INTERNATIONAL JOURNAL OF

BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

VOLUME 12, ISSUE 2, 2021

EDITED BY
DR. NABEEL TAHIR

INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

CSC Publishers, 2021

Dr. Hadi Sarvari
Isfahan Khorasgan Branch, Islamic Azad university
Iran

Dr. Ivo Hristov
University of Rome Tor Vergata
Italy

Dr. Ufuk Alpsahin Cullen
Edge Hill University
United Kingdom

Dr. Vincenzo Uli
Frankfurt University of Applied Sciences
Germany

Dr. Anant Deshpande
SUNY Empire State College
United States of America

Dr. Francesco SCALERA
Università degli Studi di Bari Aldo Moro
Italy

Dr. Xenia Scimone
University of Rome Tor Vergata
Italy

Dr. Diego Altieri
Getúlio Vargas Foundation
Brazil

Dr. Rosa Hendijani
University of Tehran
Iran

Associate Professor Violeta Cvetkoska
Ss. Cyril and Methodius University in Skopje, Faculty of Economics - Skopje
Republic of North Macedonia

Dr. Kingsley O. Omeihe
University of Aberdeen, Kings College
United Kingdom

Dr. Karen Cripps
University of Winchester
United Kingdom

Dr. Catherine Clark
University of the West of Scotland
United Kingdom

Dr. Ioana Andreea Stefan
Advanced Technology Systems
Romania

Associate Professor Pablo Rodriguez-Gutierrez
Universidad de Cordoba
Spain

Dr. Gabriele Palozzi
University of Rome Tor Vergata
Italy

Dr. Antonucci Gianluca
Universita Degli Studi Gabriele D'Annunzio - Cheiti/Pescara
Italy

Professor Zita Zoltay Paprika
Corvinus Business School CBS - Corvinus University of Budapest
Hungary

Associate Professor Jan Polowczyk
Poznan University of Economics and Business
Poland

Dr. Santiago Gutierrez Broncano
Universidad de Castilla - La Mancha
Spain

Dr. Fiorella Pia Salvatore
University of Foggia
Italy

Dr. Eriona Shtembari
University of New York Tirana
Albania

Dr. Angela Andrea Caviedes Conde
Universidad Rey Juan Carlos
Spain

Dr. Andromahi Kufo
University of New York Tirana
Albania

Dr. Andrea Patricelli Malizia
IMT School for Advanced Studies Lucca
Italy

Dr. Delphine van Hoorebeke
Université de Toulon
France

Dr. Antonio Mastrogiorgio
IMT School for Advanced Studies Lucca
Italy

Associate Professor Nick Chandler
Budapest Business School, University of Applied Sciences
Hungary

Dr. Sara Amoroso
University of Rome Tor Vergata
Italy

Dr. Vijaya Sekhar
International Institute of Information Technology
India

Dr. Muhammad Ilyas
College of Business Administration, University of Hail
Saudi Arabia

Dr. Bla Josee Charlotte Eba
University of the West of Scotland
United Kingdom

Dr. Nasir Abimbola Kolade
University of Northampton
United Kingdom

TABLE OF CONTENTS

Pages

EDITORIAL PREFACE

This is *Second* Issue of Volume *Twelve* of the International Journal of Business Research and Management (IJBRM). The International Journal of Business Research and Management (IJBRM) invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Business, Management, Business research, Marketing, MIS-CIS, HRM, Business studies, Operations Management, Business Accounting, Economics, E-Business/E-Commerce, and related subjects. IJRBM is intended to be an outlet for theoretical and empirical research contributions for scholars and practitioners in the business field. Some important topics are business accounting, business model and strategy, e-commerce, collaborative commerce and net-enhancement, management systems and sustainable business and supply chain and demand chain management etc.

The initial efforts helped to shape the editorial policy and to sharpen the focus of the journal. Started with Volume 12, 2021 issues, IJBRM appears with more focused issues relevant to business research and management sciences subjects. Besides normal publications, IJBRM intend to organized special issues on more focused topics. Each special issue will have a designated editor editors – either member of the editorial board or another recognized specialist in the respective field.

IJBRM establishes an effective communication channel between decision- and policy-makers in business, government agencies, and academic and research institutions to recognize the implementation of important role effective systems in organizations. IJBRM aims to be an outlet for creative, innovative concepts, as well as effective research methodologies and emerging technologies for effective business management.

IJBRM editors understand that how much it is important for authors and researchers to have their work published with a minimum delay after submission of their papers. They also strongly believe that the direct communication between the editors and authors are important for the welfare, quality and wellbeing of the Journal and its readers. Therefore, all activities from paper submission to paper publication are controlled through electronic systems that include electronic submission, editorial panel and review system that ensures rapid decision with least delays in the publication processes.

To build its international reputation, we are disseminating the publication information through Google Books, Google Scholar, RePEc, IDEAS, EconPapers, Open J Gate, ScientificCommons, Docstoc, Scribd, CiteSeerX and many more. Our International Editors are working on establishing ISI listing and a good impact factor for IJBRM. We would like to remind you that the success of our journal depends directly on the number of quality articles submitted for review. Accordingly, we would like to request your participation by submitting quality manuscripts for review and encouraging your colleagues to submit quality manuscripts for review. One of the great benefits we can provide to our prospective authors is the mentoring nature of our review process. IJBRM provides authors with high quality, helpful reviews that are shaped to assist authors in improving their manuscripts.

Editorial Board Members
International Journal of Business Research and Management (IJBRM)

Adamashvili Nino, Shervashidze Salome, Salvatore Fiorella Pia

Does The Development of The Country Drive The Consumer Behavior? A Two-Country Study

Adamashvili Nino   *nino.adamashvili@unifg.it*
Department of Economics
University of Foggia
Foggia, 71121, Italy

Shervashidze Salome   *salome.shervashidze@gmail.com*
Faculty of Economics and Business
Batumi Shota Rustaveli State University
Batumi, 6010, Georgia

Salvatore Fiorella Pia   *fiorellapia.salvatore@unifg.it*
Department of Economics
University of Foggia
Foggia, 71121, Italy

Abstract

Consumer behavior varies country by country as it is strongly affected by nationality. Meaning, the groups of people form specific place in a given period of time have similar practices and a common way of thinking. It reflects on their decision-making processes and daily habits, also when purchasing products and services.

The goal of this paper is to investigate if there is a significant difference between the consumer behavior attitudes regarding development level of the countries. Furthermore, the paper seeks to identify the main factors affecting their consumer behaviors.

In order to reach the research aims, this study consists of a survey on 604 consumers of Italian and Georgian populations. The respondents from Italy and Georgia are analyzed separately and compared.

The results obtained from questionnaire are a bit paradoxical in case of Georgia. It seems that, unlikely to Italian consumers, they are not aware of the issues related to food quality, labeling and certification and these consumers make spontaneous decisions non-consciously. Therefore, raising of awareness level and cognitive activities regarding nutrition may affect purchasing behavior.

Keywords: Functional Food, Consumer Management, Awareness, Questionnaire.

1. INTRODUCTION

The populations of the countries with the different levels of development have different characteristics and social and economic attitudes [1; 4; 5; 6]. In general, each population shows its own language, knowledge, laws, and habits [2; 7]. In the context of consumer behavior, Reeves and Baden [8] define the habit as the distinctive element of ideas, beliefs, and norms which characterize the way of life and relations of a society or group within a society. In the broad perspective, beliefs and values are the mental representations that influence a person's attitudes that eventually manifest in his behavior.

Different populations think, feel, and act differently, and there is no scientific standard for considering one group of people to be intrinsically superior or inferior to another [3; 9; 10; 11].

Furthermore, different people might perceive the same situation differently: perception depends primarily on the individual's personality as well as on the environment around them. Society members receive huge amount of impressions from the environment. Some of these impressions disappear or go into the field of unconsciousness, but others remain. These remaining impressions shape the consumers' interest towards the goods [1; 12; 13].

The impact of the "country of origin" on consumer behavior is so natural that individuals are often unaware and unconsciously making purchasing decisions and they are sure of their choice. A number of academic works [14; 15; 16; 17; 18; 19; 20] prove that except to "country of origin" aspect, also social status, education, and personal or family income significantly determine consumer's behavior. Indeed, the work of Bray [69] confirms the complexity of consumers' choices, since they take into consideration the need of the specific product, information about that product and possible alternatives, then the purchase intention is built, the act of purchasing is conduct, consumption and finally disposal. Author describes different models considering the different portraits of the consumers (Economic Man, Psychodynamic, Behaviourist, Cognitive, Humanistic) and wide range of variables for explaining the behaviour. Still, the author ignores the role of ethics, social responsibility and altruism. On the other hand, Professor Stankevich in her work highlights that despite the informative nature of the models of general consumers, their behavior varies from country to country and the same marketing instruments cannot be used for European and Asian countries for instance [70].

The aim of this work is to investigate the similarities and dissimilarities between the consumer behaviors in the countries with the different levels of development. In order to understand the role of the country and environment the people live in, we have identified two countries with the similar population in terms of characteristics, manners and attitude towards food (50) but with different economic and political conditions.

Italy and Georgia are chosen for the research as they are very similar in terms of the food quality produced and consumed but profoundly different in terms of economic development. Investigating the consumers' attitude toward healthy lifestyle, eating habits, and purchase decision-making process has been the object of this study. Thus, choosing a particular product rather than another has its stimulus and studying these stimulus makes possible to understand differentiating factors of the population of these countries.

The research question this study answers is to identify the factors affecting the consumers' purchasing behavior, to determine if these factors are social, demographic, economic, related to the policy of the country or to the education, personal habits and lifestyle of the population.

The contribution that this paper can give to the future academic works is the idea for comparing the behavior of similar kind of people in different environment and conditions, since there are number of studies dealing with the investigation of consumers purchasing behaviors in the specific country or group of countries as well as comparison between different countries but for specific products [66; 67; 68; 71; 72; 73; 74; 75]. To our knowledge, there is no study investigates generally and broadly the purchasing behavior of same kind of people in the different conditions; Moreover, this research can be a basis of the future studies for identifying the main problems of less developed countries and the ways how to resolve the identified problems. Additionally, the Government, policy-makers, food producers and consumers can find useful this study for leading populations healthier lifestyle and for encouraging consumers' better decisions regarding food purchase. Also, this paper can support producers to understand consumers' preferences and to improve their business accordingly.

This content is structured as follows: after the introduction, section 2 deepens the studies' state of art in this field, and section 3 discusses the research design, data collection, and the steps performed with data in consumer behaviors. In section 4, the findings are presented. Section 5 discusses the main results, strengths, and weaknesses of consumer behavior from the different

Adamashvili Nino, Shervashidze Salome, Salvatore Fiorella Pia

countries investigated. Finally, conclusions and recommendations for upcoming investigation are shown in section 6.

2. LITERATURE REVIEW

The amount of scientific literature spent to the study of consumer behavior shows, as a main result, the significant difference between the population from developed and developing countries in daily habits and attitudes toward healthy lifestyle [21; 22; 23]. Nutrition environment influences on the personal decision and makes opportunity to compare healthy and junk food [26]. It is no less important to understand the factors leading different decisions among groups of consumers [26]. These factors are leading also asymmetries in the demand of the high-quality and Functional Food (FF) among these groups. FF is a food received after modification of the initial one by adding new component beneficial for human health, or enhancing the existing one, or eliminating the one with harmful effect [27]. They may not resolve any kind of problems related to human health but they play a crucial role to prevent foodborne illnesses. Together with physical activities, avoiding alcohol, drugs and stress, FF can increase the longevity (life expectancy) of the people.

	socio-economic factors	environment in the country	financial condition and technological development	information	education, awareness	trust	origin, quality	corporate social responsibility	Packaging, design	Policy
[25]	x									x
[26; 27; 65; 81; 82]	x									
[28]	x					x				
[22; 29; 31]		x								
[32; 33]			x							
[34; 35; 37; 38; 42; 83]				x						
[23]					x					
[79]					x					x
[41]						x				
[36]				x			x	x		
[66, 67, 68, 76]							x			
[77]								x		
[39; 40]									x	
[46; 80]										x

TABLE 1: Academic literature regarding drivers for consumers' decision making.

The consumption levels of high-quality, healthy and functional food are varying from country to country. Various researches discuss this topic (Table 1) and most of them conclude that main drivers are cognitive and socio-economic factors such as age, gender, income, education, etc. [27; 28; 29]. Nielsen [32] Global Health & Wellness Survey demonstrates the huge influence of socio-economic factors while making the purchase decisions.

Similarly, Azzurra et al. [33] argue that the reasons of the different demand are mainly caused by cultural diversity and traditions. In some countries, there is a growing interest of the health and alimentation [30]. In these countries people are aware that the objective should not be just to

satisfy the hunger but to feed the organism in a way that the diseases will be prevented. Nowadays this concern has an increasing trend [35].

On the other hand, further researches show the correlation with the financial condition of the countries and population since the healthier nutrition intake costs more [81; 82]. In some cases, consumers have an intention to make healthier choices but actually act in contrast. In their work Todua and Jashi [65] found out that the food market in Georgia is saturated with low-quality products and the reason of this, that the authors highlighted is the consumers' preferences. Thus, Georgian low-income consumers prefer cheap product rather than environmentally friendly and healthy food. On the other hand, Italian consumers are willing to pay premium price for quality and "made in Italy" products [67]. Moreover, despite the lack of the information about fortified food, even in the absence of distinctive labelling and clear definition in the last edition of the Codex Alimentarius, its market in Italy is steadily increasing, fortified foods are widely spread and the willingness to pay for it is high in the Italian consumers [68]. Indeed, the biggest FF markets occur mostly in developed countries and developing ones with high-income. FF markets increase notably in those countries with the high development level in biotechnological field, since it makes opportunity to improve some food by adding different vitamins [36; 37].

Another problem that arises in low-income countries and in Georgia as well, is beliefs. Precisely, consumers perceive domestic goods as lower-quality products rather than imported ones [76]. Mghebrishvili [77] assumes that the way to overcome this challenge is understanding consumers' roles in the development process by making careful purchase decisions and stimulating producers to act in a socially responsible way. At the same time, Todua [78] declares that in Georgia, there is a considerable problem of healthy nutrition and echoed in the consumers' purchasing behavior. Author sees the solution in the rising awareness of the consumers regarding healthy lifestyle, healthy nutrition and relevance of food labeling.

According to other academic articles, the role of information is crucial. A good distribution of the consumer-dedicated messages can promote FF and healthy food in general. Thus, the huge importance has to be given to population education and related campaigns in order to bring the necessary information till final consumers about benefits of healthy food and lifestyle [38; 39]. Gómez et al. [40] in their research, found out the correlation with following factors: awareness, corporate social responsibility, origin, quality, and positioning.

