 LCC Code: HD4904.7*



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## I. INTRODUCTION

Human Resources (HR) refers to core competencies, and knowledge creation and innovation and the creation of value above all material and financial resources. According to the resource-based as well as the existing theoretical knowledge, the success of contemporary organizations is no longer attributed extensively on physical capital but also to intangible assets such as human capital and therefore, human of capital is the driving force of basic sustainable competitive advantage.

In developed countries, it is very common that the parent companies to have a formal disclosure HR practice in their annual report. However, in developing countries such as Bangladesh, and disclosure of human resources side is a very new concept, and it is still in the stage of naive. Although this is not mandatory for the detection of human resources information in the annual report for companies in Bangladesh, it is making some disclosure of human resources voluntarily. There was a dearth of research on the detection of human resources in the context of emerging economies (Khan and Khan,

2010). Human resources is also considered strategic capital, and accounting aspects and reports have become critical to the success of the organization. So far concern far as we know, there have been no acts of careful research Reports on human resources in the annual report of the banking sector in Bangladesh. Thus, this study is trying to find the pattern and extent of disclosure of human resources in the listed banking companies in Bangladesh and to justify the impact of the bank properties over the detection of human resources.

### a) Objective

The main objective of this study is to evaluate the human resources disclosure practices in the annual report of the listed banking companies in Bangladesh. To achieve the main objective, the specific objectives of the study are as follows:

1. To find out disclosure practices of human resources at the bank's annual report.
2. To determine the extent of human resource information reported in the annual report of the corporate banking

### b) Methodology of the study

This study was conducted on the basis of secondary data. Secondary data was collected from the annual reports of the selected listed banking companies in Bangladesh. The study took 30 banking companies enlisted in the Dhaka Stock Exchange (DSE) as the sample, that is, the population was considered 100% of the study. The study was conducted in 2022 and hence data for this study was collected from annual report of 2021 to make study up to date.

## II. LITERATURE REVIEW

It has been found disclosure of human resources to be supportive of the stakeholders to take appropriate investment decisions in an era of a knowledge-based economy (Sen 2008; Mamun 2009; Hussain Khan and YESMIN, 2004). HC reports that organizations can benefit by attracting and retaining the best talent and enjoy a competitive advantage (Adams2004; King 2002). As a result, it can be aspects of the preparation of external financial reports of human resources play an important role in facilitating the proper use of human resources in an organization (Mamun 2009). However, due to difficulties in measuring

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monetary value, it was not reported human resources in traditional financial statements of the organizations (Roslender and Dyson 1992). Therefore, voluntary reporting through annual reports is the best way to inform stakeholders about the value and practice of human resources. Non-disclosure of quantitative human resources may be due to the lack of a single agreed-upon method for measuring information and that only a few People in companies have enough knowledge to identify these statements (Abeysekera 2004; Goh and Li, 2004).

In 1973, American Accounting Association defined HRA as "the process of identifying and measuring data on human resources and communicate this information to the parties concerned" (AAA 1973). It provides information about human values and resource costs, and works to facilitate the decision-making process, and stimulates decision-makers to adopt the perspective of human resources (Sackman, Flamholtz and Bullen 1989). Companies through the progressive in the world now have realized that human resources practices and disclosure of human resources for the stakeholders have a significant effect on performance (nose, Niemark and Gilani in 2010, Delaney and Huselid 1996; Sing 2004; Wright and McMahan, 1992; Youndt et al. 1996). The study points to the Watson Wyatt (2001) on human capital index that superior human resources practices are not only linked with better financial returns, they are, in fact, a leading indicator of increasing shareholder value. It has gained significant benefits from better information about human resources (Sackman, Flamholtz and Pullen 1989). According to Guthrie (2001), these information resources to be allocated more effectively within organizations may allow increase has enabled the gaps in skills and capabilities to be identified more easily The study conducted by Khan and Khan (2010) on disclosure practices of HC in 32 largest manufacturing sector and services sectors listed in the Dhaka stock Exchange (DSE) found that the reporting

of human resources of the most important companies in Bangladesh practices were not as low as expected. The researchers found training, number of employees, career development, and employment policies as elements of human resources the most common.

### III. FINDINGS AND ANALYSIS

This section focuses on methods of detection of human resources, and the location of the detection, measurement and analysis of the detection of human resources contained in the annual report of the banking companies listed in Bangladesh.

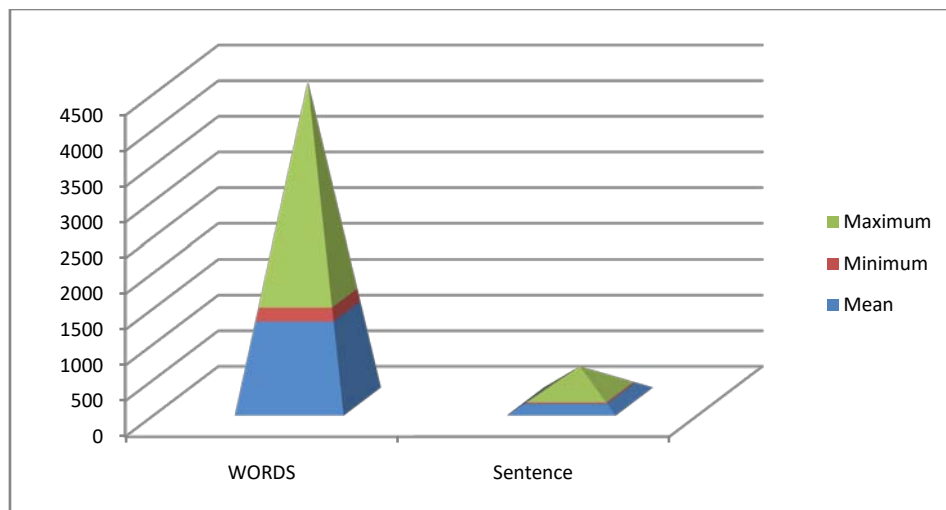
#### a) HR disclosure

The data in Table NO.1 discover that the banking companies in Bangladesh revealed human resources information using text, chart, graph, and image. In the content analysis it was observed that the average corporate banks use 1264.33 words, maximum 3034 words and a minimum of 187 words; the camel 79.17 average, maximum penalties of 363 and a minimum of sentences 11 in the detection of human resources information in its annual report in maximum 2014. 46.67 % of the sample banks used 500-1,000 words (Appendix 3) and, more specifically, Prime Bank Limited uses a greater number of words and Dhaka Bank Limited the largest number of sentences in this regard (Appendix 4).

*Table 1:* Words & Sentences for human resource disclosure

	Word	Sentence
Mean	1264.33	118.83
Minimum	187.00	11.00
Maximum	3034.00	363.00

*Source:* Developed by Authors based on analysis of annual report



*Graph 1:* Showing the total human resource disclosure word & sentence of the banking companies

### b) Location of disclosure

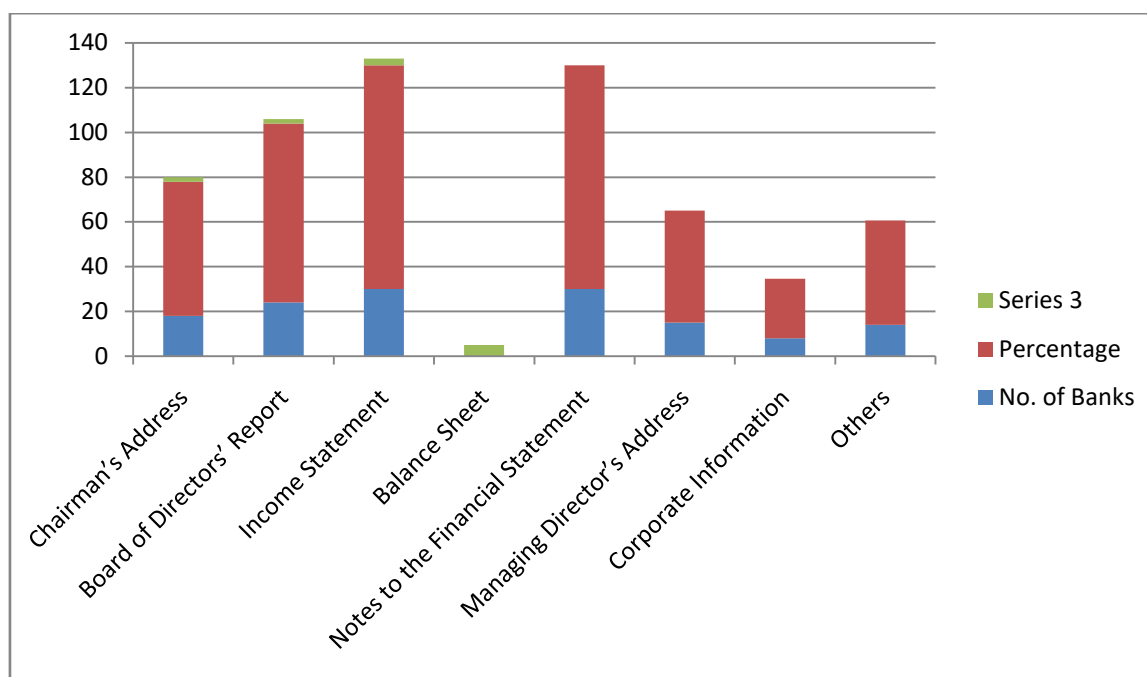
Analyze the detection of human resources information in the annual report for banking company in Bangladesh site, and found that the banking company discloses information on human resources in different locations or parts of the annual report. Table 2 shows that all (100%) banking companies revealed human resources information, which is, especially with respect to financial and human resources in the income

statement and the notes to the financial statements information. The use of banking companies also other important parts of the annual report, such as the president title (60.00%), Managing Director of the "address (50.00%), and members of the Board of Director's report (80%). In spite of 46.67% of the banks' sample used for other areas of human resources and information disclosure, but No bank disclose any information on human resources in the balance sheet.

*Table 2:* Shows the locations of HR disclosure in annual reports of the sample banks

Location	No. of Banks	Percentage
Chairman's Address	18	60.00%
Board of Directors' Report	24	80.00%
Income Statement	30	100.00%
Balance Sheet	00	00%
Notes to the Financial Statement	30	100.00%
Managing Director's Address	15	50%
Corporate Information	8	26.66%
Others	14	46.67

Source: Developed by Authors based on analysis of annual report



*Graph 1:* Showing the total human resource disclosure in percentage & no. of banks of the banking companies

### c) Heading-wise HR Disclosure

Total has been ranked detection of human resources in its annual report to eight different categories to analyze the best and a number of selected items under each category are not on an equal footing. As the number of items contained in the human resources, finance is a maximum 20 items, so, it was observed that the banking companies in Bangladesh revealed that the maximum amount of information that is considered in the framework of this area (Appendix 1),

but in percentage terms, the financial items HR- not in the highest position. Table 3 shows that the average banking companies detect 59.25% of the human resources information selected, where the average maximum disclosure in the case of human resources development (91.25%), followed by HR- policy (75.00%) and the average minimum detection it was in HR- health and safety areas (19.45%). Observed maximum between the maximum disclosures in human resource development (100%), followed by HR- relationship and



culture (92.31%) and items HR- policy (90.91%) and the minimum between the minimum disclosure observed in human resources in the field of health and safety (0%) items and items followed by basic human resources (5.85%), and other human resource (0%). There is a

maximum variation in the case of the other terms of human resources (SD = 20.74), followed by items of basic human resources (SD = 18.48) and the minimum difference is in the case of financial items- HR (SD = 9.32).

*Table 3: Heading-wise HR Disclosure in annual report of the sample bank (Percentage)*

	HR Policy	Basic HR	HR Fin.	HR Import	Health Safety	HR Develop	HR Relation	HR Other	Total Disclosure
Mean	75.00%	49.44%	66.00%	53.33%	19.45%	91.25%	60.27%	32.00%	59.25%
Minimum	45.46%	5.85%	45.00%	25.00%	0.00%	37.50%	23.08%	0.00%	47.50%
Maximum	90.91%	84.62%	80.00%	75.00%	50.00%	100%	92.31%	80.00%	78.75%

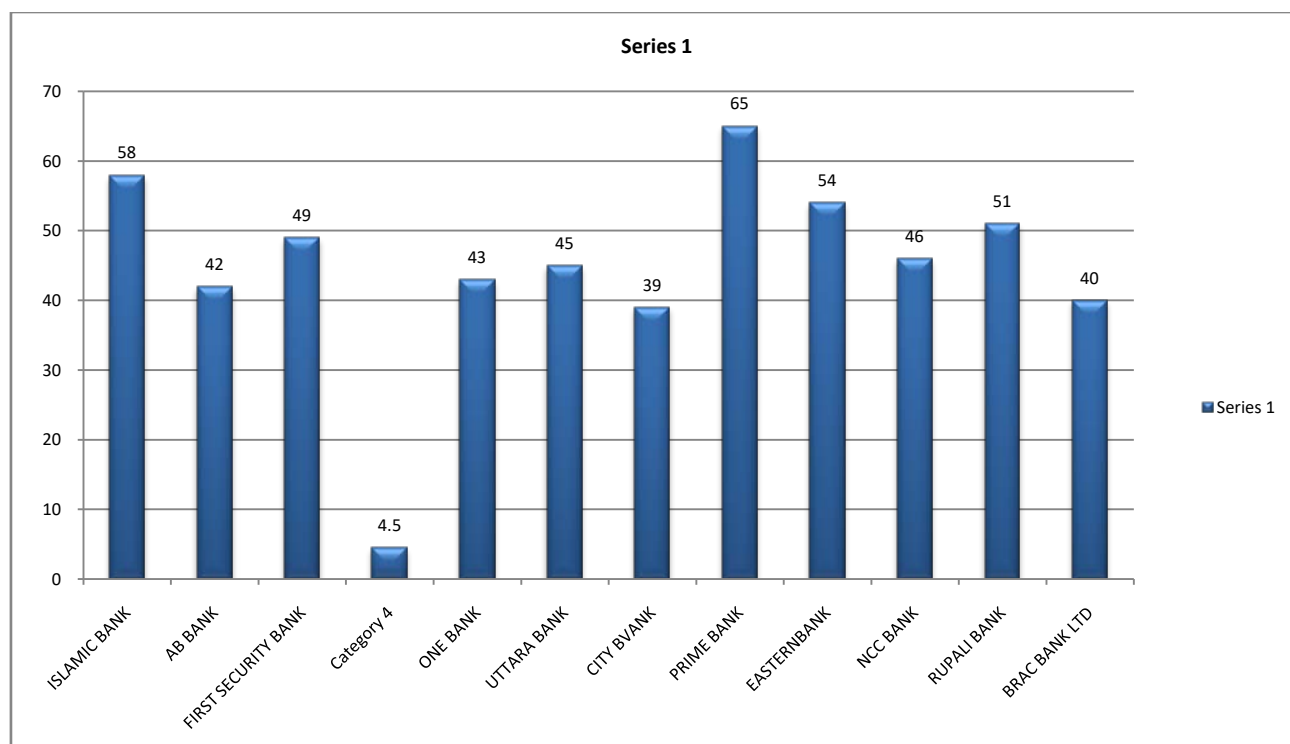
Source: Developed by Authors based on annual report of the sample banks

Table 4 the following chart 1 report the detection of human resources general corporate banking in Bangladesh in 2014. The position she found here that the Bank President, Ltd. has achieved the highest position by revealing the 65 (82.28%) of the specific elements of human resources in securing the annual report in 2014. the southern West Bank Limited

and Trust Co., the second and third place by revealing the 63 (79.75%) of the specific elements of human resources, respectively. On the other hand, import and Export Co., Ltd. Bank and Standard Bank Limited combed Last place and 20th by the disclosure of only 38 (48.10%) of the specific elements of human resource.

*Table 4: Showing the ranking of sample banks based on total human resource disclosure score*

Rank	Bank Name	Total score	Percentage	Rank	Bank Name	Total Score	Percentage
1	Prime Bank Ltd	65	82.28	12	Mercantile Bank	47	59.49
2	Southeast Bank Ltd	63	79.75	12	NCC Bank Ltd	46	58.23
3	Trust Bank Ltd	60	75.94	13	Uttara Bank Ltd	45	56.96
4	SJIBL Ltd	59	74.68	14	SIBL	44	55.70
5	Dhaka Bank Ltd	58	73.42	15	Bank Asia Ltd	43	54.43
6	IBBL	58	73.42	15	One Bank Ltd	43	54.43
7	Mutual Trust Bank	56	70.87	15	Pubali Bank Ltd	43	54.43
8	Eastern Bank Ltd	54	68.35	16	AB Bank Ltd	42	53.16
8	Jamuna Bank Ltd	53	67.09	16	IFIC Bank Ltd	42	53.16
9	Premier Bank Ltd	52	65.82	17	PUBLIC Bank	41	51.90
9	Rupali Bank Ltd	51	64.56	18	BRAC Bank Ltd	40	50.63
10	FSIB Ltd	49	62.03	19	City Bank Ltd	39	49.37
10	UCBL	49	62.03	19	ICB Islami Bank	39	49.37
11	JANATA BANK	48	60.76	20	EXIM Bank Ltd	38	48.10
12	Dutch -Bangla Bank	47	59.49	20	Standard Bank Ltd	38	48.10



Graph 1: Showing the total human resource disclosure score of the banking companies

d) *Comparative total Human Resource Disclosure*

From Table 4, it is revealed that the highest detection of human resources made by the President of the Bank, Ltd. was 82.28% and the lowest was detected by the bank, whether Exim Limited and Standard Bank Limited was 48.10%. Table 5 reveals that the following maximum 12 banks, i.e. 40.00% of the sample of banks revealed 50% - 60% of the specific elements of human resources included in the disclosure of human

resources index in this study. Not disclosed any bank less than 40% and more than 80% of selected information and human resources. Only 6 (20.00%) of the sample banks detect 70% -80% of the information in the annual report. Among a sample of banks, revealed that 56.67% of them less than 60% and 46.67% of the sample banks detect more than 60% of the specific elements of human resources.

Table 5: Showing comparative total human resource disclosure

Range of total human Resource disclosure	No. of Banks	Percentage of Sample
Less than 40%	0	00%
40% - 50%	5	16.67%
50% - 60%	12	40.00%
60% - 70%	7	23.33%
70% - 80%	6	20.00%
Total	30	100.00%

Source: Developed by Authors based on total HR disclosure score

If you compare the results of the current study with previous studies Imam (2000); Olsson (2001); Hussain Khan and Youndt (2004);, it can be said Huang, and Jusoff (2008) that the disclosure of human resources in the banking companies in Bangladesh is in a good position. Finally, voluntary disclosure, the position public disclosure of human resources corporate banking in Bangladesh can be considered to be satisfactory.