Labeling and nutrition information specifically the provenience, organic certification, as well as ingredients, proteins, sodium and carbohydrates [41; 42; 66; 83], additionally, characteristics of packaging such as color or the presence of images can play an important role in consumer purchase intentions [43]. In fact, packaging became a communication tool between producers and consumers [44]. Still, it is not ensured that consumers will understand the messages delivered by packaging. Todua [27] argues that consumers should be prepared for interpreting and taking into consideration all this information. Similarly, Ball et al [83] considers nutrition knowledge expansion as a powerful tool for stimulation for healthy eating. Another problem regarding labeling and information delivery is the skeptical eye of consumers. Nielsen [32] and Hobin et al. [45] researches show that significant number of consumers do not trust the information they get. Authors suggest educational activities that will result increased awareness of consumers and their ability to understand and trust information. This will motivate the people to purchase high-quality products.

Mghebrishvili and Urotadze [46] assert about the necessity of enforcing the regulation in a way that consumers will have not just a right but they will have a real opportunity of reaching all kind of information about products' safety, protecting economic interests, improving defects, compensating damages. The right of information availability is particularly important as it helps consumers to make informed and healthier decisions. Similarly, Roberfroid [25] suggests to develop the food regulation in order to ensure food security and validity. De Temmerman et al. [80] suggest enforcing the food and labelling policy in order to combat with malnutrition. However, Mghebrishvili and Urotadze [46] argue, that while present international society takes into account

consumers' rights, the country of Georgia does not follow to modern standards yet. Indeed, Todua [79] confirms that implementation of public policy in urgent for improving the availability, affordability, and acceptability of healthy behavior among Georgian consumers.

The literature argues that there is disparity between the countries with the different levels of development caused by different cultural, environmental and socio-economic factors. These reflect also in populations' lifestyle and alimentation.

3. METHODOLOGY

The purpose of the research is to investigate the similarities and dissimilarities between the consumer behavior in Italy and Georgia. The authors decided to investigate, on one hand, the socio-economic conditions of consumers in the two countries with a different economic context and, on the other hand, their awareness and attitudes towards a healthy lifestyle.

This paper consists of a two-country study: Italy and Georgia. They reflect the countries with the different levels of development since: Italy has the eighth-highest nominal gross domestic product (GDP) in the world at $2.001 trillion; the country's per capita GDP stands at $35,896. Instead, in Georgia, the GDP, in US$ billion is 17.7, per capita GDP amounts at $ 4.786 [47]. As already stated, Italy and Georgia have been selected in this study for their similarities in terms of the food quality produced and consumed but profoundly different in terms of economic development. For that, the investigation of possible differences in using food stuff, implementing consumer healthy attitude, and analyzing consumer behaviors is very interesting [15; 48; 49; 50].

To achieve the objectives of this study an online survey was performed. All questions were originally in English. Subsequently, to ensure perfect comprehensibility by the interviewed population, each question was translated into the mother tongue of the individual country.

The questionnaire shown diverse categories:
1. Personal information (age, gender, occupation);
2. Routine (life style, daily nutrition, food consumption, FF use);
3. Buying style (nutritional facts, FF characteristics contemplated for the purchase decision);
4. FF background (level of knowledge of FF);
5. FF distinguishing elements (taste, naturalness, smell, packaging).

Excluding the category of questions relating to personal information (category inserted at the beginning of the questionnaire to anonymously identify the main information of the respondent), the queries included in the categories 2 and 3 were deduced from the Morris [53] study. Those included in the categories 4 and 5 were adapted from the Krystallis et al. [34] and Lin et al. [52] studies.

The online questionnaire has been set up by Google Forms, and, after studying academic literature related to consumers' behavior [34; 51], 28 questions have been designed; taking into account sub-questions, the total number was 50.

In total 604 respondents, 315 and 289 respectively from Italy and Georgia were investigated. Respondents have been collected randomly by publishing the questionnaire online and promoting through University contacts (e-mail) database and social networks. However, answers have been controlling over time and authors intervened and tried to promote in the consumers' groups, where the people were missing from. For instance, to try to collect more answers from little regions, or to identify more men after having majority women respondents from bigger regions.

For the information collection the CAWI technique (Computer-Assisted Web Interviewing) has been used [54; 55; 56]. The questionnaire has been submitted online and it has been self-filled by the respondents. In some cases, when the respondents were elderly people or citizens of extremely pure regions and they did not have the access to computer or internet, CAPI technique

(Computer-Assisted Personal Interviewing) has been used [57; 58; 59]. In this way, an interviewer helped respondents to answer questions and the diversity of people was kept to a maximum.

In order to reduce the risk of error, the questionnaire was tested by 15 experts involved in the analysis. Among the interviewees there were: a university professor, some students, some nutritionists, and consumers from different countries of origin and different ages. It was needed to understand any inefficiency or difficulty related to the technical issues and utilization of the research instruments [60; 61].

Results obtained from the questionnaire were interpreted and to know the main trends between Italy and Georgia, descriptive analyses have been performed. Specifically, all data has been arranged in a database built in Excel. Subsequently, the database was imported into STATA Version 14. Through the software, the data was cleaned, organized, the missing data deleted and, as a part of the survey is made by adapted scales, a reliability check (Cronbach's alpha) was performed.

4. RESULTS
4.1 Sample and Descriptive Statistic
The questionnaire showed that more respondents from Georgia are employed rather than from Italy (Table 3). From Georgian interviewees 289 in total, 235 (217 dependents and 18 self-employed) are workers that generates about 81% of the respondents. While in Italian case, there are 190 interviewees (147 and 43 dependents and independent respectively) employed from 315 in total that generates about 60% of the respondents (Figure 1. a.).

	GEORGIA N (%)	ITALY N (%)	N
Consumers' sample	289 (47.85)	315 (52.15)	604
Gender			
Male	56 (39.71)	85 (60.28)	141
Female	233 (50.43)	229 (49.57)	462
Age			
18-25	47 (42.73)	63 (57.27)	110
26-35	107 (56.61)	82 (43.38)	189
36-45	56 (49.12)	58 (50.88)	114
46-55	59 (51.75)	55 (48.25)	114
56-65	17 (27.87)	44 (72.13)	61
Over 65	3 (18.75)	13 (81.25)	16
Employment status			
Student	19 (20.43)	74 (79.57)	93
Employee	217 (59.62)	147 (40.38)	364
Freelance	18 (29.51)	43 (70.49)	61
Unemployed	24 (60)	16 (40)	40
Never employed	8 (34.78)	15 (65.22)	23
Pensioner	3 (13.04)	20 (86.96)	23
Average monthly income			
No income	0 (-)	12 (100)	12
Less than 200 euro	27 (100)	0 (-)	27
201-500 euro	107 (98.17)	2 (1.83)	109
501-1000 euro	108 (74.48)	37 (25.52)	145
1001-2000 euro	40 (22.47)	138 (77.53)	178
2001-3000 euro	3 (4.29)	67 (95.71)	70
More than 3000 euro	4 (6.35)	59 (93.65)	63

TABLE 3: Sample Characteristics.

On the collected data, a reliability check was carried out. Cronbach's alpha measures internal coherence; how closely related a set of elements is as a group. It is considered to be the best way to measure the reliability of a scale [62]. Alpha coefficient identifies correlations between elements (covariance) and ranges from 0 to 1 and can be used to describe the reliability of factors extracted from dichotomous questionnaires (i.e. questions with two possible answers) and / or multi-point formatted questionnaires or scales (rating scale: 1 = poor, 5 = excellent). The higher the score, the more reliable the scale generated. Nunnaly [63] stated that 0.7 is an adequate reliability coefficient. For all the scales used in the study, Cronbach's apha had a value around 0.7 (Table 2).

CATEGORIES	DESCRIPTION	CRONBACH'S α (ITA)	CRONBACH'S α (GEO)
Routine	life style, daily nutrition, food consumption, FF use.	0.70	0.72
Buying style	nutritional facts, FF characteristics contemplated for the purchase decision.	0.71	0.74
FF background	level of knowledge of FF.	0.80	0.79
FF distinguishing elements	taste, naturalness, smell, packaging.	0.77	0.75

TABLE 2: Reliability Scale.

The obtained data of average monthly incomes show the different picture (Figure 1. b.). Comparing to Italy, there is a significantly higher number of the respondents in Georgia with less than 500 euros monthly and especially those with average monthly income between 201 and 500 euros. Higher level is in the group of the people with average income of 501-1000 euros as well. Then, the opposite results are in the group of the interviewees with average monthly income of 1001-2000, 2001-3000 and more than 3000 euros.

Figure 1 (.a) and (.b) shows how the social fabric investigated in the two countries, although of the same employment status, presents a clear characterization relative to the country. In other words, while in Italy extremely varied employment statuses are observed (with an important percentage of students and employees interviewed), in Georgia most who expressed a favorable opinion on the interview were employed. Furthermore, this figure presents two main issues; firstly, the average age of the Georgian population is lower than the Italian one (retirees have a low percentage among the interviewees), secondly, access to the network is not so easy for elderly people (especially in Georgia).

Bar chart - Employment status of respondents
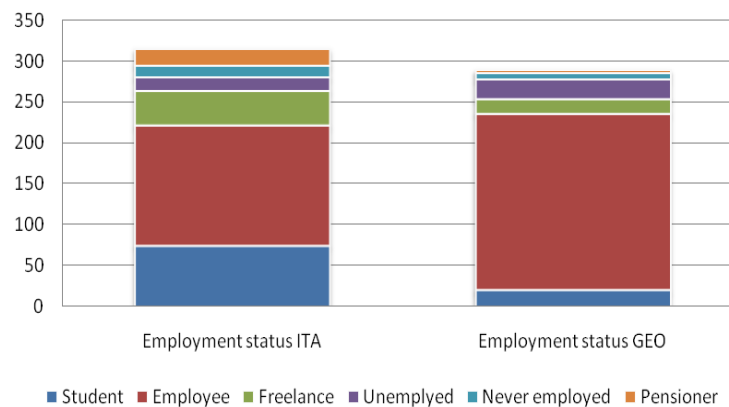
Bar chart - Average monthly income of respondents
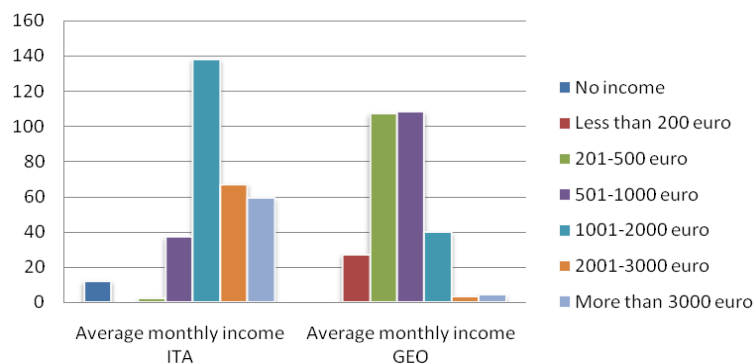
FIGURE 1:   (a) Employment status   (b) Average monthly income.

4.2   Outputs

In food-related behavior, mostly people are convinced that they are making conscious decisions. However, their opinion may not be always in the line of the real behavior [61].

Healthy eating behaviour is a determinant of overall health. Darmon & Drewnowski [64] stated that people with lower socio-economic status commonly reveal less healthy eating behaviours but, at the same time, assert to follow a right eating life style.

It seems that in the case of this research, the same issue has been appeared. On the question "How healthy is your overall eating habit?" Georgian interviewees gave more optimistic answers than Italians (Figure 2.a). According to the interviewed Georgian consumers, no single person has unhealthy ("poor") eating habit and only 13% have a "fair" level. All the rest 87% have "good", "very good" and even excellently healthy eating habits. In regard to Italian consumers, this number is 79%.

In 2004, World Health Organization had suggested that nutritional label was one of the best elements to support the people in making healthier food choice.

Nutrition labeling can significantly influence consumers' buying behavior because some evidence reveals that the provision of nutrition information may allow consumers to more easily shift consumption from unhealthy products into those healthy ones. Nowadays, customer is concerned not only with the appearance of the products but also with the nutritional information in foods sold. Contrary to other studies, in this research 133 Georgian respondents replied that they never or rarely checked the label during the purchase decision process. For the Italian respondents, however, this number was only 43 (Figure 2.b). This result highlights how the belief that a correct purchasing behavior is being taken is not entirely correlated with the attitudes assumed in reality.

Pie chart - How healthy is your overall eating habit?

■ Poor ■ Fair ■ Good ■ Very good ■ Excellent

Personal eating habit ITA

Personal eating habit GEO

Bar chart - According to the nutritional label' information, how often do you decide to buy or not food product?

■ ITA ■ GEO
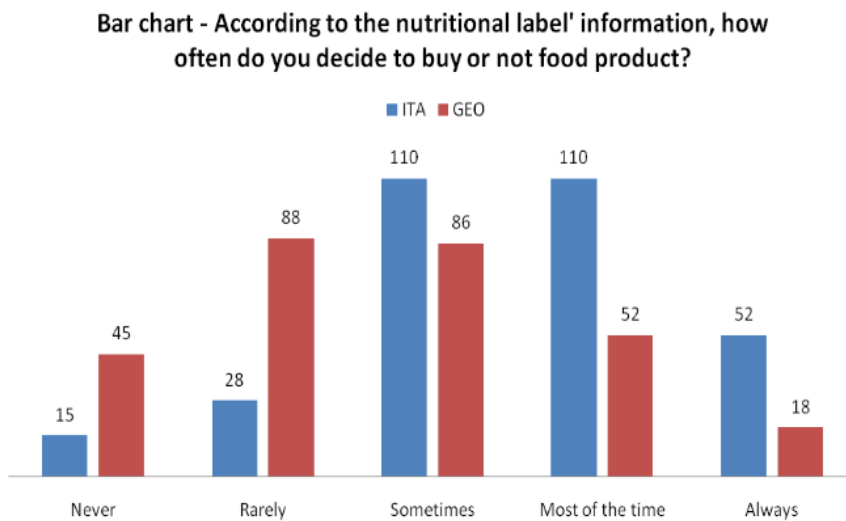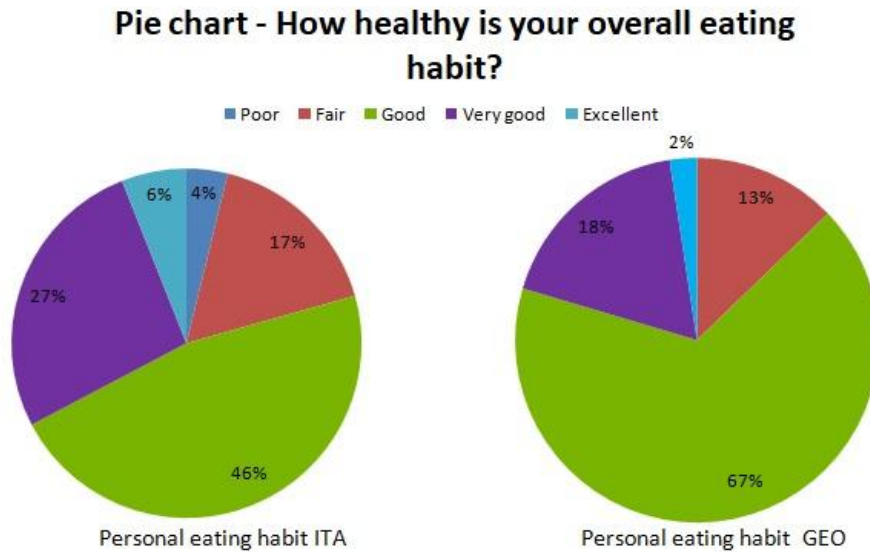
FIGURE 2:   (a) Personal eating habit   (b) Importance of label.

As the Figure 2.b shows, before choosing one product rather than another, only 70 Georgian people from 289 in total check the label. However, from the same 289 respondents 127 people answered that quality certification is "very important" factor influencing on food choices, contrary to Italians who believe quality certifications are "important" but not "very important" (Figure 3.).

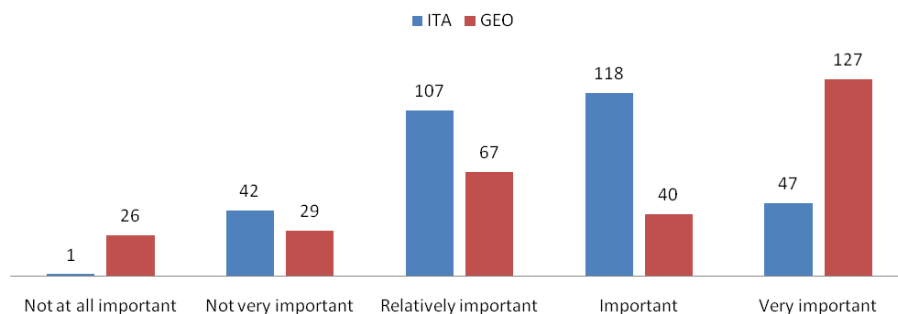**Bar chart - In your opinion, the food choice how much is influenced by the quality certifications (e.g. PDO, PGI ...)?**

FIGURE 3: Influence of quality certification on food choice.

5. DISCUSSION

The situation after collecting and analyzing the answers, seems to be a bit paradox. Comparing the Figure 2b and Figure 3, it seems that the majority of Georgian consumers never, rarely or sometimes make purchasing decision based on the information given on the label. However, at the same time, majority of Georgian respondents declare that the quality certification is very important for them. There is no way that the answers are correct: if the person never or rarely checked the nutrition label of product, hardly that this person gives high importance to the quality certification. More likely, that interviewees answered non-consciously. They think, that quality should be important factor for choosing one product rather than another, however when they make a decision in reality, personally they do not make a lot attention. These consumers make spontaneous decisions non-consciously. Reversely, Italian respondents maintain the balance between different but related questions, such as personal eating habit, importance of label and importance of quality certification. That gives a possibility to conclude that they act more consciously and they are aware of the issues related to food quality, labeling and certification. In order to overcome the problem outlined in the Georgian case, the populations' educational and awareness rising campaigns can be successful. Then the more accurate answers can be obtained from the consumers and further researches can be carried out.

Different consumers have different reasons that stimulate their behavior while making a purchasing decision. These reasons are mostly coming from their social status. According to Tetruashvili et al. [23], leading positions dictate people to comply with special rules of conduct, impose certain clothing, and purchase expensive items and so on.

Additionally, raising of awareness level and cognitive activities regarding healthy nutrition may affect purchasing behavior of populations in the countries on any stage of economic development [23; 79]. People may be aware about the adequate intake of nutrition by conducting different awareness programs what really represents sufficient FF.

6. CONCLUSION

The deepening of consumer habits and the investigation of the factors influencing the decision-making process should be clarified through an in-depth comparative analysis between Italian and Georgian consumers. Since there are a number of reasons that influence consumer behavior, these reasons should be studied to identify how they affect consumer awareness, as well as to develop programs to support the sale of particular food products.

The performed research provides a new contribution to an active way of identifying new concepts of decision-making among Georgian and Italian consumers. Indeed, the results show that improving health, and preventing the risk of health loss or reduction are among the most important reasons for the rational choices made by consumers. This study also leads to the conclusion that research into the attributes of foods and their benefits that can be an important factor in convincing the consumer to buy the foods should be investigated. This information would be of essential importance for companies deciding which markets in Italy and Georgia they want to understand and penetrate.

This study also suggested some implications for theory or practice. Specifically, from the academic research perspective, this article can lead the further researches to investigate the behavior of the comparable people in the different environment and conditions, likewise our work. Meaning, carry out the research in order to find two or more populations that have similar characteristics, manners and attitudes, but living in different countries with different economic and social conditions, and to compare their factual action regarding food purchase decision-making. This will highlight the role of economic and social factors affecting consumers' purchasing behavior.

Furthermore, this article encourages the interested consumers to pay attention to their lifestyle, eating habits and food purchasing behavior, as well as to get more information about nutrition, its value and intake.

Last but not least, this work has identified the problem of the non-conscious actions in the Georgian consumers. So, it should be the point where the authorized parties need to start the improvements from, thus, to increase the awareness of Georgian population towards the importance of label information and nutrition value of the food product.

The research limitations are: (a) the few number of the respondents – it is obvious that 604 respondents cannot express the situation in two countries precisely, however the general idea can be created, (b) subjective answers on questions that showed kind of "paradox" in the results – in the case of Georgian respondents, the illogical answers are evident. This problem results in unreliable outcomes. Therefore, rising awareness is needed. Meaning, it is crucial to carry out educational and marketing campaigns that will teach the population the essence and the importance of the healthy lifestyle and nutrition intake. Then the further research can be done based on the populations' survey. More likely to get realistic answers in order to better investigate factors for consumers' food purchasing behavior.

7. REFERENCES

[1] R. Lindberg, J. McCartan, A. Stone, A. Gale, A. Mika, M. Nguyen & S. Kleve. "The impact of social enterprise on food insecurity – an australian case study". *Health and Social Care in the Community*, Vol. 27 no. 4, pp. e355-e366. 2019.

[2] B. Morales-Nin, F. Cardona-Pons, A.M. Grau, E. García, I. Alvarez, & S. Pérez-Mayol, "Does angling activity influence consumer choices of fresh fish?", *British Food Journal*, vol. 115, no. 7, pp. 1054-1066. 2013.

[3] P. Suwannaporn, A. Linnemann & R. Chaveesuk "Consumer preference mapping for rice product concepts", *British Food Journal*, vol. 110, no. 6, pp. 595-606. 2008.

[4] H. Yang & L. Huang. "Research on influencing factors of halal food buying behavior by non-muslim consumers: A case study of ningxia in china". *Boletin Tecnico/Technical Bulletin*, Vol. 55 no. 16, pp. 688-697. 2017.

[5] Y. Algan & P. Cahu. "Social Attitudes and Economic Development: An Epidemiological Approach", IZA (Institute of Labor Economics) Discussion Papers 2935, 2007. Internet: https://ideas.repec.org/p/iza/izadps/dp2935.html [Dec. 24, 2020]

[6]   K.R. Curtis, J.J. McCluskey & T.I. Wahl. "Consumer acceptance of genetically modified food products in the developing world". *AgBioForum*, Vol. 7 no. 1-2, pp. 70-75. 2004.

[7]   K. Boobalan & G.S. Nachimuthu. "Organic consumerism: A comparison between india and the USA". *Journal of Retailing and Consumer Services*, Vol. 53, 101988. 2020.

[8]   H. Reeves & S. Baden. "Gender and development: Concepts and definitions". Report prepared for the Department for International Development (DFID). 2000.

[9]   S. Lee, J. Workman & K. Jung. "Perception of time, creative attitudes, and adoption of innovations: A cross-cultural study from chinese and US college students". *Sustainability (Switzerland)*, Vol. 8 no. 11. 2016.

[10] S. Mancini, R. Moruzzo, F. Riccioli & G. Paci. "European consumers' readiness to adopt insects as food. A review". *Food Research International*, Vol. 122, pp. 661-678. 2019.

[11] P. Parrott & K. Walley. "Consumer attitudes to poultry meat" in Poultry quality evaluation: Quality attributes and consumer values. 1st ed. M. Petracci & C. Berri Ed. Woodhead Publishing 2017, pp. 313-334.

[12] S. De Dominicis, F. Bonaiuto, F. Fornara, U.G. Cancellieri, I. Petruccelli, W.D. Crano, G. Ma & M. Bonaiuto. "Food reputation and food preferences: Application of the food reputation map (FRM) in Italy, USA, and china". *Frontiers in Psychology*, 2020.

[13] G. Reddy & R.M. van Dam. "Food, culture, and identity in multicultural societies: Insights from Singapore". *Appetite*, Vol. 149. 2020.

[14] Gupta, N. (2011). Globalization does lead to change in consumer behavior. *Asia Pacific Journal of Marketing and Logistics*.

[15] Luna, D., & Gupta, S. F. (2001). An integrative framework for cross-cultural consumer behavior. *International marketing review*.

[16] H. Hwang & S. Nam. "The influence of consumers' knowledge on their responses to genetically modified foods". *GM Crops and Food*, Vol. 12 no. 1, pp. 146-157. 2021.

[17] L. S. Alaimo, M. Fiore & A. Galati. "How the COVID-19 pandemic is changing online food shopping human behaviour in Italy". *Sustainability (Switzerland)*, Vol. 12 no. 22, pp. 1-18. 2020.

[18] A.A. Feil, C.C.D.S. Cyrne, F.C.W. Sindelar, J.E. Barden & M. Dalmoro. "Profiles of sustainable food consumption: Consumer behavior toward organic food in southern region of brazil". *Journal of Cleaner Production*, Vol. 258. 2020.

[19] J.J. Cambra-Fierro, J.A. Flores-Hernández, L. Pérez & G. Valera-Blanes. "CSR and branding in emerging economies: The effect of incomes and education". *Corporate Social Responsibility and Environmental Management*, Vol. 27 no. 6, pp. 2765-2776. 2020.

[20] A.C.S. Anusha, R. Tunung, C. Kavita, A. Ribka & M. Chandrika. "Ready-to-eat food consumption practices, food safety knowledge and relation to gender and education level of consumers in kuala lumpur, Malaysia". *Food Research*, Vol. 4 no. 5, pp. 1537-1544. 2020.

[21] Taufique, K. M. R., & Vaithianathan, S. (2018). A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of Theory of Planned Behavior. *Journal of cleaner production*, 183, 46-55.

[22] Zhao, H. H., Gao, Q., Wu, Y. P., Wang, Y., & Zhu, X. D. (2014). What affects green consumer behavior in China? A case study from Qingdao. *Journal of Cleaner Production*, 63, 143-151.

[23] M. Tetruashvili, Z. Tetruashvili, I. Tetruashvili. "Own Business: Meeting Target Needs (Part Two)". Tbilisi, Georgia: ShKSU Comp. centre. 2008.

[24] L. Kotilainen, R. Rajalahti, C. Ragasa & E. Pehu, E. "Health enhancing foods: opportunities for strengthening developing countries (English)". Internet: http://www.worldbank.org/: http://documents.worldbank.org/curated/en/314421468324275640/Health-enhancing-foods-opportunities-for-strengthening-developing-countries. Jun. 1, 2006. [Dec. 24, 2020]

[25] M. B. Roberfroid. "A European Consensus of Scientific Concepts of Functional Foods". *Nutrition* Vol 16, no. 7-8, pp. 689-691. 2000.

[26] E. Pitt, D. Gallego, T. Comans, C. Cameron & L. Thornton. "Exploring the influence of local food environments on food behaviours: a systematic review of qualitative literature". *Public Health Nutrition* Vol. 20 no. 13, pp. 2393–2405. 2017.

[27] N. Todua. "Influence of Food Labeling Awareness on Healthy Behavior of Georgian Consumers". *Ecoforum* Vol 6, no. 2(11). 2017.

[28] D. Joshi, S. Roy & S. Banerjee. "Prebiotics: A Functional Food in Health and Disease". *Natural Products and Drug Discovery*. Pp. 507–523. 2018.

[29] F. Bimbo, A. Bonanno, G. Nocella, R. Viscecchia, G. Nardone, B. De Devitiis & D. Carlucci. "Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review". *Appetite*, Vol. 113, pp. 141–154. 2017.

[30] E. Carrillo, V. Prado-Gascó, S. Fiszman & P. Varela. "Why buying functional foods? Understanding spending behaviour through structural equation modelling". *Food Research International*, Vo. 50 no. 1, pp. 361–368. 2013.

[31] N. Kaur & D.P. Singh. "Deciphering the consumer behaviour facets of functional foods: A literature review". *Appetite*, Vol. 112, pp. 167–187. 2017.

[32] G. H. Nielsen. "We are what we eat - Healthy eating trends around the world". Internet: https://www.nielsen.com/content/dam/nielsenglobal/eu/nielseninsights/pdfs/Nielsen%20Global%20Health%20and%20Wellness%20Report%20-%20January%202015.pdf, Jan. 2015. [Nov. 20, 2020].

[33] A. Azzurra, V. Riccardo & K. Artur. "Factors affecting parents' choices of functional foods targeted for children". *International Journal of Consumer Studies*, Vol. 40 no. 5, pp. 527–535. 2016.

[34] A. Krystallis, G. Maglaras & S Mamalis. "Motivations and cognitive structures of consumers in their purchasing of functional foods". *Food Quality and Preference*, Vol. 19 no. 6, pp. 525–538. 2008.

[35] M. Bazhan, N. Kalantari, N. Keshavarz-Mohammadi, H. Hosseini, H., Eini-Zinab & H. Alavi-Majd. "Applying social marketing mix to identify consumers' preferences towards functional dairy products in Iran". *Nutrition & Food Science*, Vol. 48 no 1, pp. 45-60. 2018.

[36] Q. Chaudhry & L. Castle. "Food applications of nanotechnologies: an overview of opportunities and challenges for developing countries". *Trends in Food Science & Technology, Vol.* 22 no 11, pp. 595–603. 2011.

[37] K.A. Mottaleb, D.B. Rahut, G. Kruseman & O. Erenstein. "Evolving food consumption patterns of rural and urban households in developing countries: a Bangladesh case". *British Food Journal*, Vol. 120 no. 2, pp. 392-408. 2018.

[38] H.C.M Van Trijp. "Consumer understanding and nutritional communication: Key issues in the context of the new EU legislation". *European Journal of Nutrition*, Vol. 48, SUPPL. 1, pp. 41–48. 2009.

[39] W. Verbeke. "Functional foods: Consumer willingness to compromise on taste for health?" *Food Quality and Preference*, Vol. 17 no. 1–2, pp. 126–131. 2006.