#### IV. RECOMANDATIONS

Among other things, the effects of the main process of this study are: management and accountants banking companies on human understanding is expected to disclose the real resources of this research position, it is expected to be the motive in the disclosure of information resources more human in its annual report to also improve its

image and attract more of promising workers for its banks. Researchers in the detection of human resources might be used beneficially issues raised in this article more comprehensive studies in the detection of human resources. It is expected to realize the real position of the detection of human resources corporate banking in Bangladesh, which will help them in the formulation of guidelines and laws in this regard to the disclosure of human resources in a certain framework, and to encourage banking companies in the detection of government regulators practices and other more information about resources Humanity.

## V. CONCLUSION

The success of the organizations services geared primarily depends on the efficiency of human resources capabilities. Clients, borrowers, investors and other relevant parties of banking companies evaluate information related to human resources in the selection of a bank and valuable information on human resources of the organization are very important for decision-makers in the modern knowledge-based economy era. Although the disclosure of human resources in the banking companies can be said to be satisfactory level, but the framework of disclosure and the level of disclosure is not the same for all banks. Therefore, to achieve these disclosures in a certain framework, and to encourage more disclosure of information related to human resources, the government and other regulatory bodies should formulate relevant that might create a more favorable working environment provision Shum Resources in the banking companies in Bangladesh. Study some of the restrictions that will be considered in the use and interpretation of the results of the study. Home restrictions for this study include: The study used secondary data only. It is based on the listed banking companies choose deliberate Bangladesh used only and annual reports for one year to study. The study recommends the areas of detection of the following specific human resources for further research: Detection of human resources in the banking sector: the longitudinal evaluation. Comparative detection of human resources: study across the industry in Bangladesh.

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  - 32.

*Appendix #1: Total HR Disclosure score classified into 8 classes*

	Bank Names	HR Disclosure Classes								Total
		HR Policies	Basic HR Information	Financial Information on HR	HR Importance to Organization	Health & Safety at Work	HR Development	HR Relationship & Culture	Employee Others Factor	
1	ABBANK	5	7	9	3	1	8	8	2	42
2	ALARABANK	8	5	11	2	1	8	5	2	32
3	BANKASIA	9	11	12	3	1	6	7	1	29
4	BRACBANK	7	5	13	2	1	5	8	1	30
5	CITYBANK	6	3	12	2	1	6	9	0	39
6	DHAKABANK	9	9	12	3	3	8	9	2	56
7	DUTCHBANGL	8	7	14	2	1	8	7	1	46
8	EBL	5	9	14	3	1	8	7	2	51
9	EXIMBANK	10	6	11	2	0	7	6	0	38
10	FIRSTSBANK	8	5	16	2	1	8	6	1	48
11	ICBIBANK	7	3	11	2	1	5	8	2	39
12	IFIC	6	4	15	1	1	3	7	2	42

13	ISLAMIBANK	10	9	15	2	1	8	8	3	55
14	JAMUNABANK	6	7	15	2	1	8	10	2	51
15	MERCANBANK	6	6	16	2	1	8	7	0	46
16	MTBL	9	9	13	1	1	8	10	1	52
17	NBL	9	6	13	2	1	5	9	2	47
18	NCCBANK	6	7	15	2	1	8	8	2	46
19	ONEBANKLTD	6	6	13	1	1	8	7	2	43
20	PREMIERBAN	7	8	13	2	1	8	9	2	50
21	PRIMEBANK	10	11	16	3	3	8	12	4	63
22	PUBALIBANK	7	5	13	2	1	8	6	1	43
23	RUPALIBANK	7	6	14	3	1	8	9	2	50
24	SHAHJABANK	10	11	15	2	1	8	8	2	57
25	SIBL	6	7	10	2	1	8	9	2	44
26	SOUTHEASTB	8	10	13	2	3	8	10	4	60
27	STANDBANKL	7	7	12	2	1	6	3	0	38
28	TRUSTBANK	8	11	16	2	1	8	8	3	59
29	UCBL	9	8	12	3	1	8	8	2	40
30	UTTARABANK	7	6	12	2	1	8	7	1	33

Appendix #2: Total HR Disclosure score in percentage

	Banks names	HR disclosure classes							
		HR Policies	Basic HR information	Financial information On HR	HR important To organization	Health & safety at works	HR Development	HR relationship & culture	Employee other factor
		%	%	%	%	%	%	%	%
1	AB BANK	45.45	53.84	55.00	75.00	16.67	100	61.54	20.00
2	PUBLIC BANK	72.73	38.46	55.00	50.00	16.67	100	38.46	40.00
3	BANK ASIA	81.81	84.62	60.00	75.00	16.67	75.00	53.89	20.00
4	BRAC BANK	63.64	27.08	65.00	50.00	16.67	62.50	61.54	20.00
5	CITY BANK	54.55	69.23	60.00	50.00	16.67	75.00	69.23	00.00
6	DHAKA BANK	81.81	46.15	60.00	75.00	50.00	100	69.23	40.00
7	DUTCH BANGLA	72.72	38.46	70.00	50.00	16.67	100	53.89	20.00
8	EBL	45.45	69.23	70.00	75.00	16.67	100	53.89	40.00
9	EXIM BANK	91.91	46.15	55.00	50.00	16.67	87.50	46.15	20.00
10	FIRST S BANK	72.73	38.46	75.00	75.00	16.67	100	46.15	00.00
11	ICBI BANK	63.63	27.08	75.00	50.00	16.67	37.50	61.54	20.00
12	IFIC	54.54	30.77	80.00	50.00	16.67	62.50	76.92	40.00
13	ISLAMIC BANK	91.91	69.23	65.00	50.00	16.67	100	61.54	60.00
14	JAMUNA BANK	54.54	53.84	65.00	25.00	16.67	100	53.89	40.00
15	MERCABANK	54.54	46.15	75.00	50.00	16.67	100	76.91	40.00
16	MTB BANK	54.54	69.23	65.00	50.00	16.67	100	69.23	00.00
17	SHAHJALAL BANK	81.81	46.15	65.00	50.00	16.67	62.50	69.23	20.00
18	NCC BANK	54.54	53.84	65.00	25.00	00.00	100	61.54	40.00
19	ONE BANK	54.54	46.15	80.00	50.00	16.67	100	53.89	40.00
20	PREMIERBANK	91.92	61.54	65.00	50.00	16.67	100	53.89	20.00
21	PRIME BANK	72.72	84.61	70.00	25.00	16.67	100	69.23	40.00
22	PUBALI BANK	63.63	38.46	65.00	50.00	16.67	100	61.54	80.00
23	RUPALI BANK	63.63	46.15	75.00	75.00	50.00	100	69.23	20.00
24	SIBL	54.54	84.62	50.00	50.00	16.67	100	61.54	40.00
25	SOUTHEASTBANK	72.72	53.84	65.00	50.00	16.67	100	69.23	40.00

26	STANDBANK	63.63	85.85	60.00	50.00	16.67	100	76.92	40.00
27	TRUST BANK	72.72	54.85	80.00	50.00	16.67	75.00	23.08	80.00
28	JANATA BANK	81.81	61.54	60.00	50.00	16.67	100	61.54	00.00
29	UCBL	81.81	46.15	60.00	75.00	16.67	100	61.54	60.00
30	UTTARABANK	63.63	46.15	60.00	50.00	16.67	100	53.89	20.00

Appendix #3: List of expected HR Information Disclosure in Annual Report

<b>HR POLICIES</b> <ol style="list-style-type: none"> <li>1. Policy of compensation</li> <li>2. Policy of reward</li> <li>3. Policy of recruitment</li> <li>4. Policy of safety</li> <li>5. Policy of communication</li> <li>6. Policy of training</li> <li>7. Policy towards sexual equality</li> <li>8. policy towards Racial Equality</li> <li>9. Policy towards Equal opportunities</li> <li>10. Policy towards Employment of disabled persons</li> <li>11. Policy related to Human resource development</li> </ol>	<b>Basic HR Information:</b> <ol style="list-style-type: none"> <li>1. Statutory number of employees by category</li> <li>2. General Education</li> <li>3. Vocational qualification</li> <li>4. work-related knowledge</li> <li>5. Employee age</li> <li>6. Employee diversity</li> <li>7. employee capabilities</li> <li>8. Geographical distribution of employee</li> <li>9. categories of employees by sex</li> <li>10. number of employees for 2 or more years</li> <li>11. Employment reports</li> <li>12. Special know skill</li> </ol>
<b>Financial information of HR</b> <ol style="list-style-type: none"> <li>1. Provident fund</li> <li>2. Medical facilities</li> <li>3. Employee life insurance</li> <li>4. Executive compensation</li> <li>5. Workers fund</li> <li>6. Managerial remuneration</li> <li>7. Cost of safety measures</li> <li>8. Human resource development fund</li> <li>9. Superannuation fund</li> <li>10. Awards &amp; Rewards for good performance</li> <li>11. Loans &amp; advances to HR</li> <li>12. Pension &amp; social security cost</li> <li>13. Amount spent of training</li> <li>14. Statutory wages</li> <li>15. Employees fringes benefits, Early retirement</li> <li>16. provision for employees benefits</li> <li>17. Amount spent on recruitment &amp; selection</li> <li>18. Retirement benefits &amp; gratuity paid</li> <li>19. Profit sharing &amp; employment share option plans.</li> <li>20. Increasing employee financial &amp; economic awareness.</li> </ol>	<b>HR Importance to organization</b> <ol style="list-style-type: none"> <li>1. Employee participation in decision making</li> <li>2. Action with respect to informing employee , consulting employees, encouraging (and engaging in) employee participation and communication</li> <li>3. performance recognition</li> <li>4. Recognizing human resource an important resource of the organization</li> </ol> <b>HR Development</b> <ol style="list-style-type: none"> <li>1. Employee career development</li> <li>2. training program</li> <li>3. Employee productivity</li> <li>4. Nature of training</li> <li>5. Employee motivation</li> <li>6. Number of employees trained</li> <li>7. Future plan of Human resource development</li> </ol>
<b>Health and safety at work</b> <ol style="list-style-type: none"> <li>1. Health and safety at work</li> <li>2. Toxic hazards (e.g.) to employees and the public</li> <li>3. any reference to health and safety law and or inspection</li> <li>4. Information to employees, training in health and safety issues</li> <li>5. Accidents and injuries</li> <li>6. Data on accidents</li> </ol>	<b>Employees other factors</b> <ol style="list-style-type: none"> <li>1. Entrepreneurial spirit of HR</li> <li>2. Employee involvement with community</li> <li>3. Separate HRA statement ( HR value)</li> <li>4. management succession plan</li> <li>5. Job environment</li> </ol>
<b>HR Relationship &amp; culture</b> <ol style="list-style-type: none"> <li>1. Union activity</li> <li>2. Employee behavior</li> <li>3. Employee commitment</li> <li>4. Employee to employee relationship</li> <li>5. management - employee relationship</li> </ol>	<ol style="list-style-type: none"> <li>6. Welfare information</li> <li>7. Industrial relationship</li> <li>8. cultural Environment</li> <li>9. Sports activities</li> <li>10. Annual picnic/traveling</li> <li>11. Employee teamwork</li> <li>12. Punishment to HR Employee turnover</li> <li>13. Cultural function</li> </ol>



*Appendix #4: Ways of Disclosure*

Rank	Name	WORDS	Sentence
1	Exim Bank	1008	146
2	AB Bank	567	89
3	One Bank	486	57
4	SIBL Bank	863	88
5	SHAHJALAL Bank	224	32
6	Union Bank	379	77
7	Janata Bank	3034	264
8	Prime Bank	267	30
9	South East Bank	1728	99
10	Bank Asia	2267	363
11	IFIC Bank	1134	131
12	Agrani Bank	981	84
13	UCB Bank	187	12
14	MBL Bank	2470	196
15	Uttara Bank	407	36
16	Public Bank	2252	128
17	City Bank	1294	147
18	Basic Bank	193	11
19	Dhaka Bank	3225	250
20	Jamuna Bank	619	52
21	Standard Bank	694	57
22	Commercial Bank	3713	312
23	Trust Bank	1635	141
24	Dutch -Bangla Bank Ltd.	335	37
25	Islamic Bank	2664	186
26	Mutual Trust Bank	1123	98
27	Premier Bank	781	88
28	ICB Islamic Bank	556	41
29	BRAC Bank	1456	155
30	EBL Bank	1403	158



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# Institutional Logic, Dilemma and Suggestions of Open Source Innovation: A Case Study of Blockchain

By Chen Xiaohong

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**Abstract-** Open-source software has made a breakthrough in the traditional intellectual property theory from the aspects of Copyright, patent right, and trademark right, and it has created a new property rights form in the form of license. Taking blockchain as an example, this paper analyzes bitcoin and Ethereum and their open-source licensing strategies. At the same time, it explores the problems encountered in the property rights of open-source blockchain and three possible solutions to this dilemma: The industry-standard licensing plan, blockchain open-source licensing scheme, and open patent scheme. This research will be significant for expanding and enriching the theoretical and practical analysis of blockchain open source in the field of intellectual property.

**Keywords:** open source; blockchain; intellectual property rights; dilemmas; suggestions.

**GJMBR-D Classification:** DDC Code: 332.178 LCC Code: HG1710



INSTITUTIONAL LOGIC | DILEMMA AND SUGGESTIONS OF OPEN SOURCE INNOVATION | A CASE STUDY OF BLOCKCHAIN

*Strictly as per the compliance and regulations of:*



RESEARCH | DIVERSITY | ETHICS

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**Abstract-** Open-source software has made a breakthrough in the traditional intellectual property theory from the aspects of Copyright, patent right, and trademark right, and it has created a new property rights form in the form of license. Taking blockchain as an example, this paper analyzes bitcoin and Ethereum and their open-source licensing strategies. At the same time, it explores the problems encountered in the property rights of open-source blockchain and three possible solutions to this dilemma: The industry-standard licensing plan, blockchain open-source licensing scheme, and open patent scheme. This research will be significant for expanding and enriching the theoretical and practical analysis of blockchain open source in the field of intellectual property.

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## I. INTRODUCTION

For a long time, intellectual property rights have been synonymous with encouraging knowledge production and protecting and promoting technological innovation. In particular, for enterprises and producers, applying for patents has become a powerful weapon to protect their legitimate rights and interests from infringement. However, with the arrival of the digital economy, the development of the Internet makes technology innovation more diverse and more complicated. The philosophy of "freedom, sharing and free" in open-source software makes people feel more and more doubt: Are there no drawbacks to intellectual property? When open-source software pursuing knowledge sharing meets intellectual property, can it protect the rights and interests of the original knowledge producers? This philosophical myth has attracted a lot of discussion and thinking in academia and industry.

Lawrence Lessig, a Stanford Law School professor, is a staunch opponent of the "Fundamentals of Intellectual Property Rights," arguing that by copying the systems of Property Protection that exist in the real world, the Internet will undoubtedly change from open to closed. Hence, it will hinder the progress of human civilization and the prosperity and innovation of culture [1]. The United States Public Patent Foundation has gradually realized that the abuse of patent rights may

also hinder technological innovation in the opposite direction, so the organization was established to prevent and combat patent misapplication[2]. Of course, open-source science and technology workers engaged in emerging industry forms and philosophical thinking even raised such doubts. If the original innovator who believed in open-source spirit did not apply for patents, but the secondary innovator who was the second innovation applied for patents, whether it would still promote technological innovation without any adverse effects.

Based on the theoretical and practical questions, this paper puts forward the following research questions:(1) What are the breakthroughs in intellectual property theory with the emergence of open-source software? What is the property protection system of open source itself? (2) When open-source software encounters intellectual property rights, is there a dilemma reflected in what aspects? (3) How to solve the property rights dilemma of open-source software, and what are the suggested solutions? Due to many open-source software projects, this paper will take the emerging open-source form of blockchain as a case study. Based on the literature review, this paper will analyze the open-source strategy of blockchain, the intellectual property dilemma encountered, and suggested solutions. Hopefully, it will contribute to the research and practice of open-source software in the field of intellectual property.

## II. THE BREAKTHROUGH OF OPEN SOURCE TO INTELLECTUAL PROPERTY AND ITS SYSTEM LOGIC

### a) *The breakthrough of open-source software to traditional intellectual property*

Open-source software is the opposite of closed-source software. The former has the typical representative of Linux, and the latter has the typical representative of Windows. Richard Stallman, the founder of the Free Software Movement, a precursor to open-source software, opposed the commercialization of software in the form of closed source code, arguing that it was unethical to prevent users from learning and helping others. He proposed that intellectual property encourages knowledge production by establishing

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private property rights but restricts knowledge sharing by conditional use. On the other hand, open-source software prevents private ownership in the form of shared property rights. The specific approach is to protect the right of anyone to use, modify, and distribute the work and its derivatives. The only premise is to distribute under a Copyleft license. That is to say, open-source must be shared and held accountable if privatized, and knowledge must be shared and held accountable if privatized. The breakthrough of open-source software to traditional intellectual property theory is mainly reflected in the following three aspects.

#### i. Copyright

Copyright, also known as Copyright, is adopted by most countries to protect the intellectual property rights of computer software. The software includes closed source commercial software and open-source free software. The former uses the traditional Copyright (Copyright, also known as right Copyright) to protect the author's exclusive property right to the product. The latter uses Copyleft (also known as left Copyright) to preserve the co-ownership of the owner[3].

Although both use licenses to constrain related rights, there are essential differences in institutional constraints before and after. Commercial software uses software proprietary license to protect the interests of the right holder. Other people acquire the right to use the product in payment, restricting users to modify and spread the software. Open-source software uses left Copyright licenses to protect the freedom and rights of users to the greatest extent. Anyone can change and republish the source code under the license, which fully embodies the characteristics of open-source software "free, open, cooperative and shared". As the GPL license authors said, Where as commercial software developers use Copyright to take away our freedom to share software, open-source enthusiasts can also use Copy left to create a new release. We give everyone the freedom to use the source code we provide[4].

#### ii. Patent rights

Patents, whose legal value lies in adding profit to the fire of genius, are often used as a shorthand for "monopoly" instead of the free sharing that open-source software emphasizes. The patent crisis faced by open-source software inevitably falls into patent disputes because it does not apply to patents. Specifically, patents have priority. For example, suppose the original author of open-source software does not apply for a patent, but a third party not bound by the license applies for a patent. In that case, it is difficult for the original author to escape from patent infringement even if he developed the software earlier [5]. A typical case is as follows: SCO prosecuted IBM patent infringement case in 2003. Linux was confronted with an intellectual property lawsuit that shocked the world. Unlicensed use of closed source commercial UNIX code for free, open-

source Linux, accused SCO of violating intellectual property rights and trade secrets and demanded up to \$1 billion in damages. After a year, the case ended in a settlement. Still, it has become a powerful weapon and strategy for commercial software to attack and bring down open-source software in the form of patent litigation. It also warns open-source software developers and companies to pay attention to patent issues and protect their legitimate rights and interests.