[40] M. Gómez, D. Martín-Consuegra, E. Díaz & A. Molina. "Determinants and outcomes of price premium and loyalty: A food case study". *Journal of Consumer Behaviour* Vol. 16, no 1, pp. 82-98. 2017.

[41] J. Hwang, K. Lee & T.N. Lin. "Ingredient labeling and health claims influencing consumer perceptions, purchase intentions, and willingness to pay". *Journal of Foodservice Business Research Taylor & Francis*. Vol. 19, no. 4, pp. 352-367. 2016.

[42] T. Ran, C. Yue & A. Rihn. "Does Nutrition Information Contribute to Grocery Shoppers' Willingness to Pay? View Correspondence". *Journal of Food Products Marketing* Vol. 23, no. 5, pp. 591-608. 2017.

[43] G. Ares & A. Gámbaro. "Influence of gender, age and motives underlying food choice on perceived healthiness and willingness to try functional foods". *Appetite*, Vol. 49 no. 1, pp. 148–158. 2007.

[44] A. Festila & P. Chrysochou. "Implicit communication of food product healthfulness through package design: A content analysis". *Journal of Consumer Behaviour* Vol. 17, no. 5, pp. 461-476. 2018.

[45] E. Hobin, B. Bollinger, J. Sacco, E. Liebman, L. Vanderlee, F. Zuo, L. Rosella M. L'Abbe H. Manson & D. Hammond. "Consumers' Response to an On-Shelf Nutrition Labelling System in Supermarkets: Evidence to Inform Policy and Practice". *The Milbank Quarterly* Vol 95, no. 3, pp. 494-534. 2017.

[46] B. Mghebrishvili & E. Urotadze. "Characteristics of Food Products Labeling in Georgia". International Scientific Symposium Economics, Business & Finance. Jurmala, Latvia, 2016. Pp.135-138.

[47] World Bank. "World Bank Open Data". Internet: https://data.worldbank.org/. Dec. 2019. [Dec. 14, 2020]

[48] G. Gogsadze. "Population Geography" 2nd ed. TSU, Tbilisis Iv. Javakhishvili State University, Tbilisi, Georgia. 2018. Internet: https://www.tsu.ge/data/file_db/faculty_social_political/gogsadze.pdf

[49] N. Beburidze. "Intenational Marketing of Georgian Cuisine". M.A. thesis. Caucasian International University, Georgia. 2018. Internet: https://openscience.ge/bitstream/1/89/1/Natia%20Beburidze.pdf.

[50] Georgia Today. "Georgia is Italy 2.0 Beta Version". Internet: http://georgiatoday.ge/news/11033/Georgia-is-Italy-2.0-%28Beta-Version%29. Jul. 2, 2018 [Dec. 24, 2020]

[51] G.M. Chryssohoidis & A. Krystallis. "Organic consumers' personal values research: Testing and validating the list of values (LOV) scale and implementing a value-based segmentation task". *Food Quality and Preference* Vol. 16 no. 7, pp. 585-599. 2005.

[52] C.T.J. Lin, Y. Zhang, E.D. Carlton & S.C. Lo. "2014 FDA Health and Diet Survey". Internet: www.fda.gov: https://www.fda.gov/downloads/food/foodscienceresearch/consumerbehaviorresearch/ucm497251.pdf. May 6, 2016 [Jan 6, 2021]

[53] S. Morris. "Attitudes and behaviours towards healthy eating and food safety: a scoping study (2009)". Internet: http://westminsterresearch.wmin.ac.uk/id/eprint/9598. Aug. 10, 2011 [Dec. 24, 2020]

[54] T. Zijlstra, K. Wijgergangs & S. Hoogendoorn-Lanser. "Computer assisted web-interviewing with mixed-devices: a panel study perspective". The Netherlands Mobility Panel Publications, KiM Netherlands Institute for Transportation Policy Analysis, The Hague, the Netherlands. 2017.

[55] M.P. Couper. "The Future of Modes of Data Collection". *Public Opinion Quarterly* Vol. 75 no. 5, pp. 889-908. 2011.

[56] A. Holmberg, B. Lorenc, and P. Werner. "Contact strategies to improve participation via the web in a mixed-mode mail and web survey". *Journal of Official Statistics* Vol. 26, pp. 465–80. 2010.

[57] C.C. Gravlee. "Mobile Computer-Assisted Personal Interviewing with Handheld Computers: The Entryware System 3.0." *Field Methods* Vol. 14 no. 3, pp. 322-336. 2002.

[58] B.L. Berg. "Qualitative Research Methods for the Social Sciences", 7th ed. Allyn 8c Bacon. California State University, Long Beach. 2009.

[59] H.V. Evert, W. Brög and E. Erl. "Survey Design: The Past, the Present and the Future". Stopher, P. and Stecher, C. Ed. Travel Survey Methods, Emerald Group Publishing Limited, pp. 75-93. 2006.

[60] M. Fiore, C. Gallo, E. Tsoukatos & P. La Sala. "Predicting consumer healthy choices regarding type 1 wheat flour". *British Food Journal* Vol. 119 no. 11, pp. 2388-2405. 2017.

[61] E.P. Köster. "Diversity in the determinants of food choice: A psychological perspective". *Food Quality and Preference* Vol. 20 no. 2, pp. 70-82. 2009.

[62] Santos, J. R. A. "Cronbach's alpha: A tool for assessing the reliability of scales". *Journal of extension*, 37(2), 1-5. 1999

[63] Nunnaly, J. Psychometric theory. New York: McGraw-Hill. 1978.

[64] Darmon N & Drewnowski A. "Does social class predict diet quality?" *Am J Clin Nutr.*;87(5):1107–17. 2008.

[65] Todua N., & Jashi C. "Influence of Social Marketing on the Behavior of Georgian Consumers Regarding Healthy Nutrition". Bulletin of the Georgian National Academy of Sciences. 12, no.2, pp 183-190. 2018.

[66] Spognardi, S., Vistocco, D., Cappelli, L., Papetti, P. "Impact of organic and "protected designation of origin" labels in the perception of olive oil sensory quality". British Food Journal. 2021. DOI: 10.1108/BFJ-07-2020-0596.

[67] Cappelli, L., D'Ascenzo, F., Arezzo, M.F., Ruggieri, R. & Gorelova, I. "The willingness to pay in the food sector. Testing the hypothesis of consumer preferences for some made in Italy products", Sustainability (Switzerland), vol. 12, no. 15. 2020

[68] Timpanaro, G., Bellia, C., Foti, V.T. & Scuderi, A. "Consumer behaviour of purchasing biofortified food products", Sustainability (Switzerland), vol. 12, no. 16. 2020.

[69] Bray, J. P. "Consumer Behaviour Theory: Approaches and Models". Discussion Paper. Unpublished. (Unpublished), http://eprints.bournemouth.ac.uk/10107/. 2008.

[70] Stankevich A. "Explaining the Consumer Decision-Making Process: Critical Literature Review". Journal of International Business Research and Marketing Vol 2, Issue 6, pp 7-14. 2017.

[71] Furno, M., Del Giudice, T. & Cicia, G. "Organic consumers' profile beyond the mean", Organic Agriculture, 2021.

[72] Canavari, M. & Coderoni, S. "Consumer stated preferences for dairy products with carbon footprint labels in Italy", Agricultural and Food Economics, vol. 8, no. 1. 2020.

[73] López-Mas, L., Claret, A., Reinders, M.J., Banovic, M., Krystallis, A. & Guerrero, L. "Farmed or wild fish? Segmenting European consumers based on their beliefs", Aquaculture, vol. 532. 2021.

[74] Naspetti, S., Mandolesi, S., Buysse, J., Latvala, T., Nicholas, P., Padel, S., Van Loo, E.J. & Zanoli, R. "Consumer perception of sustainable practices in dairy production", Agricultural and Food Economics, vol. 9, no. 1. 2021.

[75] Zhang, T., Grunert, K.G. & Zhou, Y. "A values–beliefs–attitude model of local food consumption: An empirical study in China and Denmark", Food Quality and Preference, vol. 83. 2020

[76] Todua N. "georgian consumers' perception of domestic and foreign products". Retrieved from www.geoeconomics.ge : http://geoeconomics.ge/en/?p=2394. Nov. 18, 2008 [Feb. 25, 2021]

[77] Mghebrishvili B. "situation of health and welfare in georgia in the context of sustainable development and sustainable marketing". Ecoforum vol. 8, no. 1(18), pp. 1-9. 2019.

[78] Todua N. "attitude of georgian consumers to healthy nutrition". Conference proceeding "IISES International Academic Conference, Rome, Italy, pp. 208-219. 2019. Doi: 10.20472/IAC.2019.046.025

[79] Todua N. "Georgian consumers awareness about the benefits associated with healthy nutrition". International Journal of Business no. 1, pp. 11-18. 2018

[80] De Temmerman, J., Heeremans, E., Slabbinck, H. & Vermeir, I. "The impact of the Nutri-Score nutrition label on perceived healthiness and purchase intentions", Appetite, vol. 157. 2021.

[81] Rao M, Afshin A, Singh G, Mozaffarian D. "Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis" BMJ Open Vol. 3, no. 12. 2013. 10.1136/bmjopen-2013-004277

[82] Dibsdall, L.A., Lambert, N., Bobbin, R.F., Frewer, L.J. "Low-income consumers' attitudes and behaviour towards access, availability and motivation to eat fruit and vegetables". Public Health Nutrition Vol. 6, no. 2, pp. 159-168. 2003

[83] Ball, K., Crawford, D., Mishra, G. "Socio-economic inequalities in women's fruit and vegetable intakes: A multilevel study of individual, social and environmental mediators". Public Health Nutrition Vol. 9, no. 5, pp. 623-630. 2006.

Audit Quality and Environment, Social, and Governance Risks

Meiying Hua   *Meiying.hua@usd.edu*
Department of Accounting
Beacom School of Business
University of South Dakota
Vermillion, S.D., United States, 57069
ORCD: 0000-0002-1123-2849

Pervaiz Alam   *palam@kent.edu*
Department of Accounting
College of Business Administration
Kent State University
Kent, Ohio, United States, 44242

Abstract

This study examines the association between a firm's environment, social and governance (ESG) risks and audit quality. We measure audit quality using two proxies: audit fees and discretionary accruals. ESG risk is measured using Representative Risk Index from the *RepRisk AG* database. Using a sample of public U.S. firms from the period between 2007 and 2016, we find that there is positive association between audit fess and ESG risk implying that firms pay higher audit fees when their ESG risk increase in order obtain higher quality audit services. We also find that there is a negative relationship between ESG risk measures and discretionary accruals suggesting firms assessed having high ESG risks do not manage their earnings as much. Overall, our results indicate that auditors take ESG risks of a firm into account when performing financial statements audit.

Key words: Environment, Social, and Governance Risks, Audit Quality, Firm Performance.

1. INTRODUCTION

In recent years, companies have focused their efforts on improving environmental, social and governance performance in order to increase financial performance. These firms tend to disclose more of their ESG performance to meet the demand of investors and regulatory requirements (Brockett & Rezaee, 2012; Dhaliwal et al., 2014; Rezaee, 2017; Robb & Zarzeski, 2001). Since firms are becoming increasingly aware of the impact of ESG risks on their operations, as well as on their public image and reputation, they are increasingly integrating these risks into the assessment of their business risk to help improve their operating effectiveness and profitability. We investigate the impact of firms' ESG risks on audit quality. Audit quality refers to providing quality external audit service requires a rigorous audit, with an appropriate degree of professional skepticism, conducted in compliance with the applicable standards (KPMG 2016).

We argue that firms' ESG risks should become an additional risk consideration in auditors' decisions when they assess clients' risks. Prior studies also suggest that consideration of clients' social issues by auditors in their audit help managers improve strategic planning (Reamer, 2000, 2001; Waddock & Frasure-Smith, 2000). The 2007 financial crisis shocked the public and raised serious doubts on auditors' ability to assess client exposure to systematic risk (Doogar et al., 2015). The American Institute of Certified Public Accountants (AICPA) and the Public Company Accounting Oversight Board (PCAOB) require that public company auditors consider auditees' business environment and macroeconomic and societal factors in planning their audit (PCAOB 2011). Additionally, the media is an important contributor of information to the market. It can shape a company's public image and influence public opinion (Rogers et al., 2016). Media coverage of a firm's ESG practices can increase the salience of these issues in the public agenda (Carroll & McCombs, 2003; McCombs & Shaw, 1972).

We use the Representative Risk Index (RRI) data to obtain the indices for corporate reputational risk related to ESG risk issues. Due to the *RepRisk's* primary focus on the internet and social media and stakeholders' information, ESG risks measured by *RepRisk* reflect a highly transparent and connected world, which serves to increase stakeholders' expectations about ESG issues. Therefore, taking an external perspective on company operations, ESG risks provides valuable third-party stakeholders' information which can provide insights into corporate operations and can act as an early warning system. We posit that auditors consider both traditional risk and firms' ESG risks to properly choose their audit quality and thus provide appropriate assurance on the quality of a client's financial statements.

We find that auditors charge higher audit fees of clients when the clients face higher ESG risks. Using discretionary accruals as a second proxy for audit quality, we find that discretionary accruals are negatively associated with a firm's ESG risks, indicating that audit quality improves when firms have higher ESG risks. High discretionary accruals suggest increased management of earnings and the negative association between discretionary accruals and ESG risk indicate that firms with higher ESG risks do not manage their earnings as much.

Our study makes the following contributions. First, using *Reprisk's* reputational indices to proxy for ESG risks, we find that firms' ESG risks significantly impact auditor behavior and that auditors consider their clients' ESG risks in their billing of audit fees. Furthermore, taking into consideration of clients' ESG risks can help auditors improve their audit quality. Second, we contribute to the auditing literature by showing that ESG risks quantified by *RepRisk* database provide useful information about a firm's future financial performance and firm valuation.

Our study proceeds as follows: In Section 2, we discuss related literature and hypotheses development. In Section 3, we present the research methodology and empirical models. In Section 4, we describe empirical results. In Section 5, we provide conclusive remarks.

2. LITERATURE REVIEW

Investors, regulators, and regulated companies have begun to pay more attention to business sustainability and to disclosure of non-financial ESG sustainability performance information (Cheng et al., 2015; Cohen et al., 2012a; Cohen et al., 2012b; Green & Li, 2011; Huggins et al., 2011; Pflugrath et al., 2011; Rezaee, 2016). Public companies have focused on improving ESG performance to initiatives that can promote sales growth and high-quality financial performance (Brockett & Rezaee, 2012; Rezaee, 2016; Robb & Zarzeski, 2001). The 2016 report of the *Investor Responsibility Research Center Institute* (IRRC) indicates that investors and portfolio managers incorporate ESG risks information into their investment decisions (IRRC, 2016).

Extant research has also examined the association between CSR/ESG performance/disclosures and financial performance, earnings management, cost of capital and firm value (e.g. Anderson & Frankle, 1980; CFA Institute, 2015; Clarkson, 1995; P. M. Clarkson et al., 2011; Dhaliwal et al., 2014; Dhaliwal et al., 2011; El Ghoul et al., 2011; Mackey et al., 2007; Mastsumura et al., 2013). Prior studies suggest that nonfinancial disclosures, such as ESG disclosures, are informative to investors (Clarkson et al., 2013; Dhaliwal et al., 2014; Dhaliwal et al., 2011, 2012; Griffin & Sun, 2013) as their information can signal future financial performance to investors (Lys et al., 2015), signal management trustworthiness, and communicate private information on firm's future prospects (Christensen, 2016). ESG can be associated with a firm's financial performance through intangible assets and stakeholder engagement (Barnett and Salomon, 2006; Mishra, 2017), and an insurance-like protection (Schnietz and Epstein, 2005; Godfrey et al., 2009). Prior empirical literature also indicates that positive CSR activities will advance a firm's reputation (Turban and Greening, 1997; Albinger and Freeman, 2000; Greening and Turban, 2000), which is particularly important because those firms are repetitive players in the financial market. However, since such disclosure is voluntary and is subject to limited regulatory guidance and oversight (Chen et al., 2016) in the U.S., voluntary ESG disclosures driven by managers' self-interests can be disclosed strategically (Hobson & Kachelmeier, 2005; Holder-Webb et al., 2009; Ingram & Frazier, 1980; Muslu et al., 2019; Simnett et al., 2009).

2.1 Hypotheses Development

Simunic (1980) shows that audit fees are the reflection of costs of resources used in auditing; the higher audit fees suggest that auditors have made more efforts in conducting the audit. Prior studies also show a positive relationship between audit fees and clients' business risks (Bell et al., 2008; Ferguson et al., 2003; Houston et al., 2005; Reichelt & Wang, 2010). Auditors' business risk is the risk that the audit firm will bear when doing business with clients in an audit engagement (Koh & Tong, 2013). Client specific business risk arises when financial statements of a client company contain material misstatements due to error or fraud (AICPA, 1983, 1997).

A higher the business risks auditors' face, the more audit work they will be performing in order to mitigate future litigation risks, which increases the amount of audit fees (Brumfield et al., 1983). Markelevich & Rosner (2013) indicate that two competing arguments dominate in audit pricing literature. The first argument suggests that higher audit fee is associated with higher audit quality (Basioudis et al., 2008; Kinney et al., 2004; Srinidhi & Gul, 2006). The second argument shows that higher audit risk encourages auditors to charge higher audit fees in order to expend greater audit effort (Ashbaugh et al., 2003; Markelevich & Rosner, 2013).

Previous studies have also explored audit fee models by incorporating different risk measures (Donohoe & Robert Knechel, 2014; Fields et al., 2004; Kanagaretnam et al., 2010; Lennox & Li, 2014; Markelevich & Rosner, 2013). While these studies give insights into how auditors price clients' business risks, they do not advance our understanding of actual risk factors incorporated in auditors' assessment of their client-level business risk. Therefore, auditors should be encouraged to consider a wider perspective of risk indicators into their audit, including ESG risks.

A high ESG risk raises auditors' concerns about management integrity and ethics as well as managerial opportunism, which subsequently result in increased risk of financial misstatements and other fraudulent reporting decisions. (Kim et al., 2012) find that firms performing poorly in their social responsibilities are likely to engage in earnings management through accrual-based and real earnings manipulations and are more likely to be subject to SEC investigations. Koh & Tong (2013) document that auditors' charge higher audit fees from clients, who engage in controversial activities related to consumers, employees, community and the environment. Considering the above discussion, we propose the following alternate hypothesis:

H1: Auditors charge higher audit fees when their clients have higher ESG risks.

The risk management argument based on the stakeholder theory predict that higher firm's ESG risk indicates more current and future negative social performance, thereby increasing a firm's risk. High ESG risk reflect stakeholders' negative perceptions about the firms' social performance, which could damage public image, increase regulatory pressure and scrutiny (Luo & Bhattacharya, 2009). In addition, high ESG risks signal negative social performance, which may increase financial and operating risks (McGuire et al., 1988). According to the audit risk theory (Markelevich & Rosner, 2013), auditors bear significant economic costs from the potential for audit failure and the increased ESG risk leads to higher audit risk or litigation risk and potential loss of reputation. The increased risk incentivizes auditors to perform a high-quality audit that dominates over the potential benefits of retaining clients when independence is decreased (Ashbaugh et al., 2003).

The agency theory predicts that a firm's low ESG risk may result from management entrenchment. Martínez-Ferrero et al. (2016) show that CSR activities can be strategically used to mask earnings management practices, consistent with the theoretical arguments that managers use CSR practices for self-promotion and rent extraction (Barnea and Rubin, 2010) rather than a voluntary activity that promote sustainable economic growth (Handelman and Arnold, 1999). A firm's low perceived ESG risk may raise auditors' concern about management entrenchment strategies and earnings management practices thereby encouraging auditors to perform a higher quality audit. In line with the managerial opportunism argument, we posit a negative relationship between ESG risk and audit quality and develop the following alternate hypothesis to test the association between discretionary accruals and ESG risks.

H2: ESG risk measures are negatively associated with discretionary accruals.

Serving the implicit claims of stakeholders enhances the company's reputation in a way that positively influences its financial performance over the long term (Freeman, 1984; Makni et al., 2009). On the contrary, dissatisfying stakeholders may have an adverse effect on financial performance (Preston and O'Bannon, 1997) and may cause stakeholder sanction against a firm for the firm's irresponsible actions. Based on this explanation, firms who are exposed to negative ESG issues reported by stakeholders and communicated by the media may have reputation deteriorating concern and can later face negative financial performance prospect. Negative CSR performance resulting from engaging in socially controversial activities informs investors of potential changes in firms' earnings potential or risk owing to CSR-related stakeholder mismanagement. Koelher and Hespenheide (2013) identify ESG issues which can directly affect a company's financial performance by impacting its operations and sales. These risks can also adversely affect earnings growth and persistence (Cormier and Magnan, 2014), which is a common objective of stakeholder sanctions. Stakeholders' sanction due to firms' negative ESG practices may tend to hurt firms' earnings in order to attain leverage over the target firm (Kolbel et al., 2017). When presenting a firm's ESG issues to the public, stakeholders impose pressures on firms to expect relevant, appropriate and effective firm responses. In the absence of enough firm response, stakeholders can boycott, file lawsuits, and protest to significantly influence firm ESG behavior (Baron and Diermeier, 2007; Doh and Guay, 2006; Easley and Lenox, 2006; Cordeiro and Tewari, 2015). Therefore, we predict the following hypothesis:

H3: Clients that have higher ESG risks have higher financial performance next year.

3. RESEARCH METHOD
3.1 The ESG Measure
RepRisk AG Corporation is a well-known business intelligence provider specializing in environmental, social and governance (ESG) risk analytics and metrics and it operates a database that collects the risk exposure of approximately 11,000 firms from all sectors and geographies, industries and countries related to twenty-eight environmental, social and governance topics and issues. [1] *RepRisk* makes daily assessments of the risks, criticism and allegations related to issues such as environmental pollution, human rights, labor relations and corruption that negatively affect firms' reputation, profitability, or credit worthiness within firms. ESG risks assessed by *RepRisk* are widely used by financial institutions, corporations, and regulatory organizations.

RepRisk innovates the *RepRisk Index* (RRI) to facilitate an assessment of the ESG risks. The *RepRisk Index* is a proprietary algorithm that quantitatively measures a company's exposure to ESG risks. The RRI is an indicator of corporate reputational risk related to ESG risk issues. A company's RRI score ranges from the lowest of zero to the highest of 100. [2] The higher the RRI score, the higher level of criticism received and borne by a firm and thus higher the ESG risks. Firms with the index between 76 and 100 have very high-risk exposure, firms with the index between 51 and 75 have high risk exposure, the index between 26 and 50 indicates median risk exposure, and the index below 25 are low risk exposure firms. We use three RRI indices for our study: Current RRI, Peak RRI and RRI trend. A current RRI indicates the media and stakeholder exposure of a company at the current time, and a Peak RRI shows an overall risk indicator for the highest level of assessment over the past two years received by a company. [3] RRI trend captures the change in the RRI within the past 30 days (RepRisk, 2015). Empirical Models such as audit fees model, discretionary accruals model and future performance model will be explained in Appendix II.

3.2 Sample Selection
Our sample consists of U.S. publicly traded companies, covering the time-period from 2007 to 2016. We collect financial performance variables from *Compustat* database and auditing information variables from *Audit Analytics* database. We collect firms' financial information from *Compustat* database by obtaining

---

[1] See the link: http://3we057434eye2lrosr3dcshy.wpengine.netdna-cdn.com/wp-content/uploads/2017/07/RepRisk.pdf
[2] See http://conferences.iaia.org/2015/Final-
Papers/150422%20RepRisk%20presentation%20for%20IAIA%20Conference%20-%20final.pdf
[3] See https://platform.reprisk.com/downloads/RepRisk%20Company%20Reports.pdf.

273,021 firm-year observations. After merging the data from both *RepRisk* and *Compustat* databases, we have 17,616 firm-year observations including missing values. However, there are unmatched firm-year observations where firms' names from *RepRisk* database are not equivalently matched with the firms' names corresponding to GVKEY identifiers in *Compustat* database. We manually clean the merged data, remove unmatched observations and obtain 12,381 firm-year observations. Finally, we winsorize all continuous variables at 1 percent and 99 percent. Table 1 shows that after deleting the missing values for firms' financial data and auditor-related information, we are left with 4,121 firm-year observations for the audit fee model and 2,694 observations for the discretionary accruals model.

Sample Selection

	AF Model	DA Model
All Compustat observations from 2007 to 2016	273,021	273,021
Matched Compustat and RepRisk observations	17,616	17,616
Matched Compustat, Reprisk and Audit Analytics observations	9,157	9,157
Total observations used in the main multivariate analyses	4,121	2,694

TABLE 1: This table presents the sample selection procedure where AF = audit fees and
DA = discretionary accruals.

4. EMPIRICAL RESULTS

4.1 Descriptive Statistics

Table 2, Panel A shows the descriptive statistics of the variables used in the audit fee model based on Equation (1). The mean and median values for current RRI are 8.4033 and 3.25, respectively. Average peak RRI has a mean value of 16.13 and median value of 18. The mean and median value for Trend RRI is 8.29 and 2.83, respectively. The mean and median for the log of total assets are 8.12 and 8.11, respectively. Firms have on the average 53.33 percent leverage ratio (LEV) and 5.11 percent return on assets (ROA), respectively. Market-to-book ratio (MB_t) is 3.03 on average, operating cash flow is 10.57 percent on average, and have 3.94 percent total accruals, on average. On average 14.63 percent of sample firms report losses (LOSS) and 11.51 percent of firms have foreign operations, on average. The mean and median value for Zscore (ZSCORE) are 4.29 and 3.50, respectively. Firms have at least a single business segment and around 88.61 percent of sample firms on average hire one of the big four audit firms for assurance services. The log of audit fee has the average value of 13.17. Approximately 0.25 percent of firms have received a going concern opinion. The mean value for the likelihood of material weakness in firms' internal controls is 2.79 percent. On average 8.3 percent of firms have restated their financial statements.

Variable	N	Mean	Median	Std Dev	25th Pctl	75th Pctl	Minimum	Maximum
$AVG\_CURRENT\_RRI_{i,t}$	2433	8.4033	3.2500	10.9616	-1.0000	16.6667	-1.0000	50.4167
$AVG\_PEAK\_RRI_{i,t}$	2433	16.1256	18.0000	16.4950	-1.0000	29.8333	-1.0000	61.0000
$AVG\_RRI\_TREND_{i,t}$	2433	8.2871	2.8333	10.9300	-1.0000	16.6667	-1.0000	50.0833
$LNTA_{i,t}$	2433	8.1169	8.1128	1.5820	7.0665	9.1316	3.2541	12.5873
$LEV_{i,t}$	2433	0.5333	0.5260	0.2292	0.3799	0.6658	0.1096	1.3653
$LEVREC_{i,t}$	2433	0.2694	0.2594	0.1301	0.1737	0.3457	0.0142	0.7247
$ROA_{i,t}$	2433	0.0511	0.0599	0.0954	0.0265	0.0958	-0.7838	0.2561
$MB_{i,t}$	2433	3.0312	2.3646	3.7420	1.5040	3.5809	-10.6488	28.3394
$OPCFO_{i,t}$	243	0.1057	0.1011	0.0747	0.0666	0.1455	-0.4914	0.3256

Meiying Hua & Pervaiz Alam

Variable	N	Mean	Median	Std Dev	25th Pctl	75th Pctl	Minimum	Maximum
$ABS\_ACCRUAL_{i,t}$	2433	0.0394	0.0276	0.0397	0.0128	0.0535	0.0005	0.4267
$LOSS_{i,t}$	2433	0.1463	0.0000	0.3535	0.0000	0.0000	0.0000	1.0000
$FOROPS_{i,t}$	2433	0.1151	0.0000	0.3192	0.0000	0.0000	0.0000	1.0000
$ZSCORE_{i,t}$	2433	4.2873	3.4990	3.1837	2.3959	5.3123	-2.7394	17.6224
$LOGSEG_{i,t}$	2433	0.8871	1.0986	0.7078	0.0000	1.3863	0.0000	2.3026
$BIG4_{i,t}$	2433	0.8861	1.0000	0.3177	1.0000	1.0000	0.0000	1.0000
$LNNAF_{i,t}$	2433	13.1738	13.2684	1.8014	12.1427	14.4667	7.4955	17.6657
$GCONCERN_{i,t}$	2433	0.0025	0.0000	0.0496	0.0000	0.0000	0.0000	1.0000
$MATERIAL\_WEAKNESS_{i,t}$	2433	0.0279	0.0000	0.1649	0.0000	0.0000	0.0000	1.0000
$RESTATEMENT_{i,t}$	2433	0.0830	0.0000	0.2760	0.0000	0.0000	0.0000	1.0000

TABLE 2 PANEL A: This table presents the descriptive statistics for the variables used in the three regression models. All the variables are defined in Appendix I.

Table 2, Panel B provides descriptive statistics regarding the variables in the discretionary accruals model Equation (5). The descriptive statistics in Table 2, Panels A and B are generally similar.