The idea that open-source software can be freely shared does not mean that it cannot be patented or that open source is not patentable. In fact, open-source software patents belong to defensive patents, that is, the original author gets priority in the form of patent, and the software can still be freely distributed after application. Thus, on the one hand, the freedom of knowledge sharing of open-source software can be maintained. On the other hand, it can also obtain legal protection and avoid falling into patent disputes. Blockchain, for example, is a better case for the combination of open-source software and an application for a patent. Association of patent protection in China released the 2020 global authorized patent report blockchain field, pay treasure to 212 authorized patents digital blockchain column first in the world, and blockchain is based on open-source software projects.

#### iii. Trademark rights

Trademark is a critical way to protect computer software earlier than Copyright. To make their products different from other software, software developers often use words, graphics, and other special symbols to put trademarks on the outer packaging of software or embedded in the program to make it displayed during running. As the well-known trademark in the software field has a certain appeal to consumers, counterfeit trademarks and other pirated software will appear. The specific manifestations are: pirated software developers put the trademark of genuine software in the product packaging or embedded in the software program, or limited to the technical means is not strong, only delete the name of the original software author, but still cannot remove the original software trademark in the process of program display, that is, trademark infringement.

To protect the rights and interests of Open-source software developers, the Open Source Initiative applied for OSI (Open Source Initiative) as a trademark, specifically "OSI Certified" as the symbol, to protect identified Open Source software. The criteria are to examine whether the software is distributed in compliance with the open-source software license and if it is approved, OSIA grants certification marks to the software. A typical case in this regard was My SQL AB prosecuted Progress Software Corp., NUSPHERE Corp. in 2002. NUSPHERE Corp. is a classic example of open-source software using trademark law to protect its rights. The NuSphere MySQL Advantage closed source

software issued by the defendant contains both MySQL open-source software based on the GPL and its closed source software (Gemini), but the installed software will display the icon of My SQLD program. MySQL AB accuses the defendant of violating GPL rules by forcing the defendant to open the Gemini source code required by the GPL.

#### b) Open-source software license system

Software License refers to the contract signed by the software publisher and user to guide and regulate how software is used. It is the property rights protection system of the software itself. Traditional intellectual property rights protect the exclusive property rights of individuals to the fruits of labor by law. Anyone needs to obtain the right to use the products in a conditional license, such as payment. A comparison is made between commercial software with proprietary property rights and open-source software with joint property rights (Table 1), which contains the following core hypothesis. In the mode of private supply, any leakage

of personal knowledge results will lead to the decline of its income. Therefore, most private suppliers will try to reduce knowledge sharing and protect individual proprietary property rights of products in the form of intellectual property rights[6].

Open-source software in the form of license, so that anyone can use, modify and release source code software free of charge, product rights are entirely open to the outside world, shared property rights. The licensing system breaks the traditional intellectual property misconception that open-source software owned by common ownership does not need copyright protection, which is wrong. Licenses protect open-source software copyright in such a way as to avoid private ownership of shared knowledge products effectively. The lack of motivation is overcome because developers are motivated to volunteer because they have certain stable expectations of participating in contributions.

**Table 1:** Comparison of property right structure between commercial software and open-source software

Software type	Commercial software (proprietary)	Open-Source software (shared ownership)
rights of possession	Private possession	Open to all, not to any personal possession
right to use	Subject to a conditional license, the licensee is free to use it	Anyone can use, modify and distribute the software for free
usufruct	On a possession basis, the copyright holder earns revenue by selling the software	On a usufruct basis, producers earn revenue by using the software
right of disposition	Producers are free to license or transfer software	Producers must open licenses, and there is no transfer of software

At present, there are 63 kinds of open-source licenses certified and published by the OSI official organization, which can be divided into three types according to the severity of the requirements for open source distribution. The first type is the most strict and can best reflect the spirit of free software, which is the fundamental driving force for developing open-source software, and is represented by GPL and LGPL licenses. The second category is the traditional commercial software companies actively engaged in the open-source software world, represented by the MPL license. Finally, the third category is the most comprehensive open-source in the world of open-source software. Open-source code can be freely combined with proprietary commercial software source code, and it is the most typical business-friendly license, represented by a BSD license [7]. The prevailing open-source software licensing rules are shown in Table 2.



Table 2: Classification of mainstream Open source software Licenses [5]

Similarities	1. Obligation to distribute -- redistribute the source code acquired; 2. Requirements for distributed source code -- integrity and disclosure of source code must be guaranteed; 3. Allow modification - Work can be developed and performed based on the source code obtained					
Contrast of points	Whether it can be mixed with other non-open source software code	Whether changes to source code can be kept secret	Whether the patent license is specified	Whether a "LEGAL" indication is required regarding the intellectual property rights that may exist in the obtained source code	Whether it is clear that infringement actions result in termination of the license agreement	Whether the source code can only be distributed under this license
GPL license	×	×	×	×	×	✓
LGPL license	✓	×	×	×	×	×
BSD license	✓	✓	×	×	×	×
NPL license	✓	✓	×	×	×	×
MPL license	✓	✓	×	×	×	×
Apache license	✓	✓	×	×	×	×
QPL license	✓	✓	×	×	×	×
QNCL license	×	✓	×	×	×	×
Ricoh license	✓	✓	✓	✓	✓	★ <sup>1</sup>
SISSL license	✓	×	✓	×	✓	★
SPL license	✓	✓	×	✓	×	×
Jabber license	✓	✓	×	✓	✓	×
MOTOSOTO license	✓	✓	×	✓	✓	×
NOKOS license	✓	✓	✓	✓	✓	★
OGTS license	✓	✓	×	×	×	×
AFL license	✓	✓	✓	×	✓	×
Artistic License	✓	✓	✓	×	✓	×
APSL license	✓	✓	✓	×	✓	×
Common License	✓	✓	✓	×	✓	×
IBM license	✓	✓	✓	×	✓	×

<sup>1</sup>★, Means that the original source code and the modified source code must be distributed under this license and subsequent versions of this License, but the source code and the modified source code may be distributed as a new product in combination with other types of code not subject to this License. As long as the source code obtained under this license and the modified source code are distributed as required by this license.

### III. BLOCKCHAIN AND ITS OPEN-SOURCE STRATEGY

Blockchain and open-source software have similar underlying technical architecture and governance logic, which both emphasize mobilizing all parties' enthusiasm in a decentralized way, thus promoting distributed and open innovation. Furthermore, both are the results of fostering collective action or collaboration in the face of dispersed individuals without administrative orders[8]. The development of blockchain technology has gone through three stages. The first stage is Bitcoin, which solves the centralization problem in digital transactions and successfully realizes the possibility of anonymous transactions[9]. The second stage of development is Ethereum, which proposes innovative contract technology to run in the blockchain network. It enables users to develop decentralized program applications in Ethereum freely, thus significantly improving the technological innovation level of blockchain and enhancing and expanding application scenarios[10]. Next is the third phase, which will facilitate the integration of blockchain with various technologies and application scenarios to build trust networks similar to those within open-source software and communities.

#### a) *Bitcoin and its open-source strategy*

In 2008, Satoshi Nakamoto published Bitcoin: Peer-to-peer Electronic Cash System[11], which is the world's first introduction of bitcoin proper names and peer-to-peer cryptocurrencies[12] and is widely recognized as the white paper of Bitcoin. On January 3, 2009, Nakamoto released the first version of the blockchain, bitcoin 1.0, using the open-source C++ programming language for Windows only.

Bitcoin is currently the most important digital currency, allowing users to conduct online transactions and payments without a financial intermediary. Bitcoin is called cryptocurrency mainly because it is protected by complex encryption technology[13]. Blockchain as the underlying technology of COINS, every user currency blockchain ACTS as connected nodes, and through a password Hash as a public key (Hash)<sup>2</sup> [14]. When the user starts a new node, each node will store the public and private keys automatically generated by the Bitcoin blockchain system [15]. The user with bitcoin can send it to another user through the recipient's public key signature and the hash of the previous transaction.

Blockchain is a decentralized network structure where each node can display or obtain any information

and transaction records [16]. In general, blockchains operate like "proof of work" or "proof of stake"[17]. When information or transactions are sent to nodes in the blockchain, Computers at each node (commonly known as "miners") compute mathematical functions in a competitive manner ("mining"). Miners repeatedly add the input data and the hash value of each calculation until the hash value is below the difficulty target set by the Bitcoin blockchain. Miners who complete the calculation first have the right to send the information and transaction records to the nearest new block[18] and will be rewarded with new bitcoins automatically generated by the blockchain[19].

Because each block contains its ID and the last block's ID, all blocks can be linked without a central server, making it possible for people to keep track of everything on the blockchain and keep their jobs safe. Furthermore, information can be encrypted by hash functions before being directed to the blockchain since hash functions are one-way functions, so the hash values generated by hash functions and stored in the blockchain are not reverted to the original information [20]. Based on this, identity information pointing to the blockchain can be verified by repeatedly manipulating the hash function to see if it generates the same hash value to maintain confidentiality. In this case, the transparency, immutability, and non-repudiation of information will all be verified. Therefore, blockchain technology can be used as a sound "proof of existence" in electronic documents.

Regarding Bitcoin's open-source strategy, its official website Bitcoin.org provides users with a free link to download "Bitcoin Core", an open-source software-driven by the Bitcoin community and licensed under the MIT license. According to the OFFICIAL OSI (Open Source Initiative) website, all copies or most of the software under the MIT license shall display the following copyright notice: "Anyone may obtain the Software and related documentation free of charge and process the Software without restriction, including, but not limited to, using, copying, modifying, merging, distributing, sublicense and/or selling copies of the Software and the right to permit those providing the software to do so [21]. "Thus, any blockchain developer can download the "Bitcoin Core" and its associated documentation for free to use or modify the Bitcoin blockchain to develop and distribute their applications. For example, the Machine Learning Laboratory of the Massachusetts Institute of Technology (MIT) released an open-source project on January 8, 2016, aiming to build an ecosystem of creating, sharing, and verifying educational certificates based on blockchain technology. The project's source code was published on Github in an MIT license[22].

<sup>2</sup> Hash (Hash), refers to the Hash function, is the input of arbitrary length by Hash algorithm into fixed length of the output, the output is the Hash value. Hash is an algorithm, but also an idea, using hash can effectively improve the utilization of storage space, improve the efficiency of data query, but also can do digital signature to ensure the security of data transfer.

### b) *Ethereum and its open-source strategy*

Since the scripting language of the Bitcoin blockchain is incomplete, it has minimal programming capabilities. Until it is widely accepted as legal tender by governments worldwide, the commercial use of Bitcoin is still very limited. In this case, the second stage of the blockchain, Ethereum, has been ushered in.

In 1997, Nick Szabo published an article entitled *The Idea of Smart Contracts*, defining intelligent contracts as "the form of embedding contracts into various valuable properties through digital intelligence" [23]. In 2013, the idea of smart contracts was realized by a 19-year-old computer genius named Vitalik Buterin, who publicly identified Ethereum as another peer-to-peer decentralized blockchain. However, due to Bitcoin's incomplete blockchain and limited scripting capabilities, Ethereum blockchain uses a more sophisticated scripting language that allows users to write and deploy smart contracts and other applications.

Ethereum blockchain has two types of accounts, including external accounts and contract accounts. External accounts are for ordinary users only. When a user creates an external account, they are asked to enter a password. The Ethereum blockchain then generates a pair of public and private keys for the external account, represented by the address of a sequence of numbers generated by the account's public key. There is no concept of an account name on the Ethereum blockchain. The address of an external account is independent of the user's identity, as the blockchain system does not require users to register under their real names. Hence, users are anonymous on the Ethereum blockchain[24].

The contract account stores the smart contract code, and its address mainly comes from some information related to the smart contract, such as the address of the creator and the number of transactions. Smart contracts in the Ethereum blockchain are treated as autonomous scripts. Ethereum writes a programming language for users to develop smart contracts. An Ethereum Virtual Machine (EVM) was also created to deploy and execute smart contracts in the Ethereum blockchain. The server allows users to write smart contracts and translate actual contracts into programming code, compiled them into EVM bytecode, and deployed them to the Ethereum blockchain for execution.

Once deployed to the blockchain, smart contracts cannot be modified and are automatically executed once the conditions of the agreement are met without human intervention. Therefore, smart contracts can solve problems in real life and significantly reduce labor costs, administrative expenses, and time costs[25].

Ethereum provides a command interface called Geth to run a complete Ethereum node in terms of

open-source strategy. Ethereum's official website states that the Ethereum core license is licensed under the GNU LGPL and runs all front-end client software. On the other hand, Geth is licensed under the GNU GPL general public license, a free copyright license issued by the free software foundation that guarantees all users of software four freedoms. (1) Any user can use it for any purpose; (2) Users have the freedom to change the software at any time according to their own needs; (3) Freedom to share software with the user's neighbors and friends; (4) The freedom to share any changes made by users.

The current version of the GNU GPL is GNU GPLv3, which was released on June 29, 2007. Under GNU GPLv3, the Ethereum blockchain should expose the source code of each software program so that users can access and use it freely. Furthermore, to ensure that users are free to use all software versions, GNU GPLv3 acknowledges that all users are free to run, modify, and distribute copyrighted software under the GNU GPLv3 license without restriction. However, to achieve the goal of free access and sharing software, GNU GPLv3 does not allow users to use or modify open-source software published by others, nor does it allow others to use or distribute modified versions of the software.

## IV. BLOCKCHAIN OPEN SOURCE IN INTELLECTUAL PROPERTY DILEMMA AND SUGGESTED MEASURES

### a) *Blockchain open source in the intellectual property dilemma*

Most initial blockchain developers are believers in open-source software, setting up the core blockchain program, development interface, and application software as open-source, making it freely available to all developers or hobbyists. In recognition of the open-source culture, the original developers did not intend to collect licensing fees or royalties from other blockchain developers or users and therefore did not apply for patents.

However, subsequent application developers have filed so many patents that the original blockchain developers have begun worrying whether patent applications could hinder or jeopardize the next blockchain innovation. Blockchain inventions usually involve many technical features, not just abstract ideas like software or e-commerce. These patent applications were initially based on the earliest blockchain developers, but some modifications have to be made due to the rapid iterative nature of the software and the need for continuous improvement. Furthermore, when subsequent developers build on what the original developer developed and patent the product, those applications are often quickly approved. In this case, many of the initial blockchain developers may not

continue to improve and develop the product because of subsequent patent applications by other developers.

Therefore, the dilemma of blockchain open source in the field of intellectual property is particularly obvious and anxious: Early blockchain developers, because of open source culture, will choose to share and not apply for a patent, but late developer and protect own intellectual property rights, choose to apply for a patent, instead of the initial and subsequent caused sure open-source developers, this contains the open-source philosophy of speculative behavior for the concern of technology innovation is certainly worth attention.

b) *A proposed solution to the blockchain open-source dilemma*

i. *Industry standard licensing program*

As technology advances and product complexity increases, much new technology research and product development are often not done by a single company. When different companies carry out collaborative innovation, there will be compatibility and interoperability problems between various components. Therefore, the establishment of a unified industry standard is an effective measure to improve product compatibility.

Australia is one of the fastest countries to promote blockchain industry standards. In April 2016, the Australian Standards Body proposed a new initiative for the International Organization for Standardization (ISO) to develop a blockchain standard to support technology development. According to the proposal, some of the most severe problems facing blockchain open-source are data sovereignty, privacy, and lack of consensus, creating issues for policymakers and regulators alike. In April 2017, The Australian Standards Body, in collaboration with the International Organization for Standardization ("ISO"), hosted the first International Blockchain Standards Conference, which was attended by many countries, including China, the United States, Germany, the United Kingdom, Japan, Russia, France, And Singapore. As a result, ISO issued "Blockchain and Distributed Ledger Technology (ISO/TC307)" as one of the standards under development, and the rest of the ongoing standards include reference, architecture, governance, compatibility, security, privacy, identity, smart contracts, distributed ledger technology and more than ten other standards[26]. Currently, the Committee has 37 Member States and 14 observer states. While this international collaboration is a work in progress and its effectiveness remains to be seen, it at least shows that industry standards are a trend.

ii. *Blockchain open-source license scheme*

Traditional blockchain did not resolve for downstream users to modify the terms of the license source code and submit an application for a patent, intellectual property rights. Whether the currency to the

MIT license, the etheric fang core protocol LGPL, or etheric fang Geth command to the GNU GPL license, even if the subsequent developers don't make any programming code, it's still patentable.

The third edition of the GPL license is expected to help solve this problem. The GPLv3 license defines a "contributor" and proposes the copyright owner use its program under the license, called a "contributor version." Each Contributor shall grant a non-exclusive, free-to-use patent license to others under this license to enable Users to make, use, sell or otherwise run, modify and disseminate versions of participants in their content. This, to a large extent, solves the situation that original blockchain developers are "isolated" because they do not apply for patents. In addition, it can better solve the problem that "contributors" who apply for patents still have the freedom to participate, contribute and share after submitting patent protection, and their concerns about technological innovation can be well solved.

iii. *Disclose the patent scheme*

An Open Patent, also known as the Patent Pledge [27] or Patent Commons [28], is a public commitment made by the Patent holder at their will. The patent holder does not claim all or part of his patent rights against any person or a particular group.

IBM was the first advocate of open patents. In order to promote technological innovation in the information industry and express its support for open-source software, IBM listed 500 patents held by IBM and related foreign patents on its official website in 2005 and promised that the open-source community could freely use this patented technology and would not claim patent infringement under any circumstances. IBM also announced that its commitment not to Sue the open-source community is legally binding. IBM's open patent movement includes the user interface, data storage and management and operation of a multifunctional application, data processing, man-machine interface, image processing technology, the Internet management, compression and encryption technology, as well as the method of electronic commerce essential technologies, such as the public for open source in solving problems of intellectual property rights, which has a fundamental enlightening significance. In addition to IBM, Google made the same move in 2013, promising to open up 200 patents to the open-source community and promising not to Sue for patent infringement. Tesla also announced in 2014 that, in the spirit of the open-source movement, to promote the progress of electric vehicle technology, Tesla Motors would disclose its patents to the outside world and would not Sue for patent infringement.

Studies have shown that opening patents positively encourages participation and contribution and promotes technological innovation[29]. Thus, not only will it benefit the industry as a whole, but it will also help



guide participants to open technologies and markets built by patent owners, thus making strong network effects.

## V. RESEARCH CONCLUSIONS AND PROSPECTS

The breakthrough of open-source software on intellectual property theory is reflected in three aspects: copyright, patent, and trademark rights. It has its own property rights system constraints in the form of license, requiring joint ownership of property rights. Product rights are entirely open to the outside world, and anyone can use, modify and release source code software free of charge.

As a product of rapid technological innovation in today's society, blockchain plays an essential role in many financial and non-financial industries. The first generation of Bitcoin takes MIT license's open strategy, and the second generation of Ethereum takes GNU GPL, which can't solve the innovation difficulties. The original blockchain developers made everything open for free based on the recognition of open-source culture. However, neither individuals nor enterprises can prevent many subsequent blockchain developers from applying the core program for further development and filing many patent applications. It will cause the original blockchain developers to worry whether these patents will slow down or even endanger blockchain technology innovation.