Variable	N	Mean	Median	Std Dev	25th Pctl	75th Pctl	Minimum	Maximum
$DA_{i,t}$	2694	0.0433	0.0300	0.0461	0.0137	0.0551	0.0006	0.2624
$AVG\_CURRENT\_RRI_{i,t}$	2694	7.9954	1.9583	10.8171	-1.0000	16.2500	-1.0000	53.6667
$AVG\_PEAK\_RRI_{i,t}$	2694	15.5418	15.3333	16.4455	-1.0000	29.2500	-1.0000	62.4167
$AVG\_RRI\_TREND_{i,t}$	2694	7.8868	1.6667	10.7971	-1.0000	16.0833	-1.0000	54.2500
$LNTA_{i,t}$	2694	7.9554	7.9872	1.7065	6.7615	9.0552	3.0712	12.5873
$LEV_{i,t}$	2694	0.5274	0.5229	0.2293	0.3733	0.6630	0.0927	1.3474
$ROA_{i,t}$	2694	0.0461	0.0582	0.1048	0.0231	0.0945	-0.7398	0.2429
$MB_{i,t}$	2694	2.9669	2.3270	3.5597	1.4634	3.5232	-10.3946	26.2014
$FOROPS_{i,t}$	2694	0.1099	0.0000	0.3128	0.0000	0.0000	0.0000	1.0000
$OPCFO_{i,t}$	2694	0.1017	0.1002	0.0809	0.0638	0.1449	-0.4644	0.3201
$LOSS_{i,t}$	2694	0.1670	0.0000	0.3731	0.0000	0.0000	0.0000	1.0000
$ABS\_ACCRUAL_{i,t}$	2694	0.0416	0.0288	0.0431	0.0133	0.0566	0.0005	0.4159
$OPCYCLE_{i,t}$	2694	4.8020	4.8390	0.6459	4.4998	5.1739	2.5582	8.5326
$ZSCORE_{i,t}$	2694	4.2766	3.4661	3.3848	2.3167	5.2850	-2.8274	18.5549
$LOGSEG_{i,t}$	2694	0.8840	1.0986	0.7029	0.0000	1.3863	0.0000	2.0794
$CAP\_INTENSITY_{i,t}$	2694	0.5198	0.4105	0.3607	0.2476	0.72037	0.01449	1.9290
$INT\_INTENSITY_{i,t}$	2694	0.0619	0.0225	0.0935	0.0033	0.0872	0.0000	0.6145
$BIG4_{i,t}$	2694	0.8471	1.0000	0.3600	1.0000	1.0000	0.0000	1.0000

TABLE 2 PANEL B: This table reports the number of observations (N), the mean, median, standard deviation, and quartile (25% and 75%) distributions of the variables.In both panels, an RRI variable (i.e. Current RRI, Peak RRI or RRI Trend) between 0 and 25 indicates low risk exposure of a firm; An RRI between 26 and 50 indicates medium risk

exposure of a firm; An RRI between 51 and 75 indicates high risk exposure of a firm; An RRI between 76 and 100 indicates very high risk exposure of a firm.

4.2 Correlation Tables

Table 3 reports the correlation results on the variables used in the discretionary accruals model based on Equation (5). All ESG risk variables are positively correlated with discretionary accruals. These results contradict H1 prediction. The untabulated results show that all ESG risk variables are positively correlated with audit fees, which supports H2 prediction. The untabulated results also show that all ESG risk variables are positively correlated with valuation variables, which supports H2 prediction.

	$DA_{i,t}$	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
$DA_{i,t}$	1.00																	
$AVG\_CURRENT\_RRI_{i,t}$	0.04	1.00																
$AVG\_PEAK\_RRI_{i,t}$	0.04	0.88	1.00															
$AVG\_RRI\_TREND_{i,t}$	0.03	0.65	0.55	1.00														
$LNTA_{i,t}$	0.05	0.49	0.43	0.44	1.00													
$LEV_{i,t}$	-0.05	0.14	0.13	0.14	0.32	1.00												
$ROA_{i,t}$	0.36	0.01	0.01	0.00	0.07	-0.12	1.00											
$MB_{i,t}$	0.00	0.01	0.01	-0.02	0.01	0.00	0.02	1.00										
$FOROPS_{i,t}$	0.01	0.24	0.21	0.15	0.28	0.06	0.00	0.01	1.00									
$OPCFO_{i,t}$	-0.14	0.02	0.03	0.00	0.16	-0.05	0.82	0.02	0.02	1.00								
$LOSS_{i,t}$	-0.28	-0.11	-0.11	-0.07	-0.28	0.05	-0.03	-0.02	-0.03	-0.15	1.00							
$ABS\_ACCRUAL_{i,t}$	-0.16	-0.01	-0.01	0.00	-0.06	0.04	-0.95	-0.01	0.00	-0.83	0.02	1.00						
$OPCYCLE_{i,t}$	0.05	0.08	0.07	0.23	0.12	-0.05	-0.04	-0.01	0.03	-0.20	0.03	-0.03	1.00					
$ZSCORE_{i,t}$	0.02	-0.07	-0.07	-0.07	-0.19	-0.49	0.40	0.04	-0.08	0.36	-0.26	-0.12	0.10	1.00				
$LOGSEG_{i,t}$	0.08	0.14	0.15	0.05	0.31	0.11	0.02	-0.01	0.11	0.06	-0.12	-0.05	0.09	-0.06	1.00			
$CAP\_INTENSITY_{i,t}$	0.12	0.00	0.00	-0.06	-0.09	0.05	0.01	0.00	0.03	0.01	0.11	-0.01	-0.40	-0.20	-0.06	1.00		
$INT\_INTENSITY_{i,t}$	-0.05	0.00	0.00	0.01	-0.03	0.09	-0.21	0.00	-0.01	-0.22	0.06	0.03	0.07	0.00	-0.03	-0.02	1.00	
$BIG4_{i,t}$	0.06	0.18	0.17	0.08	0.40	0.14	0.13	0.01	0.08	0.08	-0.18	-0.09	0.01	-0.04	0.09	-0.03	-0.04	1.00

TABLE 3: Presenting correlations for the variables used in the discretionary accruals model. Variables are defined as in Appendix I.
|Correlations| > .01 are significant p < .05.
N=2,694.

4.3 Estimation of The Audit Fee Model

Table 4 reports the regression results on the association between audit fees and firms' ESG risk variables. In Column 1, the coefficient on Current RRI is 0.0026 and is highly significant (p-value=0.0008) indicating that when the current level of media and stakeholder interest is high on ESG related issues, audit fees tend to increase. This shows that client companies pay higher audit fees when their clients have higher ESG risks measured by current RRI, strongly supporting H1.

Variables	Coefficient	(1) Coefficient	(2) Coefficient	(3)
Intercept		9.6237***	9.5959***	9.6259***
		(0.0763)	(0.0749)	(0.0762)
$AVG\_CURRENT\_RRI_{i,t}$		0.0026***		
		(0.0008)		
$AVG\_PEAK\_RRI_{i,t}$			0.0011*	
			(0.0005)	
$AVG\_RRI\_TREND_{i,t}$				0.0027**
				(0.0008)
$LNTA_{i,t}$		0.4026***	0.4067***	0.4023***
		(0.0081)	(0.0079)	(0.0081)
$LEV_{i,t}$		0.1332***	0.1324***	0.1329***

	(0.0446)	(0.0447)	(0.0446)
LEVREC$_{i,t}$	0.8746***	0.8744***	0.8744***
	(0.0590)	(0.0590)	(0.0590)
ROA$_{i,t}$	-0.2186*	-0.2182	-0.2183
	(0.1146)	(0.1146)	(0.1146)
MB$_{i,t}$	0.0002	0.0002	0.0002
	(0.0001)	(0.0001)	(0.0001)
OPCFO$_{i,t}$	-0.3013**	-0.3029***	-0.3017***
	(0.1366)	(0.1369)	(0.1365)
ABS_ACCRUAL$_{i,t}$	-0.5906***	-0.5842***	-0.5896***
	(0.1478)	(0.1478)	(0.1477)
LOSS$_{i,t}$	0.0817***	0.0824***	0.0815***
	(0.0282)	(0.0282)	(0.0282)
FOROPS$_{i,t}$	0.2448***	0.2480*	0.2444*
	(0.0256)	(0.0257)	(0.0256)
ZSCORE$_{i,t}$	-0.0064**	-0.0063**	-0.0065**
	(0.0027)	(0.0033)	(0.0027)
LOGSEG$_{i,t}$	0.2317***	0.2311***	0.2317***
	(0.0122)	(0.0122)	(0.0122)
BIG4$_{i,t}$	0.0597**	0.0591***	0.0597 ***
	(0.0275)	(0.0276)	(0.0275)
LNNAF$_{i,t}$	0.1061***	0.1059***	0.1061***
	(0.0053)	(0.0053)	(0.0053)
GCONCERN$_{i,t}$	0.0491	0.0499***	0.0497***
	(0.0992)	(0.0993)	(0.0991)
MATERIAL_WEAKNESS$_{i,t}$	0.2946***	0.2952***	0.2951***
	(0.0717)	(0.0718)	(0.0717)
RESTATEMENT$_{i,t}$	0.0474	0.0479	0.0473
	(0.0292)	(0.0293)	(0.0292)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	4121	4121	4121
Adjusted R^2	73.97	73.94	73.97

TABLE 4: Presenting the regression analysis of firms' likelihood of audit fees for firms.

This table presents the regression analysis of firms' likelihood of audit fees for firms on the firms' ESG risk proxied by Current RRI, Peak RRI or RRI Trend. Current RRI denotes the current level of media and stakeholder exposure of a company related to ESG issues. Peak RRI denotes the highest level of reputational risk exposure related to ESG issues over the last two years. RRI Trend denotes the difference in the RRI between current date and the date 30 days ago. All variables are defined in Appendix I. Standard errors are adjusted for heteroskedasticity and within firm clustering. Standard errors are in parentheses. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***, respectively.

Like prior literature on audit fees, most of the variables in our model are significant. Specifically, audit fees are higher when clients have bigger firm size (LNTA), have higher leverage (LEV), more business segments (LOGSEG), more losses (LOSS), audited by one of the big four audit firms (BIG4), and more material weaknesses in internal controls (MATERIAL_WEAKNESS). Consistent with prior literature, there is also a negative and significant relationship between audit fees and the probability of financial distress of a firm (ZSCORE). This indicates that auditors charge lower audit fees when their client is not financially

distressed. Audit fees are negatively associated with operating cash flows (OPCFO) and total accruals (ABS_ACCRUAL) held by firms indicating that higher OPCFO and accruals reduces audit fees.

Column 2 in Table 4 shows the results of the effect of Peak RRI on audit fees. Peak RRI represents the highest level of a firm's reputational risk exposure related to the ESG issues over the previous two years. As an alternative measure of ESG risks, Peak RRI is also positively associated with audit fees as its coefficient is 0.0011 and is significant at 10 percent level. This provides marginal support that firms with higher level of reputational risk exposure related to ESG issues charge higher audit fees. Moreover, in Column 3, we find that consistent with H_1, there is a significant positive association between audit fees and RRI_Trend suggesting that increase in ESG risks over time increases audit fees. The economic effect of the regression coefficient of 0.0026 of Current RRI, indicates that a one standard deviation increase in Current RRI (10.9616) is associated with an average increase in audit fees by 2.84 percent (0.0026*100*10.9616) or an average increase in dollar amount of audit fees by $140,418 (0.0284* $4,944,303). Similarly, the economic effect of 0.0011coefficient of Peak RRI is related to an average increase of $90,619 in audit fee for a one standard deviation increase in Peak RRI (0.0011*16.495*$4,994,303). Lastly, for the economic effect of 0.0027 of RRI Trend, a one standard deviation increase in RRI Trend (10.9300) is associated with an average increase in audit fees by 2.95 percent or $145,857 (0.0295*4,944,303). Overall results in Table 3 indicate that firms experiencing high ESG risk have higher audit quality as depicted in the increase in audit fees.

Our untabulated results of the change regression of the audit fee model show robust evidence that auditors charge more audit fees when clients have higher ESG risks as indicated by the positive significant coefficient on each of the ESG risks proxies. Overall, auditors charge higher fees when clients face higher ESG risks.

4.4. Estimation of The Discretionary Accruals Model

Table 5 shows the results on the association between discretionary accruals (DA, a proxy for audit quality) and ESG risks, proxied by Current RRI. Column 1 uses discretionary accruals based on the modified Jones (1999) model (equation 2). Column 2 uses discretionary accruals based on Kothari et al. (2005, equation 3) and Column 3 uses discretionary accruals developed using Ball and Shivakumar (2006).

Variables	Exp. Sign	(1) Coefficient	(2) Coefficient	(3) Coefficient
Intercept		0.0174	0.0099	0.0055
		(0.0121)	(0.0132)	(0.0152)
AVG_CURRENT_RRI$_{i,t}$		0.0000	-0.0002**	-0.0004***
		(0.0001)	(0.0001)	(0.0001)
LNTA$_{i,t}$		-0.0007	0.0005	-0.0007
		(0.0008)	(0.0009)	(0.0010)
LEV$_{i,t}$		0.0161**	0.0145**	0.0201***
		(0.0063)	(0.0070)	(0.0075)
ROA$_{i,t}$		-0.1224***	-0.1918***	-0.037
		(0.0291)	(0.0284)	(0.0364)
MB$_{i,t}$		0.0000	0.0000	-0.0001
		(0.0000)	(0.0000)	(0.0000)
FOROPS$_{i,t}$		0.0020	-0.0007	0.0024
		(0.0024)	(0.0026)	(0.0034)
OPCFO$_{i,t}$		-0.0264	0.1250***	-0.1687***
		(0.0268)	(0.0289)	(0.0302)
LOSS$_{i,t}$		-0.0018	0.0105**	-0.0162***
		(0.0037)	(0.0044)	(0.0052)

	(1)	(2)	(3)
ABS_ACCRUAL$_{i,t}$	0.4017***	0.3882***	0.3453***
	(0.0364)	(0.0418)	(0.0386)
OPCYCLE$_{i,t}$	0.0039**	0.0027	0.0084***
	(0.0017)	(0.0019)	(0.0021)
ZSCORE$_{i,t}$	0.0011***	0.0015***	0.0015***
	(0.0003)	(0.0004)	(0.0004)
LOGSEG$_{i,t}$	-0.0015	-0.0017	0.0026
	(0.0013)	(0.0014)	(0.0017)
CAP_INTENSITY$_{i,t}$	-0.0101***	-0.0173***	0.0313***
	(0.0026)	(0.0032)	(0.0041)
INT_INTENSITY$_{i,t}$	-0.0046	0.0123	-0.0193
	(0.0112)	(0.0148)	(0.0135)
BIG4$_{i,t}$	-0.0007	-0.0038	0.0013
	(0.0029)	(0.0032)	(0.0035)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	2694	2483	2483
Adjusted R^2	26.42	32.39	17.11

TABLE 5: This table presents the regression analysis of firms' discretionary accruals on the firms' ESG risk proxied by Current RRI. Discretionary accruals (DA$_{i,t}$) in Column (1) are based on Equation (2); Discretionary accruals (DA$_{i,t}$) in Column (4) are based on Equation (3); Discretionary accruals (DA$_{i,t}$) in Column (3) are based on Equation (4). All variables are defined in Appendix I. Standard errors are adjusted for heteroskedasticity and within firm clustering. Standard errors are in parentheses. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***, respectively.