According to the dilemma mentioned in the article, this paper tentatively proposes three possible solutions: industry-standard license plan, blockchain open-source license plan, and open patent plan. First, an industry-standard licensing program, aimed at resolving from different companies, different projects, different communities, and even different countries encountered in open source software collaborative innovation problems, is helpful to improve compatibility between open source components, improve joint operation, to reduce the system transformation between time cost and workforce cost, promote the further incremental innovation and open innovation. Second, whether the MIT license of Bitcoin or GNU GPL of Ethereum cannot solve the problems that some developers can apply for patent successfully even without code contribution. The emergence of the GPLv3.0 license with the "contributor" and "contributor version" would help original innovators freely participate and contribute. This can alleviate the concerns raised by open-source believers that patent protection could hinder technological innovation. Third, open patent scheme, that is, the legal commitment of the patent holder to disclose patent information and allow external participants to use it, and not to file patent litigation. Advanced technology companies such as IBM, Google, and Tesla have all made attempts. Studies have shown

that the disclosure of patents can guide the construction of the technology and market of the disclosed patent holders and help establish network effects.

Taking blockchain and its open-source strategy as an example, this paper puts forward the intellectual property dilemma encountered by open-source software. Its suggests solutions, which are of great significance for filling the research space in this field and expanding the theoretical research on open source intellectual property. The next step will be a valuable attempt to deepen the effects of different schemes further and explore their detailed mechanism of action.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

## Lessons Learned from European Sovereign Debt Crisis

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**Abstract-** The sovereign debt crisis has severely affected countries within the Eurozone. The widespread consequences of the crisis include economic recession and financial markets downturn. The following essay provides a detailed overview of the debt crisis and its major impacts on financial markets and institutions, and presents lessons learned following the crisis. The results presented by this essay comprise the strong interconnection within the Eurozone and the lack of efficient regulations.

**GJMBR-D Classification:** DC Code: 368.973 LCC Code: KF1215



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# Lessons Learned from European Sovereign Debt Crisis

Afzal Ahmad

**Abstract-** The sovereign debt crisis has severely affected countries within the Eurozone. The widespread consequences of the crisis include economic recession and financial markets downturn. The following essay provides a detailed overview of the debt crisis and its major impacts on financial markets and institutions, and presents lessons learned following the crisis. The results presented by this essay comprise the strong interconnection within the Eurozone and the lack of efficient regulations.

## I. INTRODUCTION

A sovereign default is defined as the failure of a government to meet payments on its debt obligations to domestic and external creditors (Nelson, 2013). The default risk of several European countries increased excessively after the 2007/2008 financial crisis, when indebted nations extended their borrowings to recover from recession. Consequently, by 2010 they were facing severe budget deficits. The European sovereign debt crisis evolved into the biggest challenge of the Eurozone as it threatened the stability of the Economic and Monetary Union, financial markets and banking systems.

The purpose of this essay is to provide an in-depth analysis of the causes and effects of the European sovereign debt crisis as well as the measures taken to respond to the crisis.

The essay is organised in six parts. It will first explain the main causes of the crisis. Secondly, it will present the consequences on financial markets and institutions. Thirdly, the effectiveness of the measures implemented to solve the crisis will be evaluated. Finally, the essay discusses the aftermaths of the crisis, including its effects on the financial landscape, the new trends emerging, and the lessons to be learned.

## II. MAIN CAUSES OF THE EUROPEAN SOVEREIGN DEBT CRISIS

The European debt crisis was triggered in 2009 by negative macroeconomic and financial shocks involving governments, banks, and inefficient regulations. Firstly, it is essential to recount the Eurozone's establishment to understand the debt crisis. The European Economic and Monetary Union (EMU) is an agreement between the European Union's member

states, to establish a common monetary policy and a single currency, the euro (Eurozone Portal, 2014). The EMU is described in the Maastricht Treaty of 1992, and purposed to facilitate capital and commercial flows and enhance economic growth. To be part of the Eurozone, the member states have to meet strict requirements in terms of price stability, public finance, interest rates and currency exchange rates. As an integral part of the EMU, the European Central Bank was established in 1998 to regulate the monetary policy in the Eurozone. In January 1st 1999, the euro was officially instituted as the common currency of eleven members of the EU. As of today, the Eurozone consists of eighteen countries (Eurozone Portal, 2014).

Even though the Stability and Growth Pact (SGP) was established in 1997 to control EMU members' budget balances (limiting budget deficit at 3 % of GDP and total debt at 60 % of GDP), a fiscal union and a banking union were missing in the euro area. When they joined the Eurozone, governments were now able to access credit markets easily and benefit from low interest rates without being monitored (Lane, 2012, pp. 49-67). Portugal, Ireland, Italy, Greece, and Spain, commonly referred to as the PIIGS, are at the centre of the sovereign debt crisis. Indeed, the favourable access to capital markets resulted in excessive borrowing and government spending by the PIIGS. Figure 1 emphasises the fact that the PIIGS' budget deficit was higher than the 3% allowed by SGP when they joined the Eurozone.

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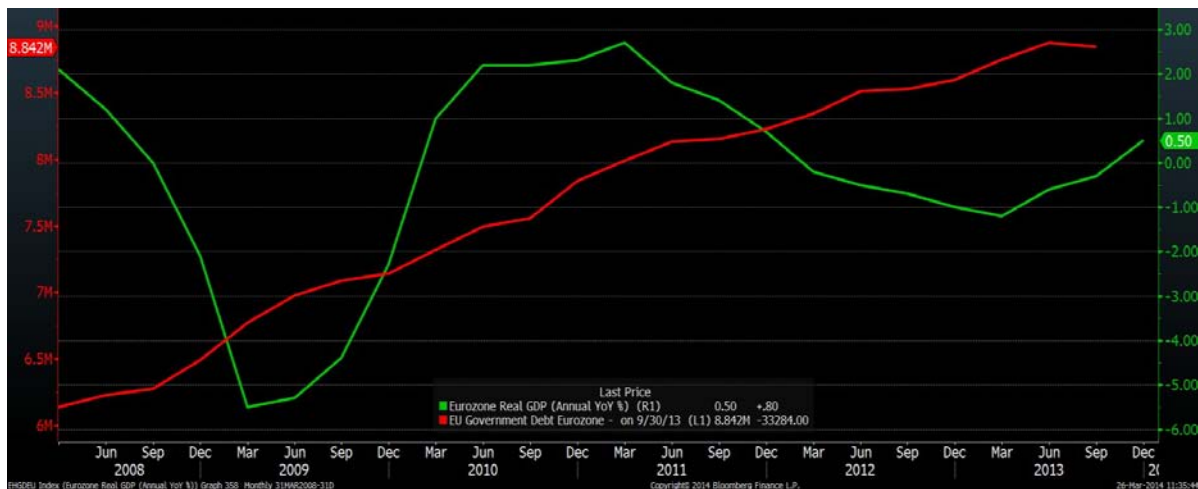


Source: Bloomberg, 2014

Figure 1: Budget Deficit 1991-2014

Beside the macroeconomic challenges within the Eurozone, the financial crisis which started in the US in 2007 had significant impacts on Europe. The bankruptcy of Lehman Brothers, the biggest securitisation provider in the US, led to soaring investor uncertainty and difficult cross-border access to liquidity between banks. Likewise, due to high exposure of European financial institutions to losses in the US, EMU countries' banking system faced serious problems. Hence, governments had to support domestic financial institutions. For instance, Ireland's banks were

destroyed so the government provided two-year liability guarantee to banks in Ireland. Additionally, governments set up subsidies, such as the "Abwrackprämie" in Germany for the automotive sector, to boost growth and prevent economic recession (BAFA, Bundesamt für Wirtschaft und Ausfuhrkontrolle, 2014). However, as the Eurozone's economy slowed down (GDP fell to -5.5% in the first quarter of 2009) and countries continued their intensive borrowing, their total debt increased even more as shown in Figure 2.



Source: Bloomberg, 2014

Figure 2: Eurozone: Real GDP vs. Government Debt

The culminating event of the sovereign debt crisis happened in October 2009 when Greece announced a much higher than expected annual deficit to GDP forecast (Lane, 2012, pp. 49-67). The country had changed political legislation, and revised its forecast from 6 % to 12.7%. Although in the past

European economies' high budget deficits did not result in negative reaction from the markets, Greece's official announcement increased concerns about the fiscal irresponsibility of peripheral countries (Bernoth and Von Hagen et al., 2012, pp. 975-995).



### III. IMPACT ON THE BOND MARKET AND ITS IMPLICATIONS ON OTHER MARKETS

The European debt crisis reached its first peak in the first half of 2011 after Greece, Ireland and Portugal officially requested financial assistance. According to Bernoth and Von Hagen (2012), “government bond yields include risk premiums; increasing indebtedness

may cause bond yields to go up, thus raising the cost of borrowing and imposing discipline on governments.” Governments issue debt almost every week to roll their outstanding bonds. Therefore, the risk of not being able to borrow rose (Bernoth and Von Hagen et al., 2012, pp. 975-995).



Source: Bloomberg, 2014

Figure 3: PIIGS 10-year Government Spread to Germany

Figure 3 emphasises the deteriorating situation of bond markets by observing the widening spreads of ten-year bond yields of the PIIGS countries. The second peak of the yield can be examined in May 2012 when Greece faced default risk once again. However this time, the second rescue package of €130 billion from the IMF and the EU was granted under the condition that a debt swap be concluded. Private investors such as banks,

insurance companies and investment funds had to accept a haircut on their Greek bonds' face value. Due to the financial restructuring of Greece, the fear about contagion effect on other Eurozone countries increased (DW.de, 2014). Consequently, credit rating agencies had to adjust their ratings of the PIIGS' sovereign debt (Table 1).

Table 1: Sovereign Debt Ratings

	Germany	Italy	Spain	Ireland	Greece	Portugal
Moody's	Aaa	Baa2	Baa2	Baa3	Caa3	Ba3
S&P	AAAu	BBBu	BBB-	BBB+	B-	BBu
Fitch	AAA	BBB+	BBB	BBB+	B-	BB+

Source: Bloomberg, 2014

In parallel, prices for derivative instruments used by financial institutions to hedge against sovereign default risk soared. Credit default swap (CDS) spreads are valuable indicators to measure sovereign risk as they are usually traded as an insurance against sovereign bond default (Alloway, 2013). Hence, tighter spreads represent lower risk and wider spreads such as shown by Figure 4 suggest a higher event-risk. Figure 4 depicts a dramatic increase in March 2012 which indicates a high default probability of Greece. Additionally, at a spread of 2500 bps, Greece's CDS contracts were too expensive to be traded (Arghyrou,

Kontonikas et al., 2012, pp. 658-677; Lucas and Schwaab et al., 2013). Figure 5 emphasises the uncertainty and the contagion risk to other peripheral countries.



Source: Bloomberg, 2014

Figure 4: 5y-Credit Default Swap Greece



Source: Bloomberg, 2014

Figure 5: 5y-Credit Default Swap PIIS compared to Germany

Beside the bond market, these circumstances weakened the Eurozone and its common currency the euro. The whole system of the EMU was questioned and

as a sign of increased concerns about the future instability of the Eurozone, the Euro to US-Dollar exchange rate depreciated massively (Figure 6).



Source: Bloomberg, 2014

Figure 6: Euro/Dollar Fluctuation

The European stock markets also experienced a downward trend as a result of the financial crisis. According to Figure 7, stock markets remained volatile between 2008 and the beginning of 2012 because of the political and economic uncertainty. However, when the newly appointed ECB President, Mario Draghi, pledged

“to do whatever it takes to preserve the euro” in July 2012, the German and British equity markets improved (Randow, 2012). In addition, as the federal funds rate was kept at the historical low of 0.25%, investors shifted to equities as they were more lucrative investments.



Source: Bloomberg, 2014

Figure 7: Most liquid European Stock Markets

Consequently, risk averse investors sought safer asset classes such as gold. Figure 8 depicts the upward trend of gold price since 2009. Gold price

started to decrease in September 2012 when the European economy seemed to recover.



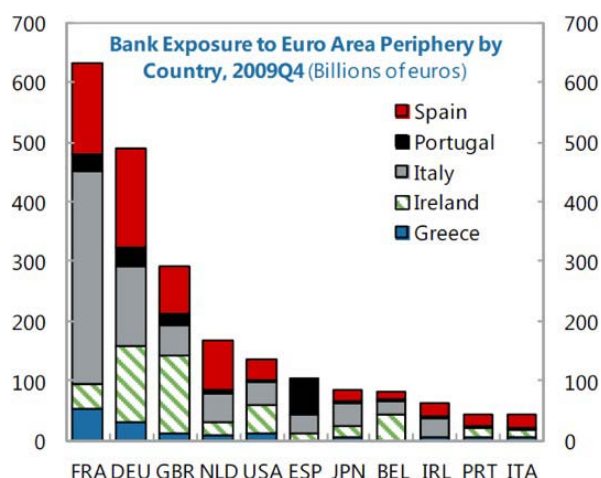
Source: Bloomberg, 2014

Figure 8: Gold Price Increases in Uncertain Time Periods, 2007-2014

#### IV. IMPACT ON FINANCIAL INSTITUTIONS

The main effects of the debt crisis on financial institutions, such as commercial banks, investment banks and insurance companies were lower profitability and rising insolvency risk. In the last quarter of 2009, foreign and European banks had a debt exposure of € 560 Billion to the PIIGS's debts. Figure 9 illustrates banks' exposure to PIIGS' debts. Europe financing systems are interconnected so even though the PIIGS

are relatively small countries their risk of default caused a threat to the whole banking system (Bloomberg, 2013).



Source: Bank for International Settlement, 2010

Figure 9: European and Foreign Banks Debt Exposure to PIIGS

Therefore, as commercial banks worried about each other's solvency and exposure level to sovereign debt default, counterparty risk increased. Interbank

lending slowed down following a dramatic increase of the interbank interest rates within the Eurozone from March 2010 as shown in Figure 10.



Source: Bloomberg, 2014

Figure 10: EURIBOR vs. EONIA, 2009-2014

In addition, consumers' concerns about insolvency increased, thus deposits were withdrawn from banks from countries where the banking system was perceived as risky (Allen and Moessner, 2012, pp. 1-26). As shown in Table 2, the growth of deposits from clients and banks slowed down within the euro area

(Allen and Moessner, 2012, pp. 1-26). The table also depicts a downward trend in inter-commercial banks loans. Between July 2008 and June 2011, it decreased by €593 billion which highlights the serious loss of confidence among euro area commercial banks.

Table 2: Combined Balance Sheet of Euro Area Commercial Banks, 2007–2012

Changes	ASSETS (€Billion)		LIABILITIES (€Billion)	
	Loans to domestic households and businesses	Loans to commercial banks	Deposits from households and businesses	Deposits from commercial banks
Jul 07–Jun 08	961	713	1,009	717
Jul 08–Jun 10	339	-106	969	275

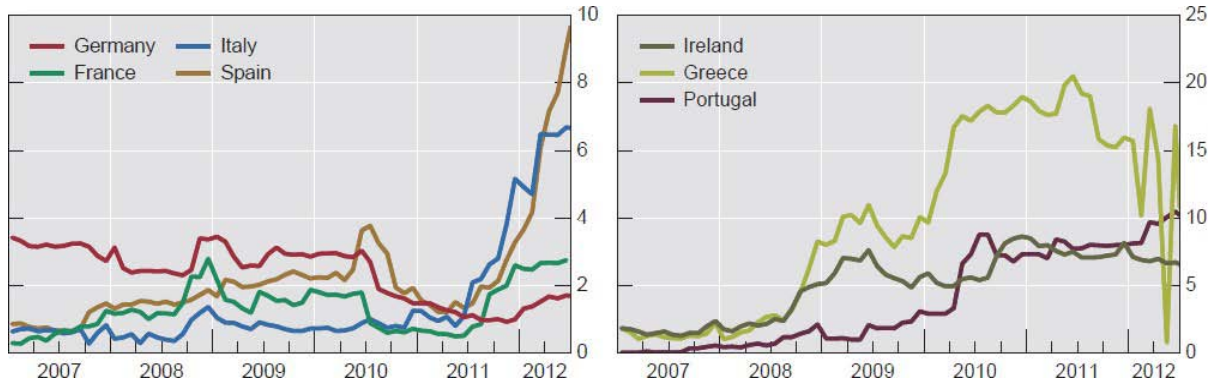


Jul 10–Jun 11	235	–487	362	–851
Jul–Dec 11	–62	294	92	665
Jan–Jun 12	27	–276	86	252

Source: ECB, 2012

Central banks became the lender of last resort for commercial banks. The Eurosystem, an institution comprised of the national central banks of Eurozone members, played a key role in the banking system crisis. Central banks from countries with surplus deposited their funds in the Eurosystem, and central

banks from countries with deficit borrowed from the Eurosystem, to provide their commercial banks with funds (Allen and Moessner, 2012, pp. 1-26). As shown in Figure, from 2009 the PIIGS' commercial banks significantly increased their borrowings from the Eurosystem.

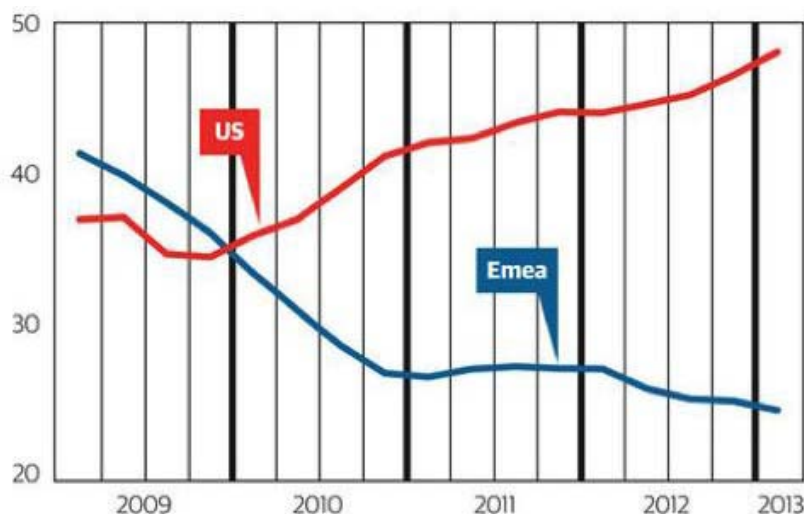


Source: Datastream; national data

Figure 11: Commercial Banks Loans through the Eurosystem

The weaker economic environment in Europe also impacted on investment banks. As the sovereign-debt crisis weighed on stock markets and investors lost confidence, initial public offerings, trading and merger and acquisitions activities were severely affected.

Europe was hit hard by the slowdown in financial markets, with investment banking fees in the region so far falling to the lowest level in ten years in 2012, according to Thomas Reuters (Sakoui, 2012).