In Table 5, Column 1, we do not capture the effect of ESG risk on discretionary accrual (a proxy for audit quality) because the coefficient on Current RRI is zero. The coefficient on Current RRI in Columns 2 and 3 is negative and significant, suggesting that firms who face higher ESG risks reduce their discretionary accruals. These results indicate that audit quality improves when firms have higher ESG risks or firms do not use discretionary accruals to manage earnings when the media and the stakeholder perceives these firms to have ESG risks. In terms of control variables, we find a positive and significant relationship between leverage and DA in each of the columns in Table 8. Auditors tend to lower their audit work when firms have higher leverage. Clients with higher performance (ROA) and clients with higher capital asset intensity (Cap_intensity) have higher discretionary accruals and thus lower audit quality. Clients with longer operating cycle (Opcycle) and stronger financial position (Zscore) have higher discretionary accruals suggesting lower audit quality. Using the coefficient of -0.0004 of Current RRI, a one standard deviation in Current RRI (10.8171) is associated with an average decrease in discretionary accruals by 0.433 percent.

Table 6 shows the results on the association between discretionary accruals (DA) and ESG risks, proxied by Peak RRI. Peak RRI measures the highest level of reputational risk exposure related to ESG issues over the previous two years. Column 1 uses discretionary accruals based on the modified Jones model. Column 2 uses discretionary accruals using (Kothari et al., 2005) and Column 3 uses discretionary accruals developed based on Ball and Shivakumar (2006).

Variables	Exp. Sign	(1) Coefficient	(2) Coefficient	(3) Coefficient
Intercept		0.0086	0.0091	0.005
		(0.0126)	(0.0130)	(0.0150)
$AVG\_PEAK\_RRI_{i,t}$		-0.0002***	-0.0002***	-0.0003***
		(0.0001)	(0.0001)	(0.0001)
$LNTA_{i,t}$		0.0011	0.0007	-0.0006
		(0.0008)	(0.0009)	(0.0010)
$LEV_{i,t}$		0.0129*	0.0152**	0.0213***
		(0.0067)	(0.0070)	(0.0075)
$ROA_{i,t}$		-0.1857***	-0.1912***	-0.0361
		(0.0277)	(0.0283)	(0.0364)
$MB_{i,t}$		0.0000	0.0000	0.0000
		(0.0000)	(0.0000)	(0.0000)
$FOROPS_{i,t}$		0.0013	-0.0005	0.0025
		(0.0026)	(0.0026)	(0.0034)
$OPCFO_{i,t}$		0.1098***	0.1229***	-0.1719***
		(0.0281)	(0.0287)	(0.0301)
$LOSS_{i,t}$		0.0094**	0.0104**	-0.0162***
		(0.0040)	(0.0044)	(0.0052)
$ABS\_ACCRUAL_{i,t}$		0.3659***	0.3876***	0.3441***
		(0.0402)	(0.0416)	(0.0384)
$OPCYCLE_{i,t}$		0.0031*	0.0027	0.0084***
		(0.0018)	(0.0019)	(0.0021)
$ZSCORE_{i,t}$		0.0014***	0.0015***	0.0015***
		(0.0004)	(0.0004)	(0.0004)
$LOGSEG_{i,t}$		-0.0029**	-0.0016	0.0028*
		(0.0013)	(0.0014)	(0.0017)
$CAP\_INTENSITY_{i,t}$		-0.0149***	-0.0172***	0.0315***
		(0.0029)	(0.0032)	(0.0041)
$INT\_INTENSITY_{i,t}$		0.0132	0.0123	-0.0193
		(0.0149)	(0.0149)	(0.0136)
$BIG4_{i,t}$		-0.0054*	-0.0036	0.0017
		(0.0030)	(0.0032)	(0.0035)
Industry Fixed Effects		Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes
Observations		1791	2483	2483
Adjusted R^2		30.01	32.56	17.43

TABLE 6: This table shows the regression analysis of firms' discretionary accruals on the firms' ESG risk proxied by Peak RRI. Discretionary accruals ($DA_{i,t}$) in Column (1) are based on Equation (2); Discretionary accruals ($DA_{i,t}$) in Column (4) are based on Equation (3); Discretionary accruals ($DA_{i,t}$) in Column (3) are based on Equation (4). All variables are defined in Appendix I. Standard errors are adjusted for heteroskedasticity and within firm clustering. Standard errors are in parenthesis. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***, respectively.

In Column 1 of Table 6, the coefficient on Peak RRI is -0.0002 and highly significant. This result indicates that there is a negative and significant association between a firm's ESG risks in the form of Peak RRI and discretionary accruals indicating that firms having higher ESG risks have lower level of discretionary

accruals and thus higher audit quality. Similar results can be seen in Columns 2 and 3. The marginal effect of the coefficient of -0.0003 for Peak RRI, a one standard deviation increase in Peak RRI (16.4455) is associated with an average decrease in discretionary accruals by 0.49 percent. Firm with more leverage (LEV), more operating cash flows (OPCFO), and stronger financial conditions (ZSCORE) have higher level of discretionary accruals and thus lower audit quality. Firms with lower ROA, lower level of capital intensity, and more segments are associated with higher level of discretionary accruals, indicating that audit quality is lower.

Table 7 reports the results on the effect of a firms' ESG risks measured by RRI Trend on discretionary accruals. All coefficients on RRI Trend are negative and significant in the three columns, indicating that discretionary accruals are negatively associated with firm's ESG risk. This suggests that firms exposed to higher ESG risks have lower level of discretionary accruals and thus higher audit quality. The sign of control variables in Table 7 are like those in Tables 5 and 6. For the marginal effect of -0.0004 coefficient for RRI Trend, a one standard deviation increase in RRI Trend (10.7971) is associated with an average decrease in discretionary accruals by 0.43 percent.

	(1)	(2)	(3)
Variables	Coefficient	Coefficient	Coefficient
Intercept	0.0092	0.0099	0.0056
	(0.0128)	(0.0131)	(0.0151)
$RRI\_Trend_{i,t}$	-0.0002**	-0.0002**	-0.0004***
	(0.0001)	(0.0001)	(0.0001)
$LNTA_{i,t}$	0.0009	0.0005	-0.0008
	(0.0008)	(0.0009)	(0.0010)
$LEV_{i,t}$	0.0124*	0.0145**	0.0202***
	(0.0067)	(0.0070)	(0.0075)
$ROA_{i,t}$	-0.1861***	-0.1918***	-0.037
	(0.0278)	(0.0284)	(0.0364)
$MB_{i,t}$	0.0000	0.0000	-0.0001
	(0.0000)	(0.0000)	(0.0000)
$FOROPS_{i,t}$	0.0012	-0.0006	0.0023
	(0.0026)	(0.0026)	(0.0034)
$OPCFO_{i,t}$	0.1115***	0.1250***	-0.1686***
	(0.0283)	(0.0289)	(0.0302)
$LOSS_{i,t}$	0.0096**	0.0105**	-0.0161***
	(0.0041)	(0.0040)	(0.0052)
$ABS\_ACCRUAL_{i,t}$	0.3665***	0.388***	0.3449***
	(0.0403)	(0.0418)	(0.0386)
$OPCYCLE_{i,t}$	0.0030*	0.0027	0.0084***
	(0.0018)	(0.0019)	(0.0021)
$ZSCORE_{i,t}$	0.0014***	0.0015***	0.0015***
	(0.0004)	(0.0004)	(0.0004)
$LOGSEG_{i,t}$	-0.0030**	-0.0017	0.0026
	(0.0013)	(0.0014)	(0.0017)
$CAP\_INTENSITY_{i,t}$	-0.0151***	-0.0174***	0.0313***
	(0.0029)	(0.0032)	(0.0041)
$INT\_INTENSITY_{i,t}$	0.0132	0.0123	-0.0193
	(0.0148)	(0.0148)	(0.0135)
$BIG4_{i,t}$	-0.0055	-0.0038	0.0013
	(0.0030)	(0.0032)	(0.0035)
Industry Fixed Effects	Yes	Yes	Yes

Year Fixed Effects	Yes	Yes	Yes
Observations	2694	2483	2483
Adjusted R^2	29.89	32.39	17.09

TABLE 7: This table presents the regression analysis of firms' discretionary accruals on the firms' ESG risk proxied by RRI Trend. Discretionary accruals ($DA_{i,t}$) in Column (1) are based on Equation (2); Discretionary accruals ($DA_{i,t}$) in Column (4) are based on Equation (3); Discretionary accruals ($DA_{i,t}$) in Column (3) are based on Equation (4). All variables are defined in Appendix I. Standard errors are adjusted for heteroskedasticity and within firm clustering. Standard errors are in parentheses. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***, respectively.

We report the results of valuation variables in Table 8 using the Ohlson (1995) valuation model. The dependent variable is price per share in Panel A and log of market capitalization in Panel B, and operating cash flow valuation in Panel C. We also include in the performance models the two audit-quality proxies (i.e., audit fess and discretionary accruals).

4.5 Estimation of Firm Performance
Table 8 presents regression estimates of equations 5, 6, and 7. We find that ESG risks are positively and significantly associated with firms' valuation measures: price per share, market valuation, and operating cash flow. These findings indicate that firms with negative media coverage, represented by higher ESG risks in the prior period, report higher firm valuation and higher cash flows in the current year. In other words, these firms with higher ESG risk exposure improve firm valuation and cash flow from operations. In sum, the negative media coverage of ESG compels firms to improve their performance and firm valuation. Jain et al. (2016) report that ESG risk is positively associated with their performance measures. In addition, we find that the discretionary accruals variable in the prior period is positively and significantly associated with price per share valuation in the current period indicating that lower earnings quality in the prior period is followed by increase in firm valuation in the current year.

With respect to market capitalization and operating cash flow models, the discretionary accruals variable, as expected, is negative and significant suggesting that firms with high discretionary accruals experience lower valuation and operating cash flow in the current period. We also find that firms pay higher audit fees with increasing firm valuation and operating cash flow. The going concern variable displays similar sign of the coefficient in each of the three models as the discretionary accruals' variable indicating that the market assessment of the going concern and discretionary variables is related. The other two control variables, book value and earnings, are positively and significantly related in each of the three models indicating that increases in book value and earnings increase firm valuation and operating cash flow in the current period. In terms of economic significant, Table 8, Panel A shows that given the coefficient of -0.388 of Current RRI, a one standard deviation increase in Current RRI (12.63) is associated with an average increase in price per share by 490 percent. Similarly, for the coefficient of 0.24 for Peak RRI, a one standard deviation increase in Peak RRI (17.78) is associated with an average increase in price per share by 426 percent. The coefficient of 0.39 for RRI Trend, suggests a one standard deviation increase in RRI Trend (12.62) is associated with an average increase in price per share by 492 percent.

Similarly, in terms of economic significance, Table 8, Panel B shows that the 0.05 coefficient of Current RRI indicates that a one standard deviation increase in Current RRI (12.63) is associated with an average increase in market capitalization by 63 percent. Additionally, for the 0.03 coefficient for Peak RRI, a one standard deviation in Peak RRI (17.78) is associated with an average increase in market capitalization by 53.34 percent. In addition, the coefficient of 0.05 for average RRI Trend, suggests a one standard deviation increase in RRI Trend (12.62) is associated with an average increase in market capitalization by 63.1 percent.

Finally, economic significance of the RRI coefficients in Table 8, Panel C shows that for the coefficient of 0.05 for Current RRI, a one standard deviation increase in Current RRI (12.63) is associated with an average increase in operating cash flows by 63 percent. For the coefficient of 0.024 for Peak RRI, a one standard deviation in Peak RRI (17.78) is associated with an average increase in operating cash flows by 42.67 percent. Finally, the coefficient of 0.04 for RRI Trend, a one standard deviation in RRI Trend (12.62)

is associated with an average increase in operating cash flows by 50.48 percent. Overall, these results suggest that prior period negative media coverage of ESG components are positively associated with current period financial performance after controlling for the audit quality proxies.

Panel A: Price Per Share

Variable	Model 1	Model 2	Model 3
Intercept	0.2842	-1.1554	0.3042
	(3.8008)	(3.7628)	(3.8008)
Avg_Current_RRI$_{i,t-1}$	0.3876***		
	(0.0712)		
Avg_Peak_RRI$_{i,t-1}$		0.2411***	
		(0.0423)	
Avg_RRI_Trend$_{i,t-1}$			0.3911***
			(0.0715)
DA$_{i,t}$	64.5978***	65.3126***	64.6076***
	(11.2447)	(11.2480)	(11.2442)
GCONCERN$_t$	31.6496***	32.2199***	31.7680***
	(9.4269)	(9.4345)	(9.4366)
LNAF$_{i,t}$	0.7805***	0.8310***	0.7807***
	(0.3216)	(0.3178)	(0.3215)
Book Value per share$_{i,t}$	1.0442***	1.0471***	1.0440***
	(0.344)	(0.0343)	(0.0344)
Earnings per share$_{i,t}$	4.9920***	4.9864***	4.9931***
	(0.1552)	(0.1552)	(0.1552)
Adjusted R^2	45.04	45.08	45.04
Number of observations	4712	4712	4712

Panel B: Market Capitalization

Variable	Model 1	Model 2	Model 3
Intercept	4.4041***	4.2303***	4.4021***
	(0.1251)	(0.1255)	(0.1252)
Avg_Current_RRI$_{i,t-1}$	0.0490***		
	(0.0023)		
Avg_Peak_RRI$_{i,t-1}$		0.0271***	
		(0.0014)	
Avg_RRI_Trend$_{i,t-1}$			0.0490***
			(0.0023)
DA$_{i,t}$	-3.2852***	-3.2630***	-3.2921***
	(0.3420)	(0.3443)	(0.3421)
GCONCERN$_t$	-2.8091***	-2.7476***	-2.7957***
	(0.2927)	(0.2945)	(0.2928)
LNAF$_{i,t}$	0.2828***	0.2929***	0.2835***

	(0.0107)	(0.0106)	(0.0107)
Book value of Equity$_{i, t}$	0.0000***	0.0001***	0.0000***
	(0.0000)	(0.0000)	(0.0000)
Earnings$_{i,t}$	0.0000***	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)
Adjusted R^2	52.58	52.02	52.60
Number of observations	4712	4712	4712

Panel C: Operating Cash Flows

Variable	Model 1	Model 2	Model 3
Intercept	1.9652***	1.8083***	1.9617***
	(0.1316)	(0.1323)	(0.1318)
Avg_Current_RRI$_{i,t-1}$	0.0456***		
	(0.0024)		
Avg_Peak_RRI$_{i,t-1}$		0.0240***	
		(0.0014)	
Avg_RRI_Trend$_{i,t-1}$			0.0453***
			(0.0024)
DA$_{i,t}$	-1.7355***	-1.7664***	-1.7534***
	(0.3915)	(0.3950)	(0.3918)
GCONCERN$_{i, t}$	-2.7306***	-2.7157***	-2.7074***
	(0.4360)	(0.4397)	(0.4364)
LNAF$_{i, t}$	0.2957***	0.3064***	0.2967***
	(0.0112)	(0.012)	(0.0112)
Book value of equity$_{i,t}$	0.0001***	0.0001***	0.0001***
	(0.0000)	(0.0000)	(0.0000)
Earnings$_{i,t}$	0.0000***	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)
Adjusted R^2	52.41	51.60	52.32
Number of observations	4424	4424	4424

TABLE 8: This table presents the regression results of firms' valuation variables on the firms' ESG risk variables collected from RepRisk database and other financial variables. In Panel A, Price per share is the valuation variable, and in Panel B, firms' market capitalization is the valuation variable and Panel C uses firm's operating cash flows as the valuation variable. Appendix I indicates the variables definitions. Standard errors are in parentheses. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***, respectively.