Source: Dealogic

Figure 12: US vs. EMEA Global Share of Investment Banking Fees (%)

In addition, fixed-income revenue for the 10 largest global investment banks, which include European banks Barclays, Deutsche Bank, Credit Suisse and UBS, dropped at least 25 % between 2009

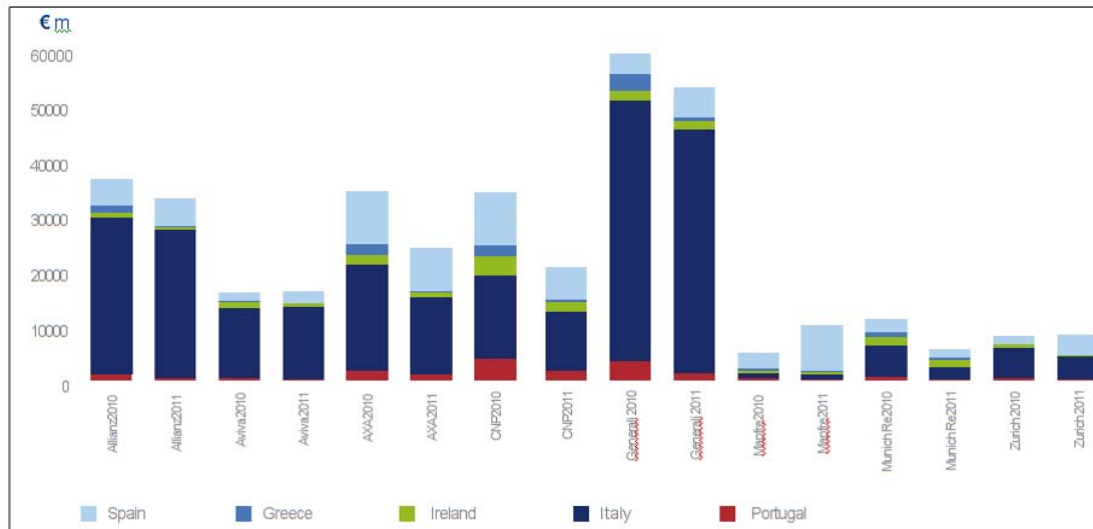
and 2012 (Ewing, 2012). This downturn in the investment banking industry resulted in more than 120,000 job cuts between 2011 and 2012 (Ewing, 2012). Banks scaled down their investment banking division to



concentrate on expanding services to consumers and businesses to improve their profitability and sustainability.

The European debt crisis impact on insurance companies was due to their debt exposure to European sovereign bonds. Indeed, insurers invest heavily in financial markets and primarily allocate their assets in bonds; therefore they are highly sensitive to interest

rates fluctuations. Declining interest rates on the PIIGS sovereign debts resulted in lower investment returns and impacted insurers' profitability (Willis Market Security, 2011, pp. 2-7). As shown in Figure 13, the major companies' debt exposure to Italy sovereign debt was the highest, approximately € 200 billion in 2010 and 2011.



Source: KPMG

Figure 13: Main Insurance Companies Exposure to Sovereign Debt, 2010 and 2011

## V. EFFECTIVENESS OF POLICIES AND MEASURES

Several measures have been implemented by financial institutions and European policy makers to respond to the ongoing crisis. The first set of measures relates to government bailouts. Greece was the first country to seek official financial assistance. During 2010 and 2012, emergency loans of over €240 billion were provided to Greece by the EU, the IMF and the ECB. The bailout's objectives were to enable Greece to restructure its debt and meet its budget targets. Subsequently, two temporary facilities were established in 2010 to provide financial assistance to distressed economies through loans and bond purchases: The European Financial Stabilisation Mechanism (EFSM) and European Financial Stability Facility (EFSF) (Papadimas, 2010). Portugal and Ireland were respectively granted loans of €67.5 billion and €78 billion through the EFSM and the EFSF. The European Stability Mechanism (ESM) was set up in 2012 as a permanent replacement for the EFSF and EFSM (ECB wp, M. D. Paries, R. Santis, 2013).

In parallel, the ECB set up conventional and unconventional measures to increase the liquidity, reduce credit risk and restore confidence on financial markets. The ECB first decreased the key interest rate in April 2010 from 1 % to 0.25 % to lower borrowing costs and boost investments. The unconventional measure

was to intervene in the financial markets by launching the Securities Market Programme (SMP). The SMP enabled the ECB to purchase securities and aimed at stabilizing the transmission mechanism of monetary policy.

As a result of the measures implemented by the European policymakers and financial institutions, Figure 14 shows the bond market regained ground starting from 2013, as the borrowing costs of the PIIGS have fallen to pre-crisis levels (Alderman, 2014).



Source: Bloomberg, 2014

Figure 14: PIIGS 10-year Bond Yields, 2009-2014

Greece 10-year bond yield is currently trading at 6.84%, down 50% from last year, and Ireland trading at 3% compared to 14% at the peak of the crisis (Alderman, 2014). Furthermore, Figures 15 and 16

emphasise the decrease in CDS trading as financial assistance provided by the bailout programmes reduced the PIIGS' default risk.



Source: Bloomberg, 2014

Figure 15: Stabilised 5year-CDS Greece



Source: Bloomberg, 2014

Figure 16: Current 5year-CDS PIIS compared to Germany, 2014

Ireland and Spain become the first countries to exit the bailout program respectively in 2013 and 2014 (McDonald, 2013). They will no longer have access to bailout loans, but can issue bonds again.

Despite the positive effects on the financial markets, providing financial assistance did not address the budget deficit issue effectively. The bailouts were granted under the condition that the countries implement tough austerity measures to achieve budget

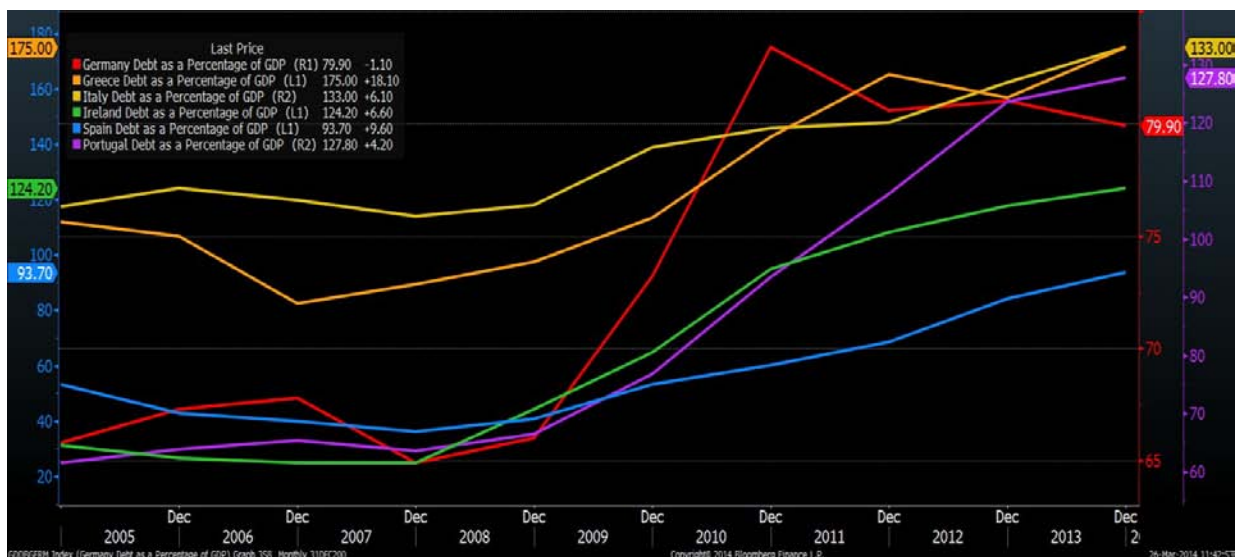
stability; however policymakers underestimated the effects of these measures as the countries' economic growth remain slow (Spiegel Online, 2013).

Unemployment in the Eurozone has reached record highs; Greece and Spain are the most severely hit countries with rates currently above 26% as shown in Figure 17. In addition, as shown in Figure 18, the countries' debts as a percentage of GDP are currently higher than ever.



Source: Bloomberg, 2014

Figure 17: Germany and PIIGS Unemployment Rate



Source: Bloomberg, 2014

Figure 18: PIIGS Debt as a Percentage of GDP

Another critical aspect is the unconventional intervention of the ECB in the European sovereign bond market. Firstly, by buying government securities, the ECB is impacting the valuation of sovereign debt which is inconsistent with the main goals of monetary policy. ECB's high level of influence in operational financial market activities could lead to the deformation of the markets over a medium or long period of time.

Furthermore, the ECB is expanding the size of its balance sheet which endangers its independency (Procedia Economics and Finance 3 (2012) 763 – 768, A. Romana, I. Bilana).

## VI. EFFECTS ON THE FINANCIAL LANDSCAPE, LESSONS LEARNED AND NEW TRENDS

The debt crisis revealed several structural problems within the EU framework and within European economies. An important lesson to be taken from these recent events is that a currency union should also result in a fiscal union (Dombret, 2013). This understanding has led to the revisions of several EMU policies: Policymakers have introduced new packages of legislation, such as the “two-pack” for Eurozone members in 2013 to prevent excessive levels of debt and ensure fiscal stability (Eurozone Portal, 2014). The “two-pack” strengthens the existing SGP by imposing a budgetary coordination, and stricter economic and financial surveillance in the euro area. The member states budgetary plans will be assessed by the European Commission prior to their adoption and members experiencing financial instabilities will be monitored closely (Eurozone Portal, 2014).

Severe weaknesses in the banking sector were also revealed by the debt crisis, reminding that banking crises have the strong potential of slowing down the global economy (Nowotny, 2012). European governments are working towards setting up supervisory authorities in the banking sector to enhance financial stability. A key pillar of the future banking union, the Capital Requirements Directive, which sets stronger capital requirements for banks, was adopted in January 2014 additionally to Basel III. The Single Supervisory Mechanism should enter in force in autumn 2014, creating a supervision system for banks within the EU (ECB, 2014). A banking union should lead to better supervision of the sector and ensure that immediate action is taken when weaknesses are detected. It should also reduce the interdependence of financial institutions and governments (Dombret, 2013).

Following the crisis, the financial landscape was transformed and new trends have emerged. European central banks and governments have become more involved in the financial markets to reduce the probability of longer recessions (El-Rian, 2011). The sovereign debt crisis has clearly revealed banks' inefficiency to identify and measure the various types of risk they face. Therefore, the financial institutions have been working on strengthening their risk management divisions to respond appropriately to future crises (Dombret, 2013). Moreover, several banks have downsized their investment banking divisions to concentrate on their core operations. Their lending standards have increased to comply with the new regulations, making it more difficult for individuals and companies to access credit. Consequently, private equity firms, which comply with softer regulatory requirements, have been entering the lending market (Tett, 2014).

## VII. CONCLUSION

This essay identified inefficient regulations, budget deficits, and vulnerable banking systems as the main causes of the European sovereign debt crisis, which initially erupted when it became public knowledge that Greece faced default. The crisis led to soaring volatility within the financial markets and contributed to the revaluation of risks. Moreover, financial institutions faced liquidity issues and the need of financial restructuring. In response to the crisis, several measures were implemented to stabilize the weakening Eurozone economy. As a result, confidence could be restored; however there are still some economic and fiscal challenges. EU member states have increased their policy coordination after understanding that tougher preventive measures to control budget deficit and bank failures are essential to avoid a repetition of the debt crisis. Furthermore, alternative financial institutions have emerged.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# Taxation and Accounting Data Management: An Empirical Study in Cameroon

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**Keywords:** *taxation, accounting data management, discretionary accruals, effective tax rate.*

**GJMBR-F Classification:** DDC Code: 336.2220973 LCC Code: HJ4181



*Strictly as per the compliance and regulations of:*



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Marius Ayou Bene <sup>α</sup> & Marthe Bitoutou <sup>σ</sup>

**Abstract-** This paper analyses the relationship between taxation and accounting data management in the Cameroonian context, based on a sample of 1474 firms in the period 2014-2017. This link is estimated using a simultaneous equation model which allows us to highlight the reciprocal influence between the two variables. The results show that fiscal pressure has a positive two-way effect on discretionary accruals, although this relationship is negative in large companies. The findings also show a non-linear relationship between discretionary accruals and effective tax rate. It is concave in small and medium-size enterprises. That is, at low levels of effective tax rate, the relationship is positive; it becomes negative at higher levels. Conversely, it assumes a U-shape form in large companies; meaning that, at low levels of effective tax rate the relationship is negative, becoming positive at higher levels.

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## 1. INTRODUCTION

The manipulation of accounting data is a research object frequently addressed in management science insofar as financial information is an important element of decision making (Khoufi, 2021). The link between management of accounting data and taxation is one of the most invested lines of research in this literature (James, 2009; Egbunike and Ezelibe, 2015; Vokshi, 2018). A part of the work on this link has attempted to determine the impact of the tax burden on the production of accounting information reflecting the real situation of the firm, by contrasting tax rules and accounting rules (James, 2009), tax liability versus accruals (Daoud and Omri, 2013), or tax pressure and the ethical behaviour of producers of accounting and financial information (Djeudja and Tedomzong, 2017), etc.

One fact nevertheless marks this literature on the link between taxation and the manipulation of accounting data. The tax burden is often presented as a catalyst for earnings management; the accounting result being the basis for calculating the tax to be borne by the company (Kasraoui and Naoui, 2019). Other elements such as taxes or social security contributions explain the cosmetic nature of the turnover and operating expenses. However, the tax-related factors that affect the behavior of the producers of financial and accounting information can be both internal and external to the company. The

internal factors relate primarily to management, while the external factors relate to government policies.

Nevertheless, the debate on the relationship between taxation and the manipulation of accounting and financial data is marked by the contextual realities of the moment. In the years (2009-2010) that marked the implementation of the 2035 emergence plan (Okouda, 2017), this debate was more focused on the opposition between government policies and the transparency of financial and accounting information provided by firms. Indeed, public decision-makers in search of resources to finance state investments are increasing the tax burden in order to obtain maximum revenue on the one hand. On the other hand, the enterprises, in their drive to reduce costs, are seeking and developing ways to reduce the tax burden (Breton and Schatt, 2006).

In developing countries, especially sub-Saharan Africa ones, the tax revenue represents the main source of governments' funding. Yet, so far, the plurality of empirical works on the subject has mainly aimed to assert the catalytic role of tax burden in managers' decision to manipulate information. An illustration is the works of Djeudja and Tedomzong (2017), Bimeme and Um(2018), and Tachoula (2019) in the Cameroonian context, where the tax revenues financed almost 59 percent of the government budget in 2020 (Kamdem, 2021). However, this literature has very little to do with the link between taxation and the manipulation of accounting data. Thus, exploring this relationship appears to be of prime importance for the corporate tax collection issue.

The objective of this paper is to empirically analyse the relationship between taxation and the manipulation of financial and accounting information produced by firms in Cameroon. The main question is whether there is a significant two-way relationship between firms' tax burden and the cosmeticity of financial and accounting information. The economic rationale behind this questioning is that, on the one hand, a government's onerous corporate tax policy may incite managers to operate a downward manipulation of their firm's income before taxes in order to pay the least amount of tax on profit possible. On the other hand, with the aim of maximizing the shareholders' value (Denglos, 2008), managers could manipulate the elements of the calculation of the effective tax rate. The paper also try to find out whether this relationship is linear. Thus, a sample of 1474 Cameroonian firms over the period

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2014-2017 is explored, and a system of two simultaneous equations model is estimated with the two-stage least square method, to determine the influence of the amount of tax liability on the manipulation of accounting information, and vice-versa.

This research sheds some light on this link in the African context in general and in Cameroon in particular. In what follows, the paper first discusses Cameroonian taxation and the manipulation of accounting data separately. Successively the link between these two elements is scrutinized through a review of existing literature. Afterwards, the article goes through the data of the study and the specification of the model. Finally, the empirical results are presented, followed by their discussion.

## II. TAXATION AND ACCOUNTING DATA MANIPULATION: A REVIEW OF THE LITERATURE

Taxation and accounting manipulation have been widely discussed in the financial literature. Agency, information asymmetries, stakeholder, positive accounting, ethics and tax theories are the most widely used. Based on these theories and on empirical work, we attempt to highlight the relationship between taxation and accounting manipulation in the Cameroonian context.

### a) *Cameroon's Tax System: The Main Victim of Firms' Asymmetries of Information*

Taxation is an economic and social policy instrument available to the state to generate financial resources in the form of tax revenues (James, 2009). It is generally implemented within the framework of a highly regulated tax system, but characterised by a high degree of uncertainty. Indeed, the tax system is highly exposed to moral hazard situations arising from the opportunistic behaviour of taxpayers to whom the State grants a presumption of probity (Jarillo and Bidault, 1995). For this reason, several countries, such as Cameroon, propose a declarative tax system that allows taxpayers to file a declaration of their taxable income on their honour. This declaration then benefits from a formal presumption of sincerity. However, any rational economic agent aims, in the first place, to maximise his utility function. He may then adopt an opportunistic behavior that ultimately confers an uncertain character to the tax return (Amara, Amar, and Jarbou, 2013). To remedy such situations, tax authorities reserve the right to examine/analyze these returns, with the aim of certifying their veracity.

In addition, the State grants the firm (taxpayer) a certain delegation of power to collect taxes. The relationship studied can thus be analysed through the prism of agency theory. Like any agency dilemma (Jensen and Meckling, 1976), the relationship between

the State and the company is characterized by a conflict of interest (Boatright, 1992). It therefore has an opportunistic character (Dechow and Skinner, 2000) made possible by the information gap available to the company (Akerlof, 1970).

The opportunistic behavior, which characterizes the manager in tax matters, is also in line with the positive accounting theory (Watts and Zimmerman, 1990) which enshrines the prevalence of self-interest in the decision-making process. It is therefore possible that the manager, when producing accounting and financial information, is at odds with the fundamental principles and concepts of accounting. The latter strongly prescribe ethics (Colasse, 1997). Ethics in accounting requires the manager to make good moral choices in the preparation, presentation and disclosure of financial information (Freedman, 2019). Thus, the methods of preparing accounts with tax implications, among others, the manager must adopt them in accordance with the accounting standards in force.

However, tax audits by the tax authorities take place ex-post. The manager can therefore deviate from the requirements of compliance and ethics by concealing the truth about the company's real situation. In effect, the manager uses all the information at his discretion, and exploits the flexibility of accounting principles, in order to obtain an advantageous tax base. The higher the basis of calculation, the higher the level of tax paid. On the other hand, when the calculation basis is too low or non-existent, the manager will insist that the tax authorities apply their statutory role of auditing tax returns. This verification is carried out through various controls, the exercise of which is provided for in the tax procedure book.

Although the tax administration has control mechanisms that can reduce the information gap that benefits the taxpayer, it is still difficult to eliminate opportunistic behaviour by managers. The cases of accounting data modification (Özevin, 2020) continue to feed the suspicion of unreliable financial information. These modifications are the result of creative accounting, earnings management, earnings stabilization and sometimes aggressive accounting practices. All these typologies of manipulation of accounting figures are aimed at creating a certain picture of the company's financial situation (Safta, Achim and Borlea, 2020).

Yet, the purpose of accounting is generally to provide stakeholders with relevant information for management, control and decision making. In view of the above, it is worth considering the relationship between the tax burden and the manipulation of accounting data. The former is what the manager wants to avoid, and the latter is the strategy used by the manager to achieve its objective.

b) *The Relationship Between Taxation and Accounting Data Manipulation: The Tax Burden Reduction's Hypothesis*

Financial and accounting information is of interest to internal (management, employees) and external stakeholders (such as shareholders, creditors, tax authorities, etc.) (James, 2009). However, firms may produce and provide either wrong or little information on their activities (Seca-Assaba, 1998). That could be the case in a declarative tax system. To find a solution to this issue, tax returns may go through rigorous controls. Specifically, the tax audit of a firm is triggered from the returns filed with the tax authorities. Indeed, based on the information provided, the company is subject to a particular observation on situations such as: the existence of significant deficits (Floret, 2014), recurrent negative results and inconsistencies, a discrepancy between the turnover resulting from the VAT declarations and the one reported in the income tax return (Sassi, 2013; El Arif, 2019). This situations induce suspicions of accounting data manipulation, especially whenever firms seek to reduce their tax burden. They occur with acuity in developing countries, countries where information asymmetries between economic actors are very high (Ngongang, 2015). They are also significant in small and medium-size enterprises which maintain an even stronger informational discrepancy (Lefilleur, 2009; Kay, 2010). Thus the hypothesis of accounting manipulation for tax reasons comes to life.

Furthermore, it has been proven that fiscal policies form an incentive for strategic earnings management (Zmijewski and Hagerman, 1981). Firms use their accounting discretion to obtain a tax level that is appropriate for them (Duvall, Jennings, Robinson, and Thompson, 1996). The tax system is thus a precursor of the manipulation of accounting figures. In order to increase the cash flow available to capital providers and thus maximize shareholder wealth, cash outflows are limited. A mean to achieve this goal is to reduce the amount of income tax, by entering into account higher expenses than they "normally" would have been (Breton and Schatt, 2006). We can therefore conclude that the level of taxes is a factor likely to encourage the manipulation of accounting data, and incite the tax fraud (Djeudja and Tedomzong, 2017).

Thus, one of the real causes of aggressive accounting lies in the conflicts of interest between the producers of financial information and the tax authorities. Indeed, managers seek to maximize shareholders' value (Bogliolo, 2000; Denglos, 2008), and shareholders' interest is to maximize their wealth (Egbunike and Ezelibe, 2015). In this case, paying less tax would allow investor-shareholders to obtain more dividends and capital gains. On the other hand, the country's tax authorities would like to collect more and more taxes. Thus, to avoid taxes, companies will on the one hand manage and disclose different tax information

to the authorities than to the stakeholders, and on the other hand they will use tax shelters to avoid tax payments (Nisha and Rifat, 2019).

However, it can be noted that companies that benefit from a tax advantage due to the discretionary management of their results, find themselves faced with an adjustment. As a result, they may suffer a charge, composed of the tax charge actually due and a penalty. They will then make a trade-off between the advantage of a tax gain at the moment, which the use of discretionary power gives (high level of discretionary regularization), and the possible burden to be borne in the future in case of tax repression.

The level of tax liability is likely to encourage the management of accounting data. Thus, managers are more likely to use their discretion to encourage increased spending in order to achieve a lower taxable income. At the very least, it can be noted that the effective tax rate is a function of income, which in turn depends on the level of accruals. Therefore, it can be assumed that the effective tax rate and the accrual book values move in the same direction. The higher the tax liability, the better the managers manage their accounting data. Thus, from the perspective of information asymmetries and positive accounting theory, as well as tax theory, we hypothesize that *the tax burden is positively and significantly related to the management of accounting data by firms in Cameroon*.

Considering that the effective tax rate is a function of the firm's turnover/results, and that the latter attracts the attention of the tax auditor as it becomes more and more consistent, it worth noting that firms with a high level of turnover/results are under the spotlight. Consequently, in order to avoid tax repression resulting from audits, they will proceed less and less with the management of accounting data. In other words, firms with high levels of effective tax rate make less use of their discretion in producing financial and accounting information. Thus, we hypothesize that *the relationship between effective tax and accounting data management is non-linear: it is positive at a certain level of effective tax and becomes negative when the effective tax rate becomes higher*.

Furthermore, considering the theory of information asymmetry, the positive theory of accounting, as well as the theory of taxation, and taking into account the mandatory and non-negotiable side of the tax law, a variation in the level of taxes would automatically lead to a variation in the level of discretionary power. The producers of financial and accounting information being unable to vary the legal requirements, they will therefore make more use of their discretionary powers, in order to adjust the tax burden to the objective to be achieved. As a result, the level of accruals value could define the actual tax paid. Thus, we also hypothesize that there is a *reverse causality in the*

*relationship between the tax burden and the management of accounting data of firms in Cameroon.*

### III. DATA AND MODEL SPECIFICATION

#### a) *The Data*

This paper uses accounting data the Cameroonian National Institute of Statistics (INS). It was then possible to assess the level of companies' earnings management and the tax burden through the indicators generally used in the literature. They are based on the year-end balance sheets and income statements of 1,500 firms operating in Cameroon, and belonging to several sectors of activity, over the period 2014-2017.

In addition, the final sample of 1474 firms used for the analyses<sup>1</sup> is made up of large and small and medium-sized enterprises (SMEs), from different sectors of activity. Those firms are all subject to corporate income tax, they have been considered for the year 2017<sup>2</sup>. With regards to the variables used in this study, they were identified to meet our objective of assessing the causal relationship between tax burdens and accounting manipulation. In the existing empirical works, accounting data management is measured by different indicators. In the case of Amara, Amar, and Jarboui, 2013; Fhiqi and Ni Nyoman, 2019, this variable is dichotomous, taking the value of 1 if the company is subject to data management and 0 otherwise.

But this approach does not allow us to highlight the different levels of data management. As a result, the accounting data management is measured following the works of Thauvron, 2000; Baghar, 2018, in which the discretionary part of the accruals<sup>3</sup> are considered to this end.

The tax burden is measured by the effective tax rate (Halleux and Valenduc, 2007). The effective tax rate is the ratio of income tax to pre-tax income plus depreciation and provisions (Othman and Zéghal, 2006; Rekik and Omri, 2009; Djeudja, 2017).

The control variables are financial ratios that allow for the assessment of firm's indebtedness, liquidity, solvency, size, etc. In addition, firms' earnings management decisions could be correlated over time. They could also depend on the performance and information provided in previous years. For that reasons, some lagged variables are considered. The different variables used are summarized in the table below

<sup>1</sup> The database was cleaned by deleting companies with multiple missing data and missing financial ratios.

<sup>2</sup> Lagged variables until the year t-2 have been considered

<sup>3</sup> Accrual accounting variables



Table 1: The Variables of the Study

Study variables			
Code	Title of the Variables	Calculation Method	Authors
Ad	Discretionary Accruals	total accruals - non-discretionary accruals	(Jones, 1991) (Jeanjean T. , 2002)
And	Non-discretionary Accruals	Following linear regression	(Jones, 1991) (Jeanjean T. , 2002)
Tie	Effective tax rate	income tax/ pre-tax current income + depreciation and amortization	(Othman and Zéghal, 2006) (Rekik and Omri, 2009) (Djeudja, 2017)
Size	Company size	log (Total assets)	(Baghar, 2018) (Mard, 2004)
Tdta	General solvency ratio	Total Liabilities/Total Assets	(Draief, 2006)
Dltrs	Structure ratio	Long term debts/stable resources	(Draief, 2006)
Ewn	Financial profitability ratio	Net income/invested capital	(Onomo, Ayou Bene, and Seck Fall, 2019)
Chexta	Operating expense coverage ratio	Operating expenses/Total assets	(Ayou Bene and Onomo, 2022)
Roa	Economic profitability ratio	Operating income/Total assets	(Onomo, Ayou Bene, and Seck Fall, 2019)
End_Lt	Long term debt	Long-term debt/total debt	
End_Ct	Short-term debt	Current liabilities/total liabilities	
Tangi_Active	Tangibility of the asset	Property, plant and equipment/total assets	

*A step by step construction of the discretionary accruals:*

Inspired by the work of Jeanjean (2002), we first consider the total accruals which are calculated as the sum of the change in firm's working capital, reversals of depreciation and provisions and accruals (fixed assets and inventories), minus the change in accruals

*Step 1: Estimation of Total Accruals*

*Total accruals* =  $\Delta\text{BFR}$  + Reversals of provisions + capitalized and stored production – allocations to depreciation and provisions

However, the management of the result is not captured by the total *accruals*, but to a fraction its. In fact, a portion of the *accruals* (having an impact on the result) can be qualified as "normal" in the sense that it corresponds to a sincere and regular application of the principles of accrual accounting in a given country. Therefore, the total accruals are also given by the following formula:

$$\text{Total } \textit{accruals} (\textit{AT}) = \text{Normal } \textit{Accruals} (\textit{AN}) + \text{discretionary } \textit{accruals} (\textit{AD})$$

The literature allows us to measure the so-called normal part of accruals; the part corresponding to compliance with accounting rules and standards. Several models have been proposed, including<sup>4</sup>, Healy (1985), DeAngelo (1986), Dechow and Sloan (1991), Jones (1991), Dechow et al. (1995), Kang and Sivaramakrishnan (1995), Rees et al. (1996), Kothari et al. (2005), Raman and Shahrur (2008) and Stubben

(2010). In this work uses the model of Jones (1991), because although like all models it has some limitations, it is the least criticized. This model is presented as follows:

*Step 2: Estimation the Non-Discretionary Accruals*

$$\textit{TAit}/\textit{Ait} - 1 = [1/\textit{Ait} - 1] + \beta_1[\Delta\textit{REVit}/\textit{Ait} - 1] + \beta_2[\textit{PPEit}/\textit{Ait} - 1] + \textit{eit}_4$$

<sup>4</sup> Quoted by (Billel)

Table 2: Regression for Estimating Non-Discretionary Accruals

Variables	Taitait 1		
	2015	2016	2017
$Ait1$	-580.6716 (566.3403)	855606.2*** (4991.102)	1.35e+07*** (821380.3)
$Revait1$	0.0214181*** (0.0004031)	0.3472379*** (0.0308515)	-1.46821*** (0.0369424)
$Ppeaiti$	-0.5150474*** (0.047493)	-1.125916*** (0.0074918)	0.1502641* (0.0834932)
Obs	1 495	1 495	1 495
Prob>F	0.0000	0.0000	0.0000
R-squared	0.6626	0.9616	0.7317
Adj R squared	0.6619	0.9615	0.7311

Standard errors in parentheses \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Were  $TA_{it}$  denotes the total accruals of the firm  $i$ ,  $\Delta REV_{it}$  is the change in sales between the year  $t$  and  $t-1$  ( $CA_t - CA_{t-1}$ ),  $PPE_{it}$  is the gross property, plant and equipment of each firm,  $A_{it-1}$  is the total assets of the firm  $i$  for the year  $t-1$ ,  $\varepsilon_{it}$  is the error term,  $i = 1, \dots, N$ , and  $t = 1, \dots, T$ .

Thus, from the financial statements data of our sample, we use the ordinary least square method to estimate the parameters of the equation in step 2 in order to determine the so-called normal accruals. Consequently, the discretionary accruals (AD) are given by the following:

$$\text{Discretionary accruals (AD)} = \text{Total accruals (AT)} - \text{Normal accruals (AN)}$$

The sample of the study is then built up to reflect the Cameroonian economy, which is made up of more than 99% of SMEs. Indeed, SMEs represent 90% (1327) of the firms in sample, while large companies account for 10% (147). In the small and medium-size enterprises, the average value of discretionary accruals is equal to a negative 94% of the total accruals, and the effective tax rate is equal to 38.56% on average.

Conversely, discretionary accruals show a negative average of 15% of the total accruals in large companies, while the average effective tax rate is equal to 33.06% in this sub-sample of firms. This different level of accruals is justified by the fact that the top

management in large companies, which are mostly multinationals, is not renowned for their propensity to use their discretionary power when it comes to produce financial information. In the opposite, SMEs are known for their opacity in their information production process. Moreover, the effective tax rate is higher in the latter as compared to the standard tax rate of. It stands to the reason that SMEs are often subject to penalties related to the manipulation of their financial and accounting information.

We note that on the whole sample, the accounting data of 2017 are handled down and represents more than 86% of the total accruals, as compared to 2016 (71%) and 2015 (23%). For that years, the average effective tax are of 38%, 42.6% and 39.35% respectively. This suggests that when the data is manipulated upwards, firms pay more taxes and vice versa. By observing the financial ratios, it appears that firms are financially, but not economically, profitable in both 2016 and 2017. Their yearly average long-term debt per unit of assets ratio is 10.47%, 10.39% and 9.68% respectively over the period 2015-2017. The average short-term debt ratio decreases to 83.5% of total assets in 2017, from 92.4% in 2015. We can therefore conclude that firms have reduced their short-term indebtedness to use more long term debt in the Cameroonian context over the period 2015-2017.

Table 3: Characteristics of the Sample by Type of Company (AD-Tie)

Variables	Obs	Mean	Std. Dev.	Min	Max
Tie	1474	0.3801	0.5866	0.0000	4.7558
Ad	1474	-0.8616	3.4760	-28.0040	23.4204
<i>Small and medium-size enterprises</i>					
Tie	1327	0.3856	0.6114	0.0000	4.7558
Ad	1327	-0.9405	3.6340	-28.0040	23.4204
<i>Large companies</i>					
Tie	147	0.3307	0.2726	0.0000	1.8387
Ad	147	-0.1488	1.1819	-4.4662	6.8101

Table 4: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
Ad_Lag1	1474	0.7112	2.3244	-13.7824	22.4344
Ad_Lag2	1474	0.2371	3.9847	-24.1736	25.2864
Tie_Lag1	1474	0.4260	0.7927	0.0000	7.7458
Tie_Lag2	1474	0.3936	0.6149	0.0000	6.8621
And	1474	0.8455	3.2638	-21.9746	29.1549
Size	1474	8.0550	1.0700	4.5356	11.9060
Tdta	1474	0.4796	2.2174	0.0000	0.9992
Dltrs	1474	0.1583	0.9260	-9.1430	10.1283
Roe	1474	0.1883	1.4189	-11.0637	11.1265
Roe_Lag1	1474	0.1687	1.7213	-17.4032	15.6130
Chexta	1474	1.7881	1.9720	0.0000	13.5859
Roa	1474	-0.0442	0.9224	-9.3040	7.0910
Roa_Lag1	1474	-0.0288	0.7803	-10.8105	5.8170
End_Lt	1474	0.1048	0.2450	0.0000	1.6370
End_Lt_Lag1	1474	0.1039	0.2489	0.0000	1.8609
End_Lt_Lag2	1474	0.0969	0.2366	0.0000	1.6425
End_Ct	1474	0.8347	0.8343	0.0000	6.1371
End_Ct_Lag1	1474	0.9241	1.0601	0.0000	9.6844

Table 5: Comparison of Discretionary Accruals by Firm Size

Ttest Ad , by ( pmege ) Unequa					
Two-sample t test with unequal variances					
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]
1	1327	-0.9405	0.0998	3.6340	-1.1362 -0.7448
2	147	-0.1488	0.0975	1.1819	-0.3415 0.0438
combined	1474	-0.8616	0.0905	3.4760	-1.0392 -0.6840
Diff		-0.7917	-0.7917		-1.0657 -0.5178
diff = mean(1) - mean(2)					t = -5.6765
Ho : diff = 0		Satterthwaite's degrees of freedom = 546.012			
Ha : diff < 0		Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.0000		Pr( T  >  t ) = 0.0000		Pr(T > t) = 1.0000	

#### b) Specification of the Empirical Model

In this work, we use a simultaneous equation model to verify the existence of the link between accounting data management and taxation on the one hand, and to identify the exogenous financial ratios explaining these jointly endogenous variables on the other. The model is specified as follows:

$$yt1 = y21yt2 + y31yt3 + \dots + yM1ytM + \beta11xt1 + \beta k1xtK + \epsilon t1$$

$$yt2 = y12yt1 + y32yt3 + \dots + yM2ytM + \beta12xt1 + \beta k2xtK + \epsilon t2$$

Where  $y_{it}$  ( $i = 1, 2$ ) are the endogenous variables,  $x_{tj}$  ( $j = 1, \dots, K$ ) are the exogenous variables. The following final model is estimated:

$$adt1 = y21Tiet2 + \beta11Rat1ot1 + \dots + \beta k1Rat1otk + \epsilon t1 \quad eq1$$

$$Tiet2 = y21adt1 + \beta12Rat1ot1 + \dots + \beta k2Rat1otk + \epsilon t2 \quad eq2$$

Where  $adt_t$  and  $Tiet_t$  are respectively the discretionary accruals ratio used as an earnings management measure, and the effective tax rate for firm  $t$ . The structure of the model used can be justified by the fact that the company manages its results according to the tax requirement, and aims to maintain a certain logic in the information transmitted in order not to draw attention of the tax auditors.

It would therefore be inappropriate to think that certain exogenous factors that determine the accrual book values of a company are not in turn influenced by the latter.

Thus, on the one hand, an upward (downward) change in the tax requirement may persuade managers to use their discretionary power in the financial information production process. On the other hand, managers' with discretionary power may affect the effective level of taxation of their firms according to the objective they wish to achieve. Therefore, the model specified above is estimated using the two-stage least squares method which accounts for the possible endogeneity feature in the relationship between taxation and accounting data management.

#### IV. RESULTS

The empirical analysis reveals a two-way positive and significant relationship between the discretionary accruals and the effective tax rate. As for the effect of the tax rate on the discretionary accruals, an increase of 1% in the first leads to an increase of 3% in the latter. Therefore, when the tax burdens is important, managers use a little more of their discretionary powers in producing financial information, with the aim of lowering their firm's end-year earnings before taxes. Thus, tax pressure has a significant influence on the management of accounting data. Although these results are contrary to the work of (Douanla, Tchabon, and Takoudjou, 2019), our first hypothesis is accepted.

The other way around, the effective tax rate is positively and significantly determined by the discretionary accruals. A 1% increase in latters leads to a 0.86% increase in effective tax liability. Managers are willing to bear a slightly higher tax burden (very often from adjustments) if it allows them to dissimulate information to some other stakeholders. Thus, in the Cameroonian context which is characterised by a high level of information asymmetries, and a repressive power of the law, the management of accounting data significantly influences the effective tax. This is in line with the work of Djeudja (2017). The above results validate our third hypothesis, showing that the manipulation of accounting data exists in the Cameroonian context, and that managers use it to cope with the tax burden. Thus, in order to keep their tax burden within a threshold they consider acceptable, managers use their discretionary power to adapt the taxable income contained in the summary financial statements to their objective.

Looking at the relationship between the effective tax rate and the management of accounting data in the specific cases of both large companies and SME, the results show that the positive influence of discretionary accruals on the effective tax rate is more pronounced in the latters. It can be noted that an increase of one unit in discretionary accruals leads to an increase in tax of 0.92%; and conversely, an increase of 1% in effective tax leads to an increase in discretionary accruals of 3.7%. In large companies, an increase in accruals of one unit leads to an increase in the effective tax rate of 0.543%. In contrast, the accruals are significant and negative influence by the Tie, an increase of 1% in effective tax leads to a decrease of 1.43 units in the use of discretionary accruals power.

These results suggest that large firms in the Cameroonian context are more likely to face fiscal repression whenever their accounting data are manipulated. Indeed, due to their important role in the

economy of the country<sup>5</sup>, these firms are subject to close and rigorous controls from the tax office. On the other hand, SMEs in the Cameroonian context are characterized by a high degree of information asymmetry (Wamba and Tchamanbé-Djiné, 2002), and make a very great use of accounting data management. This tendency to manipulate the financial information is even stronger when the country's fiscal policy tightens, and the level of taxation increases.

Furthermore, the discretionary accruals is negatively determined by the square of the effective tax rate, in both the entire sample and the small and medium-size enterprises. This is to suggest that the relationship between discretionary accruals and effective tax rate is non-linear but concave. That is, at low levels of effective tax rate, the relationship is positive; it becomes negative at higher levels. Our second hypothesis is validated. Conversely, this latter hypothesis is rejected in the large companies where the discretionary accruals is positively related to the square of the effective tax rate. This indicates a U-shape relationship between discretionary accruals and the latter. That is, at low levels of effective tax rate the relationship is negative, becoming positive at higher levels.

Other than the relationship between tax and accounting data management, the empirical results allow us to note that discretionary accruals are significantly and negatively influenced by last year's tax, non-discretionary accruals, size, profitability and short-term debt. The relationship between discretionary accruals and last year's tax is justified by the continuous quest of companies to reduce deductible expenses as much as possible in each new fiscal year; thus, a level of tax expense in the previous year leads to an increase in expenses in the current year in order to obtain a lower taxable result. As the relationship between discretionary and non-discretionary accruals demonstrates, this desire to reduce the tax burden as much as possible leads companies to stray from the law. Thus, the more a company uses its discretionary power, the less it will put into practice the legal recommendations.

But the more the latter grows, the less it has the possibility of concealing information and will use its discretion less and less. However, it should be noted that whether a company is economically profitable or has recourse to short-term debt, it will be less likely to use its discretionary power, because it will not be useful to it; because on the one hand, having its object to make the whole of the invested capital profitable and on the other hand, having to face the debt before the end of the financial year. And also, a reliable and not very fake

<sup>5</sup> They represent less than 1% (0.99%) of the enterprises in Cameroon, but produce 65% of GDP (RGE/INS, 2009)

information would encourage the debtors to renew their confidence in the company.

Nevertheless, when these relationships are observed in the specific case of SMEs, we can note that the relationships are unchanged. This can be explained by the fact that 99% of the sample is composed of this category of firms. However, in the case of large firms, only the nondiscretionary accruals and short-term debt retain the meaning and significance of the relationship; we also note a negative auto-regression between the accruals. As mentioned above, since they are subject to monitoring and therefore to repression in the event of abuse of discretionary power, large firms will tend to reduce their use of it over time. However, in the desire to see assets bear fruit, the size of the company (as measured by the level of assets) has a positive influence on the management of accounting data. This is because although a large company is subject to continuous controls, the sheer size of the assets can lead to loopholes and concealment of data management.

The empirical results also allow us to note a self-regression between the effective tax rate, management quality, financial profitability and debt of the previous and current year, each of which has a positive and significant influence on the effective tax rate. These relationships are the same in small entities, with the exception of long-term debt, which is no longer significant; in large companies, only tax and profitability in the previous year have significant and positive influences on the effective tax rate. These positive relationships with the effective tax rate are explained by the quest for profitability of the entity, as tax is applied to the result, and that a combination of better financing and better management leads to better profitability and consequently to lower taxes.

As a whole, in the Cameroonian context, where the accounting results of companies represent one of the main sources of tax revenue, the manipulation of financial end-year results through the discretionary accruals deserve a particular attention of stakeholders, especially tax authorities. This important issue could be mastered with an adapted tax system that could allow the state to stabilise its revenues, encourage the transparency of accounting data, and reduce information asymmetries.

On the other hand, the high tax burden and corruption in Cameroon seem to encourage entities to engage in discretionary management of accounting data. Indeed, despite being subject to rigorous audit processes, companies can evade tax administration through corruption. From this perspective, a reduction in bribery may encourage companies to comply more with the regulations, as the gain from managing the result will be less than the loss from an administrative tax adjustment.

Therefore, as recommended by OHADA, compliance with rules and standards aims at mitigating

the problems of information asymmetry between the firm and its stakeholders, thus enhancing the true and fair view of the company's financial position.



Table 5: Regression

	Entire population		SME		Large companies	
	Equation (1)	Equation (2)	Equation (1)	Equation (2)	Equation (1)	Equation (2)
Variables	ad	Tie	Ad	Tie	ad	Tie
Ad		0.0086*		0.0092*		0.0543***
		(0.0049)		(0.0052)		(0.0199)
Tie	2.9996***		3.7265***		-1.4281**	
	(0.7008)		(0.8687)		(0.6593)	
Tie_Square	-0.8012***		-0.9902***		0.8593**	
	(0.1901)		(0.2335)		(0.4150)	
Tie_Lag1	-0.0956*	0.1475***	-0.1341**	0.1748***	-0.0010	0.0088
	(0.0564)	(0.0196)	(0.0696)	(0.0224)	(0.0358)	(0.0219)
Tie_Lag2		0.1627***		0.1620***		0.1461***
		(0.0247)		(0.0270)		(0.0393)
Ad_Lag1	-0.0027		-0.0042		-0.0718*	
	(0.0179)		(0.0197)		(0.0436)	
And	-0.9697***		-0.9688***		-1.0348***	
	(0.0124)		(0.0138)		(0.0316)	
Size	-0.0872***		-0.1156***		0.0582***	
	(0.0268)		(0.0341)		(0.0203)	
Dltrs	-0.0253		-0.0121		0.0068	
	(0.0457)		(0.0554)		(0.0325)	
Roe	-0.0543*		-0.0569*		0.0304	
	(0.0284)		(0.0322)		(0.0306)	
Tangi_Active	0.1659	0.0051	0.2925	0.0056	-0.1999	-0.0202
	(0.1799)	(0.0408)	(0.2134)	(0.0434)	(0.2323)	(0.1063)
End_Lt	0.2711	0.1702*	0.3040	0.1535	-0.4110	0.0226
	(0.1737)	(0.1009)	(0.1943)	(0.1064)	(0.2775)	(0.3227)
End_Lt_Lag1		0.0139		0.0314		0.0873
		(0.0994)		(0.1050)		(0.3092)
End_Ct	-0.1222***	0.0712***	-0.1072**	0.0678***	-0.2639***	0.0916
	(0.0487)	(0.0222)	(0.0548)	(0.0233)	(0.0935)	(0.1512)
End_Ct_Lag1		0.0350**		0.0332*		0.1465
		(0.0180)		(0.0187)		(0.1515)
Chexta		0.0498***		0.0482***		0.0310
		(0.0072)		(0.0076)		(0.0227)
Roa		0.0377**		0.0356**		-0.1277
		(0.0175)		(0.0183)		(0.1990)
Roa_Lag1		0.0322		0.0293		0.9644***
		(0.0210)		(0.0219)		(0.2687)
Obs	1 474	1 474	1327	1327	147	147
Parms	11	11	11	11	11	11
Rmse	1.5378	0.5801	1.6851	0.6033	0.3983	0.2528
"R-Sq"	0.8169	0.3162	0.8000	0.3087	0.8959	0.6771
F-Stat	619.02	61.55	509.99	53.49	108.06	25.95
P-Value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Standard errors in parentheses \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## V. CONCLUSION

In sub-Saharan Africa and in Cameroon in particular, it is very often claimed that firms have "three balance sheets" in order to deceive the vigilance of other

stakeholders and mainly the State; because it is established that taxation is one of the main obstacles to the development of entities, especially that of SMEs (INS, 2018). This work aimed to establish empirical

evidence of the relationship between accounting data management and taxation in the Cameroonian context.

The analyses show a two-way relationship between the manipulation of accounting data is positively related and the effective tax rate. However, the discretionary accruals are negatively determined by the effective tax rate in large companies. Tax is therefore an important factor in the level of transparency of the information provided by the entity, because the producers of financial information make a trade-off between the gain obtained in data management and the burden to be borne in the event of an adjustment during a possible audit.

Moreover, the relationship between discretionary accruals and effective tax rate is non-linear but concave in SME. That is, at low levels of effective tax rate, the relationship is positive; it becomes negative at higher levels. Conversely, the results indicate a U-shape relationship between discretionary accruals and the effective tax rate in large companies. That is, at low levels of effective tax rate the relationship is negative, becoming positive at higher levels.

Therefore, there is a need to reduce the accounting data manipulation practices. This could be done through a suitable clean-up of the tax system, so that companies stop considering taxation as an obstacle to their development. Also, data management accentuated the effective tax. These results also advocate compliance with the law, to avoid a possible recovery in case of control.

However, these results raise the question of the optimal tax and the level of discretion granted to producers of financial and accounting information. What is the level of tax that would ensure compliance with standards, and then the production of a true and fair view of the firm? What rules should be put in place to ensure a true and fair view in the year-end financial statements? Moreover, OHADA standards have been modified in 2017 to bring them in line with international standards (IRFS). Thus, an analysis of the tax-manipulation relationship after application of these rules would show the importance of reducing discretionary power on the tax burden in Cameroon, given the high contribution of entities to tax revenue.

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# ANNEXES

## Appendix 1 Correlation Matrix

. correlate ad tie tie\_square tie\_lag1 tie\_lag2 ad\_lag1 and taille dltrs tangi\_activ end\_lt end\_ct chexta end\_lt\_lag1 end\_ct\_lag1  
(obs=1,474)

	ad	tie	tie_square	tie_lag1	tie_lag2	ad_lag1	and	taille	dltrs	tangi_~f	end_lt	end_ct	chexta	end_lt_lag1	end_ct_lag1
ad	1.0000														
tie	0.0467	1.0000													
tie_square	0.0234	0.9125	1.0000												
tie_lag1	-0.0902	0.2031	0.1707	1.0000											
tie_lag2	-0.0023	0.1677	0.1303	0.2015	1.0000										
ad_lag1	0.1215	-0.0143	0.0096	-0.0705	-0.0080	1.0000									
and	-0.9152	-0.0380	-0.0205	0.0985	-0.0073	-0.1410	1.0000								
taille	0.2454	-0.0235	-0.0398	0.0068	-0.0156	0.0550	-0.2797	1.0000							
dltrs	0.0444	0.0335	0.0171	0.0997	0.0280	0.0062	-0.0432	0.1476	1.0000						
tangi_activ	-0.0460	-0.1759	-0.0716	-0.1218	-0.1581	0.2074	0.0135	0.0136	0.0245	1.0000					
end_lt	0.0657	-0.0009	0.0069	0.0279	-0.0098	0.0572	-0.0553	0.1394	0.2794	0.0737	1.0000				
end_ct	-0.0575	0.0444	0.0556	0.0797	0.0731	-0.0818	0.0239	-0.0747	-0.1051	-0.1173	-0.1395	1.0000			
chexta	-0.0337	0.0974	0.0443	0.0716	0.1131	-0.0175	0.0615	-0.4290	-0.0906	-0.1311	-0.1045	0.0687	1.0000		
end_lt_lag1	0.0657	-0.0009	0.0069	0.0279	-0.0098	0.0572	-0.0553	0.1394	0.2794	0.0737	1.0000	-0.1395	-0.1045	1.0000	
end_ct_lag1	0.0427	-0.0062	-0.0003	0.0175	0.0046	0.0513	-0.0554	0.1461	0.2337	0.0737	0.7893	-0.0872	-0.0846	0.7893	1.0000
end_ct_lag1	-0.0402	0.0374	0.0357	0.0526	0.0182	-0.1434	0.0694	-0.1552	-0.0850	-0.1305	-0.1101	0.6033	0.1094	-0.1101	-0.1135
															1.0000





GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 22 Issue 2 Version 1.0 Year 2022  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

# Research in Role of Creative Accounting Practices to Reduce Financial Risks in Jordanian Commercial Companies

By Hamza Abdul Rahman Muhammad Al Wannan

*Middle East University - Business College*

**Abstract-** This research aimed to identify the role of creative accounting practices in reducing financial risks in Jordanian Commercial companies from credit and market risks and operating risks. to achieve the objectives of the study, a questionnaire was distributed to the study community consisting of accountants, financial schools, risk management directors, and managers of the accounting department in Jordanian industrial companies in various governorates of the Kingdom by way of a simple random sample of (300) individuals from 30 Commercial companies, and we chose a simple random sample. Of them (100) individuals, after the distribution of the questionnaire, (72) questionnaires were retrieved, and (72%) of the questionnaires retrieved the study relied on (One T-Test) to test the study hypotheses and achieve its goals. The study concluded a set of results, the most important of which is the presence of a statistically significant role for creative accounting practices to reduce financial risks in Jordanian Commercial companies related to credit risks, market risks, and operational risks. Among the most prominent recommendations of this study is the necessity of conducting more studies on the relationship between creative accounting methods and practices and risk reduction.

**Keywords:** creative accounting, corporate risk, credit risk, market risk, operational risk.

**GJMBR-D Classification:** JEL Code: M40



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## I. INTRODUCTION

Accounting has evolved through the time frame to the stage of creativity by processing financial statements with intellectual, creative procedures and methods to produce financial reports aimed at communicating economic information to beneficiaries to achieve their objectives. The sensitization side is behavioral and ethical based on the fact that specific interests of business owners do not prevail over those of other groups, the so-called neutrality of accounting policy But the existence of immoral creativity aims to mislead certain parties and show an unrealistic picture of the financial situation to achieve goals.

Specific to both board members, owners, and stakeholders through the creation of accurate accounting methods and methods using specific accounting policies or gaps called creative accounting methods and practices, namely, the use of the variety of accounting alternatives that can be relied upon in the preparation of financial lists (d.Salami Aldenouri, 2018).

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Companies are considered to be in a volatile environment, which threatens their stability and makes them vulnerable to various financial risks that threaten the achievement of their goals. And may negatively affect the principle of accounting continuity over time and increased competition. The fluctuations and surprises have increased, allowing for the increase, multiplicity, diversity, persistence, and renewal of these threats; It is classified as credit risk arising from the lender's loss of funds due to the default of the counterparty and market risks related to volatility in asset price and liquidity, and operating risks resulting from financial losses from failures of internal operations, regulations or procedures.

The many areas of creative accounting represented by the Accounting Information System, an accounting measurement, ways of distributing or charging various expenses, different methods of presenting financial and accounting lists and reports, techniques of financial analysis, and the development of accounting automated programs have contributed significantly to the reduction of the financial risk ratio in economic enterprises.

Therefore, this study examined the role of using creative accounting to reduce companies.

### a) *The problem of study and its elements*

Large enterprises and institutions seek to improve their financial position to reflect their financial and economic stability, which has an impact on their equity prices in the market. Therefore, these companies may use creative accounting in light of ways and methods to reduce multiple financial risks, and this is done in technical accounting ways. However, its harmful use leads to the manipulation of financial information and the exploitation of accounting bases, rules, and alternatives for decorating and improving contrary to reality and reality. This study, therefore, answered the following fundamental question: Is there a role for creative accounting practices in reducing the financial risks of Jordanian businesses?

Based on the study's problem, the elements of the problem can be formulated as follows:

1. Is there a role of creative accounting practices in reducing credit risks in Jordanian businesses?

2. Is there a role for creative accounting practices in reducing market risk in Jordanian trading companies?
3. Is there a role for creative accounting practices in reducing operating risks in Jordanian businesses?

b) *Objectives of the study*

This study aims to demonstrate the role of creative accounting in reducing corporate risk to identify the importance of creative accounting practices in reducing the financial risks to Jordanian businesses. The main objective of this study is to:

1. Recognize the role of creative accounting practices in reducing credit risks in Jordanian businesses.
2. Recognize the role of creative accounting practices in reducing market risk in Jordanian commercial companies.
3. Recognize the role of creative accounting practices in reducing operating risks in Jordanian businesses.

c) *Importance of the study*

The importance of the study stems from the importance of using creative accounting to reduce corporate risk because it is considered a modern way of dealing with this type of risk and preventing it from occurring, and minimizing its impact. The importance of this study is at the following points:

1. The use of creative accounting methods helps the management of enterprises to demonstrate the outcome of the activity and financial position to achieve their short- and long-term objectives, including the financing conditions imposed by financial institutions.
2. Minimizing financial risks by using creative accounting in enterprises works to satisfy investors with their financial situation, showing the financial position of the enterprise as best as possible, persuade shareholders to make good use of available resources, and support economic and financial stability, thereby increasing rewards and incentives allocated to them, and attracting new investors.
3. Creative accounting methods help enterprises improve their reputation in the market, influence the share price, maximize the financial value of their shares in financial markets, thereby reducing the amount of risks companies face ostensibly, and create a good impression of profit levels, making it easier for enterprises to issue new shares to raise capital, and use their claims in cases of ownership or acquisition.
4. It is hoped that the findings and recommendations of this study will benefit researchers and scholars to undertake other studies related to the role of creative accounting practices in reducing the financial risks of Jordanian businesses.

d) *Study Terms*

*Creative Accounting:* Is the process of manipulating accounting figures by taking the opportunity to eliminate adherence to accounting rules, measurement alternatives, and disclosure applications to move financial lists from what they should be to what their authors would prefer to be. (Abdelrahman Abdelfattah Mohammed, Hexagon Thoughts Journal, Ain Shams University, Faculty of Commerce), And that they use methods, methods, procedures, concepts, or standards of new theories that are unfamiliar, which can be used to interpret, analyze or solve an accounting problem facing management, where the accountant has distinct capabilities. (Marrazek and Buher, 2017).

*Financial corporate risk:* Financial risks are considered to be the source of potential losses in financial markets due to economic fluctuations and are usually accompanied by the leverage system since the financial institution is in a position to meet its current asset obligations. (Tariq Allah Khan Habib, 2018)

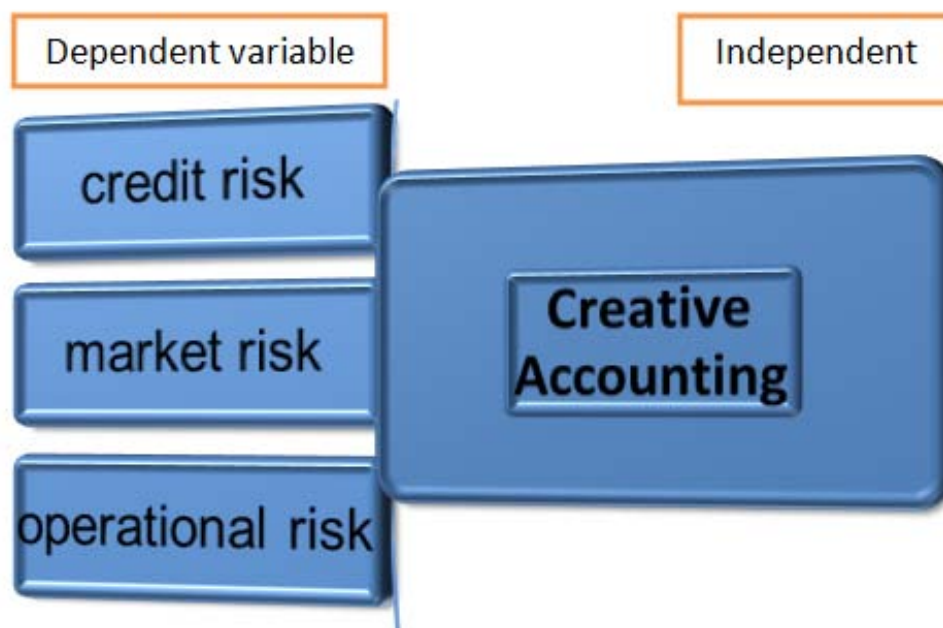
They can be defined as a higher risk of exploitation due to recourse to indebtedness, that is, to bringing in financial resources in the form of debts that would adversely affect an enterprise's productivity. (Sami, 2018)

*Credit risk:* Risks arising from the potential inability or knowledge of the borrower's or third party's willingness to fulfill its obligations at times specified by the bank resulting in economic losses, failure to fulfill its obligations to the bank on time, The bank's revenues and capital are affected Loans are the most important sources of credit expenses ", resulting in losses to the bank extending to lost opportunity costs, fees and costs related to the follow-up of non-performing loans. (Krasen, 2019)

*Market risk:* The risk of global and domestic market volatility arising from adverse movements in the value of financial instruments and changes in the level or volatility of interest rates, foreign exchange rates, commodities, stocks, and other securities in all their forms and liquidity risks (Khamisi, Abdulkader, 2017).

*Operational risk:* They are risks that cause losses that adversely affect economic units' revenues and capital as a result of inefficiency or failure in internal operations or personnel, or weak information systems resulting from inadequate surveying of monetary units' working environment or technical risks due to non-conformity with modern technology, or fraud resulting from a defect in internal control systems or intangible risks that are highly likely to occur s productivity ", such as the risks of knowledge and relationships resulting from ineffective cooperation, which reduce the productivity of knowledge among workers, It affects the quality of service or commodity and the reputation of economic units and may arise as a result of making erroneous decisions that do not keep pace with recent changes (Soldier, 2017).

e) *Study Model*



## II. THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

### a) *Boot*

Enterprises consider the use of creative accounting as a means to find unfamiliar accounting solutions and procedures that help make decisions and can provide helpful and valuable high-quality accounting information to its users, however, the companies' business is based on expectation, that is, there are many financial risks that companies could be exposed to in the foreseeable future. This chapter explains the concept of creative accounting, the motives for using creative accounting, creative accounting methods, creative accounting forms, corporate risk, corporate risk types, corporate risk management functions, corporate risk management phases, corporate risk management objectives, studies in Arabic and foreign language studies, and what distinguishes the current research from previous studies.

### b) *Concept of creative accounting*

1. Many researchers, writers, and specialists have tried to define the concept of creative accounting. Given the different orientations of these researchers and writers, many definitions of this concept have emerged. These definitions have been shown according to each point of view:
2. They are defined as creative tools designed and done by accountants in the company's financial system, specifically when starting company activity, and in a manner that ensures the interaction of accounting cycles to ensure speed and accuracy in performing measurement and disclosure processes (Eric, 2011);.

3. It defined (Mulford, 2013); as: "Procedures or steps used to manipulate financial figures to deceive users of financial reports, which is also any action or step towards managing profits or paving income."
4. And I knew it (Matar, 2019); as the actions that corporate administrations sometimes do to improve my imagery. Either in its profitability or its financial position or both by exploiting gaps in external audit methods and choices or by taking advantage of the diversity of alternatives available in the application of IPSAS or other accounting policies known as recognized principles on both measurement and disclosure methods used in preparing published financial statements, This adversely affects the quality of the figures shown by those data, both for profits and for the financial position, and thus the credibility of the financial ratios.

One of the concepts that reflect the academic point of view (Letter, 2016); a concept that considers creative accounting to be a conversion and change in the financial accounting figures from their actual to a desirable form, achieves advantages from choosing between alternatives to accounting rules or by ignoring some of them.

### c) *Motivations for using creative accounting*

Creative accounting practices may involve an opportunistic or an efficiency motive, or if creative accounting is motivated by self-serving benefits of management, then the motivation is opportunistic. And if the reason is to control the users of accounting information to influence the market by showing the enterprise's income in the competitive market, then the basis is the efficiency of the enterprise. Any attempt to show the image contrary to the truth in many and varied



ways although there is an excellent advanced system, problems may occur and even fall, It has global severe financial implications. The problem here is not one of a lack of compliance with accounting rules. instead, principles-based rules are followed, leading to non-transparent reporting, and taking advantage of specific accounting policies and legal gaps.

The motivation for creative accounting practices varies. To maintain gains, positions, and advantages or beautify the financial position image, or to demonstrate efficiency or conceal a failure. Many studies have shown that fraudulent operations occur whenever the company wants or faces essential decisions. The motivations for creative accounting are limited to the following points (Khamqani, Siddiqui, 2019);

1. Tax evasion. It is one of the Department's main drivers for creative accounting, with the assistance of key owners and in collaboration with external auditors.
2. Achieving personal gains at the expense of all interest groups in the company and sometimes at the expense of the economy and society as a whole, as evidenced by the current financial crisis.
3. Meet the requirements: companies and their departments implement many legal requirements.

#### d) Creative Accounting Practices

Below is a presentation of the most critical Creative accounting practices in the financial lists (Jabbar, 2017);

Innovative accounting practices in the income list: the most important methods and methods used to manipulate the income list under creative accounting are: (Schilit, 2002:24);

1. Revenue registration in the form of speed when the sales operation is still in doubt: by the assets followed, the registration of income is completed after the completion of the exchange of utility and in this way, is recognized.
2. Fake Income Registration: This method is to record fictitious or fake revenue.
3. Increased revenue through a one-time return: This method consists of the management of a company increasing its revenue during a specified financial period through a one-time increase. These practices give a positive picture of the control of the establishment by increasing its revenues and profits at a time when it is performing poorly and is usually dealt with by indicating that it is the result of non-essential and unoccupied transactions.
4. Transfer of current banking to previous accounting periods, as this manipulation is related to the calculation of inventories. It is known that the banknotes arranged for the execution of works may lead to the realization of short-term benefits such as rentals, and salaries. And may lead to long-term benefits such as buildings and machinery whose

long-term consumption is determined, At a time when the gift is realized. In some cases, some items of these assets become useless and are therefore registered as cash directly deducted from income.

*Creative accounting practices in the financial position list:* The importance of the budget is linked to the information available about the nature and volume of resources available to the company and its obligations to lenders and owners. It also helps to predict the amounts and timing of future cash flows, as the benefits of the Financial Centre's list must be assessed in the light of a range of determinants. Creative accounting practices in the financial position list:

1. *Substantial assets:* When the valuation of tangible items of assets such as trademarks is overestimated, in addition to the accounting recognition of tangible assets, in contravention of the originals and the rules stipulated therein.
2. *Fixed Assets:* Where the principle of historical cost is not adhered to in the determination of the value included therein in the budget, such manipulation shall be carried out in the customary modernization ratios of the originals in such ways as to reduce them from
3. *Traded investments:* Market prices used to evaluate the portfolio of securities are manipulated in addition to unjustified reductions in the low price allocations.
4. *Cash:* This item is done without disclosure of restrictive cash items and manipulation of exchange rates used to translate available cash items from foreign currencies (Matar, 2019);.
5. *Debts:* This is manipulated through the non-disclosure of distressed debts, to reduce the amount of the questionable debt allocation and deliberately making errors in the classification of obligations from long-term classification.
6. *Long-term investments:* Change the accounting methods used to account for.

*Creative accounting methods in the list of cash flows:* the list of cash flows presents all cash flows inward and out of exports and uses during a given period and aims to prepare this list. A presentation of creative accounting practices in the list of cash flows:

1. The accountant classifies operating expenses as investment expenses or funding and reversal expenses. These procedures and practices do not affect or alter the final values.
2. The establishment can also pay for capital development and record it as an outflow of cash, and therefore these practices increase.
3. This has the potential to manipulate operating cash flows to partially evade the payment of taxes. By making adjustments in operating cash flows, such as reducing gains in investment gains and some property rights, such as by comparison to



incomplete operations operating cash flows, by removing the impact of these operations from operational cash flows. Any cash received is the result of the preliminary processes or the development of their disposal; Considered as a result of investment activities, including during the calculation of operating cash flows, Gains or losses in preliminary operating operations are removed or eliminated from net income (2002, Comisky & Mulford);.

#### e) *Creative Accounting Methods*

Creative accounting is also shown to have several definitions, including "methods or means used to convert financial data numbers from what they are to the desires of the author by exploiting or neglecting some or all of the existing rules of international accounting standards." Amat and Blake, 2013:

1. The accounting rules allow the company to choose between several different accounting methods: in several countries, the company is allowed to choose between the policy of deleting the development alimony as it occurs and consuming it at the expense of the life of the project. Therefore, the company can choose the accounting policy that gives the preferred picture of it.
2. Use of specific inputs in calculations associated with valuation or prediction: In some cases, when assessing an asset's life to calculate depreciation, these assessments are usually done in-house. The innovative accountant has the opportunity to err in caution or optimism in this valuation, and in some other cases an outside expert can usually be employed to make evaluations.
3. Artificial arrangements can be entered either to manipulate budget amounts or to move profits between accounting periods: this is achieved by entering into two or more deals connected with a third-party tendency to help.
4. Manipulation of the timing of transactions: to determine a given year to charge profits or losses for any objective of the accountant, especially in the event of apparent differences between the book value and the market value or actual value

#### f) *Creative Accounting Form*

The forms of creative accounting are varied by multiple methods of manipulating accounts (Hassan, Al-Hili, 2018):

1. Utility accounting: Insist on choosing and applying specific accounting methods to achieve high-profit targets, whether or not accounting practices are based on accepted accounting principles.
2. Income mitigation: A form of income manipulation that involves the transfer of income between periods of varying levels by reducing income in years with good payments and transferring it to years with poor

payments, it is a form of manipulation that depends on the reduction and retention of increased income profits in the form of allocations for periods with inadequate payments.

3. Internal management: Income manipulation with the aim of to reach a predetermined goal by the Department, or predicted by a financial analyst, or to be compatible with specific courses of action.
4. Fraudulent financial reports: the report on the financial position of the enterprise under incorrect financial statements through deletion and non-disclosure of values to mislead users of the financial information, which can be described as fraudulent financial reports, including misstatement of amounts or disclosures in the financial statements to deceive users of the financial statements.
5. Practice creative accounting methods: Methods practices differ from natural accounting methods to obtain unreal profits through innovative and modern techniques that may be complex in values for expenses and revenues.

#### g) *What are corporate risks*

Financial risks arise from economic activities. Financial troubles have continued to increase with the diversity of economic activities. They have even become inherent in contemporary economies, making it impossible to dispose of them once and for all, but this does not necessarily mean that they cannot be dealt with according to a set of policies and strategies whose effects and results are primarily controlled.

#### h) *Concept of corporate risk*

Financial risk (Borg, 2018); is the risk of accepting the risk of a future economic loss of an asset, and the risk lies for an investor by risking exposing shares and bonds in which they invest in exchange price fluctuations, which threatens the likelihood that their future value will fall below their current value.

Financial risks (Abdul Kader, 2019); are defined as the instability of the financial system, which may be due to the worsening of special events or circumstances, and also indicates the risks posed by interdependence and interdependence between the financial market.

Financial risks (Kunduz, 2018); can also be defined as the possibility of a future deviation so that the desired outputs differ from what is expected, or the uncertainty of financial future production output is the decision of the current economic individual based on the results of the study of the behavior of the natural phenomenon in the past.

The financial risk (Tamimi, 2010); was defined as foreseeable direct damage to activity associated with an economic unit, Due to the occurrence of economic events of a human political nature, and in the event of their occurrence resulting in impactful losses which may result in the lack of continuity of economic unity in the

activity practiced and its exit from the market, And that's what we're going to try to see in economic institutions in this study. financial confusion and renders it temporarily or permanently unable to fulfill its obligations towards others ".

i) *Types of corporate risk*

Many classifications confront us in classifying financial risks to companies. They can be divided into internal risk and external risk, they can be divided into regular risk and irregular risk, and public risk and personal risk, and we will rely on classifying financial risk into company-related risk.

*Risks related to the company include:*

*Credit Risk (Pagach and war, 2010 ):* Risks arising as a result of the borrower's failure to comply with one of the terms of the contract credit risk is one of the most critical risks currently facing enterprises. While there are other risks, many previous studies and research have confirmed that most of the crises experienced by enterprises in different countries worldwide have been the most significant causes of credit deficits and their inability to pay benefits on time.

*Operating Risks (Abu Salah, 2018):* The combination of fixed cost formation and variable costs results in the company's financial structure, affecting cash flows. The more significant the fixed cost than variable costs, the weaker the company's ability to control operational costs when sales changes occur and the combination of fixed and variable costs depends heavily on the type of project.

*Market Risk (Bessis , 2015):* These are losses resulting from adverse market movements that weaken the value of positions held by market actors. The fluctuating market factors are randomly called "risk factors," which include all interest rates, stock indices, and foreign exchange rates.

*Market risk is divided into:*

1. Interest rate risk.
2. Risk of exchange rate fluctuations.  
Liquidity Risk (CPA, 2010)
3. Liquidity risk is the bulk of market risk faced by businesses when they do not have sufficient funds to meet financial liabilities on time. Liquidity risk includes short-term and long-term risks. All companies need to manage liquidity risk that remains safe from bankruptcy.

This section presents the most important Arab and foreign studies that have been subjected to the role of using creative accounting to reduce the risks of financial companies. The studies have been compiled according to their language. They have been classified into Arabic studies and foreign studies. The chronology from the oldest to the latest has been followed to present the temporal development of this area.

"Empirical Evidence of Romanian, Auditor's Behavior Regarding Creative Accounting Practices"

This study aimed to identify the financial auditors' perception of the existence and forms of creative accounting in companies.

To achieve the study objective, descriptive statistics were used, and research proposals that indicate auditors' perception of users' interests and the existence and repetition of creative accounting practices were tested.

The most important findings of the study focus on identifying auditors' perception of users' concerns and the existence and repetition of creative accounting practices, as well as the primary innovative accounting practices identified by auditors in their professional experience. It was also noted that the most innovative accounting practices encountered are the assessment and approval of risk allocations, the consumption, and consumption of assets, the re-evaluation of tangible assets, and the inventory valuation.

The study recommended that the additional empirical evidence of Romanian auditors' behavior regarding creative accounting practices should be investigated and explored.

*Entitled; (Ismael, 2017) Study:*

"The Impact of Creative Accounting Techniques on the Reliability of Financial Reporting with Particular Reference to Saudi Auditors and Academic"

This study aims to highlight the impact of creative accounting ethics techniques on the reliability of financial reports from the viewpoint of auditors and academics.

To achieve the study's objective the data was collected through a well-structured questionnaire and will be distributed to a randomly selected sample of certified auditors and accounting teachers at some universities, Descriptive and evidentiary statistics were used to disseminate the results and update the results.

The most important findings of the study are that the creative accounting techniques used by management negatively affect the reliability of financial reports, and the legal auditor plays a vital role in promoting the practice of creative accounting in a way that positively impacts the reliability of financial statements.

The study recommended that active corporate governance principles should be used to control creative accounting practices using independent non-executive managers.

*Entitled; (2017• Ndebugri, Haroon & others) Study:*

"Analyzing the critical effects of creative accounting practices in the corporate sector of Ghana."

This study aims to examine and adopt creative accounting methods in financial reporting structures in Ghana's corporate sector and their implications for the financial system.

Ghana's corporate sector and their implications for the financial system.

To achieve the objective of the study the research design was adopted as a tool of semi-organizational and structured questionnaires at the same time, the approved field data collection tool was carefully designed questionnaires, and the research team adopted non-probable sampling and used a targeted sampling tool using the lead informant's technique.

The study's most important finding is that creative accounting is an attempt to gain an advantage in the form of managers and companies and shows that currently accepted accounting principles create a gap that can encourage and encourage the practice of creative accounting.

The study recommended the need to establish effective rules and regulations for the exercise of accounting in places within the organization to prevent creative accounting and to focus on the application of the Code of Corporate Governance and Ethics.

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ASSOCIATE OF MANAGEMENT AND BUSINESS RESEARCH COUNCIL is the membership of Global Journals awarded to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Associate membership can later be promoted to Fellow Membership. Associates are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Associate Members.



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<b>\$4800</b> lifetime designation	<b>\$6800</b> lifetime designation	<b>\$12500.00</b> organizational	<b>APC</b> per article
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# PREFERRED AUTHOR GUIDELINES

**We accept the manuscript submissions in any standard (generic) format.**

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

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Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at [submit@globaljournals.org](mailto:submit@globaljournals.org) or get in touch with [chiefeditor@globaljournals.org](mailto:chiefeditor@globaljournals.org) if they wish to send the abstract before submission.

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2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s) names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
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- Findings
- Writings
- Diagrams
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- Lectures



- Printed material
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- Computer programs
- Electronic material
- Any other original work

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2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

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The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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### Acknowledgments

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## PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.





### ***Manuscript Style Instruction (Optional)***

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

### ***Structure and Format of Manuscript***

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

- a) A title which should be relevant to the theme of the paper.
- b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
- c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
- d) An introduction, giving fundamental background objectives.
- e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
- f) Results which should be presented concisely by well-designed tables and figures.
- g) Suitable statistical data should also be given.
- h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

- i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
- j) There should be brief acknowledgments.
- k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.





- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

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- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

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Put figures and tables, appropriately numbered, in order at the end of the report.

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**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

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Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
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- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

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Describe generally acknowledged facts and main beliefs in present tense.

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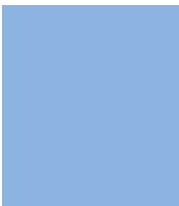
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<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring







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