5. CONCLUSION
Firms are self-reporting corporate social responsibility and environment sustainability information voluntary to attract green investors. Third party firms, similar to *RepRisk AG* are also engaged in assessing firms' performance of various sustainable measures. Sustainability Accounting Standards Boards has also developed industry specific sustainability standards in assessing firm sustainability performance. We examine whether companies having higher environment, social, and governance (ESG) risks pay more for higher audit quality work to assure the market that their financial reporting meets corporate social responsibility. We obtain ESG risk measures from *RepRisk AG* and use two proxies to assess audit quality. These proxies are audit fees and discretionary accruals. Our results show that firms

perceived to have high ESG risks pay higher audit fees and that higher ESG firms report lower discretionary accruals. The latter results imply that ESG firms report lower earnings management and higher audit quality. We also find that ESG risks are positively and significantly associated with market valuation measures as indicated by the positive coefficients on each of the three proxies for ESG risks. Overall, our findings suggest that auditors should take into consideration ESG risks when designing their audit and that client companies' management of ESG risks increases future earnings performance and firm valuation. Although standard-setting bodies are attempting to mandate sustainability standards to firms, it would still be important to monitor the reputational effects of ESG risks disclosed by the media in the markets.

There are two studies which are related to our work. Burke et al. (2019) investigate auditor response to negative media coverage of ESG practices. They examine the association of the components of ESG on audit fees and find that negative media coverage of ESG issues increases the likelihood of auditor fess and auditor resignation. There are some major differences between Burke et al. (2019) study and our work. We examine not only the association of negative media coverage of ESG with audit fees but also with audit quality and future firm performance. Instead of examining the components of ESG, we focus on ESG index over current and prior two-year period. Similar to Burke et al. (2019), our results show that negative media coverage of ESG is positively associated with audit fees. Additionally, we find that negative media coverage of ESG decreases discretionary accruals suggesting increase in audit quality. Our future performance analysis shows that firms respond to negative media coverage by improving their performance in the following period.

The other study related to our work is by Asante-Appiah (2020), which finds that auditors manage engagement risk, resulting from tainted ESG, by increasing audit effort. Increased audit effort reduces financial misstatements thereby increasing audit quality for up to three years. The increased audit effort increases audit report lags and has no effect on audit fees. On the other hand, our evidence shows that audit fees increase when negative media coverage of ESG occurs or when ESG risk increases. Consistent with Asante-Appiah (2020), we also find that audit quality increases with the issuance of negative media coverage on ESG related issues indicating that audit firms increase audit efforts to adverse media coverage of ESG items. Our proxy for audit quality is discretionary accruals (DA). We found that DA decreases following the issuance of negative media report on ESG components.

6. REFERENCES

[1] Barnea, & A. Rubin. "Corporate social responsibility as a conflict between shareholders." Journal of Business Ethics, vol. 97, pp. 71–86, 2010.

[2] Brockett, & Z. Rezaee. Corporate Sustainability: Integrating Performance and Reporting volume 630. Hoboken, NJ: John Wiley & Sons, 2012, pp. 316

[3] A.C. Ng, & Z. Rezaee. "Business sustainability performance and cost of equity capital." Journal of Corporate Finance, vol. 34, pp. 128–149, 2015.

[4] A.D. Blay, & M.A. Geiger. "Market expectations for first-time going-concern recipients." Journal of Accounting, Auditing & Finance, vol. 16, pp. 209–226, 2001.

[5] Ferguson, J.R. Francis, & D.J. Stokes. "The effects of firm- wide and office- level industry expertise on audit pricing." The Accounting Review, vol. 78, pp. 429–448, 2003.

[6] Huggins, W.J. Green, & R. Simnett. "The competitive market for assurance engagements on greenhouse gas statements: Is there a role for assurers from the accounting profession?" Current Issues in Auditing, vol. 5, pp. A1–A12, 2011.

[7] Jain, P.K. Jain, & Z. Rezaee. "Value-relevance of corporate social responsibility: Evidence from short selling." Journal of Management Accounting Research, vol. 28, pp. 29–52, 2016.

[8] Mackey, T.B. Mackey, & J.B. Barney. "Corporate social responsibility and firm performance: Investor preferences and corporate strategies." Academy of Management Review, vol. 32, pp. 817–

835, 2007.

[9]   Markelevich, & R.L. Rosner. "Auditor fees and fraud firms." Contemporary Accounting Research, vol. 30, pp. 1590–1625, 2013.

[10]   American Institute of Certified Public Accountants (AICPA). "Audit Risk and Materiality in Conducting an Audit." Statement on Auditing Standards No. 47. New York, NY: AICPA. 1983.

[11]   American Institute of Certified Public Accountants (AICPA). "Consideration of Fraud in a Financial Statement Audit." Statement on Auditing Standards No. 82. New York, NY: AICPA. 1997.

[12]   Robin, & Q. Wu. "Firm growth and the pricing of discretionary accruals." Review of Quantitative Finance and Accounting, vol. 45, pp. 561–590, 2015.

[13]   Asante-Appiah. "Does the severity of a client's negative environmental, social and governance reputation affect audit effort and audit quality?" Journal of Accounting and Public Policy, vol. 39, pp. 1-22, 2020.

[14]   Srinidhi, & A.F. Gul. "The differential effects of auditors' non-audit and audit fees on accrual quality." Contemporary Accounting Research, vol. 24, pp. 595-629, 2006.

[15]   C.A. Brumfield, R.K. Elliott, & P.D. Jacobson. "Business risk and the audit process." Journal of Accountancy, vol. 155, pp. 60–68, 1983.

[16]   C.A. Cassell, M.S. Drake, & S.J. Rasmussen. "Short interest as a signal of audit risk." Contemporary Accounting Research, vol. 28, pp. 1278–1297, 2011.

[17]   Canadian Institute of Chartered Accountants (CICA). "Environmental, Social, and Governance (ESG) Issues in Institutional Investor Decision Making." CICA, Toronto. 2010.

[18]   C.E. Carroll, & M. McCombs. "Agenda-setting effects of business news on the public's images and opinions about major corporations." Corporate Reputation Review, vol. 6, pp. 36–46, 2003.

[19]   Lennox, & B. Li. "Accounting misstatements following lawsuits against auditors." Journal of Accounting and Economics, vol. 57, pp. 58–75, 2014.

[20]   Center for Audit Quality (CAO). "The auditor's role in ESG: Present and Future." Internet: https://publication.thecaq.org/rota/introduction/,Feb. 9, 2021.

[21]   CFA Institute. "Environmental, social and governance (ESG) survey,1–19." Internet: https://www.cfainstitute.org/-/media/documents/survey/esg-survey-report-2015.ashx Feb. 9, 2021.

[22]   Committee of Sponsoring Organizations of the Treadway Commission (COSO). "Enterprise Risk Management—Integrated Framework." New York. Sep. 2004.

[23]   D.A. Simunic. "The pricing of audit services: Theory and evidence." Journal of Accounting Research, vol. 18, pp. 161–190, 1980.

[24]   Cormier, M. Magnan, & B. Van Velthoven. "Environmental disclosure quality in large German companies: economic incentives, public pressures or institutional conditions?" European Accounting Review, vol. 14, pp. 3–39, 2005.

[25]   Cormier, & M. Magnan. "The impact of social responsibility disclosure and governance on financial analysts' information environment." Corporate Governance: The International Journal of Business in Society, vol. 14, pp. 467-484, 2014.

[26]   Dhaliwal, O.Z. Li, A. Tsang, & Y.G. Yang. "Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency." Journal of

Accounting and Public Policy, vol. 33, pp. 328–355, 2014.

[27]   D.M. Christensen. "Corporate accountability reporting and high-profile misconduct." The Accounting Review, vol. 91, pp. 377–399, 2016.

[28]   D.P. Baron, & D. Diermeier. "Strategic activism nonmarket strategy." Journal of Economics & Management Strategy, vol. 16, pp. 599–634, 2007.

[29]   D.R. Mishra. "Post-innovation CSR Performance and Firm Value." Journal of Business Ethics, vol. 140, pp. 285–306, 2017.

[30]   D.S. Dhaliwal, O.Z. Li, A. Tsang, & Y.G. Yang. "Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting." The Accounting Review, vol. 86, pp. 59–100, 2011.

[31]   D.S. Dhaliwal, S. Radhakrishnan, A. Tsang, & Y.G. Yang. "Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure." The Accounting Review, vol. 87, pp. 723–759, 2012.

[32]   D. Turban, & D. Greening. "Corporate social performance and organizational attractiveness to prospective employees" Academy of Management Journal, vol. 40, pp. 658–672, 1997.

[33]   D.W. Greening, & D.B. Turban. "Corporate social performance as a competitive advantage in attracting a quality workforce." Business and Society, vol. 39, pp. 254–280, 2000.

[34]   Altman. "Financial ratios, discriminant analysis, and the prediction of corporate bankruptcy." Journal of Finance, vol. 23, pp. 589–609, 1968.

[35]   F.G. Reamer. "The Social Work Ethics Audit: A Risk-Management Strategy." Social Work, vol. 45, pp. 355–366, 2000.

[36]   F.L. Jones. "The information content of the auditor's going concern evaluation." Journal of Accounting and Public Policy, vol. 15, pp. 1–27, 1996.

[37]   Freeman, R. E.(1984). Strategic management: A stakeholder approach. Cambridge University Press: Business & Economics, pp. 1- 292, 2010.

[38]   Pflugrath, P. Roebuck, & R. Simnett. "Impact of assurance and assurer's professional affiliation on financial analysts' assessment of credibility of corporate social responsibility information." Auditing, vol. 30, pp. 239–254, 2011.

[39]   H.S. Albinger, & S.J. Freeman. "Corporate social performance and attractiveness as an employer to different job seeking populations." Journal of Business Ethics, vol. 28, pp. 243–253, 2000.

[40]   Ashbaugh, R. LaFond, & B.W. Mayhew. "Do nonaudit services compromise auditor independence? Further evidence." The Accounting Review, vol. 78, pp. 611–639, 2003.

[41]   Jo, & M.A. Harjoto. "Corporate governance and firm value: The impact of corporate

[42]   social responsibility." Journal of Business Ethics, vol. 103, pp. 351-383, 2011.

[43]   H. Jo, & M. Harjoto. "The causal effect of corporate governance on corporate social responsibility." Journal of Business Ethics, vol. 106, pp. 53–72, 2012.

[44]   I.G. Basioudis, E. Papakonstantinou, & M.A. Geiger. "Audit fees, non-audit fees and auditor going-concern reporting decisions in the United Kingdom." Abacus, vol. 44, pp. 284–309, 2008.

[45] Investor Responsibility Research Center Institute (IRRCi). "Tripping points." Internet: http://irrcinstitute.org/wpcontent/uploads/2016/11/TIIP-and-IRRCi_State-of-Industry_Nov-2016.pdf. Feb. 9, 2021.

[46] J.A. Ohlson. "A synthesis of security valuation theory and the role of dividends, cash flows, and earnings." Contemporary Accounting Research, vol. 6, pp. 648-676, 1990.

[47] J.B. McGuire, A. Sundgren, & T. Schneeweis. "Corporate social responsibility and firm financial performance." Academy of Management Journal, vol. 31, pp. 854–872, 1988.

[48] J.C. Anderson, & A.W. Frankle. "Voluntary social reporting: An iso-beta portfolio analysis." Accounting Review, vol. 55, pp. 467–479, 1980.

[49] Cohen, L. Holder-Webb, & V. Zamora. "Nonfinancial Information Preferences of Professional Investors." Behavioral Research in Accounting, vol. 27, pp. 127-153, 2012.

[50] J.F. Kölbel, T. Busch, & L.M. Jancso. "How Media Coverage of Corporate Social Irresponsibility Increases Financial Risk." Strategic Management Journal, vol. 38, pp. 2266–2284, 2017.

[51] J.H. Choi, J.B. Kim, & Y. Zang. (2010). "Do abnormally high audit fees impair audit quality?" Auditing: A Journal of Practice & Theory, vol. 29, pp. 115–140, 2010

[52] J.H. Schroeder, & M.L. Shepardson. (2016). "Do SOX 404 control audits and management assessments improve overall internal control system quality?" The Accounting Review, vol. 91, pp. 1513–1541, 2016.

[53] J.J. Burke, & R. Hoitash. "Auditor response to negative media coverage of client environmental, social, and governance practices." Accounting Horizons, vol. 33, pp. 1–23, 2019.

[54] J.J. Cordeiro, & M. Tewari. "Firm Characteristics, Industry Context, and Investor Reactions to Environmental CSR: A Stakeholder Theory Approach." Journal of Business Ethics, vol. 130, pp. 833–849, 2015.

[55] J.J. Jones. "Earnings Management during Import Relief Investigations." Journal of Accounting Research, vol. 29, pp. 193–228, 1991.

[56] J.K. Reynolds, & J.R. Francis. "Does size matter? The influence of large clients on office-level auditor reporting decisions." Journal of Accounting and Economics, vol. 30, pp. 375–400, 2000.

[57] J.L. Campbell. "Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility." Academy of Management Review, vol. 32, pp. 946–967, 2007.

[58] J.L. Hobson, & S.J. Kachelmeier. "Strategic disclosure of risky prospects: A laboratory experiment." The Accounting Review, vol. 80, pp. 825–846, 2005.

[59] J.L. Rogers, D.J. Skinner, & S.L.C Zechman. "The role of the media in disseminating insider-trading news." Review of Accounting Studies, vol. 21, pp. 711–739, 2016.

[60] Martínez-Ferrero, S. Banerjee, & I.M. García-Sánchez. "Corporate Social Responsibility as a Strategic Shield Against Costs of Earnings Management Practices." Journal of Business Ethics, vol. 132, pp. 305–324, 2016.

[61] J.M. Handelman, & S.J. Arnold. "The role of marketing actions with a social dimension: Appeals to the institutional environment." Journal of marketing, vol. 63, pp. 33-48, 1999.

[62] J.P. Boone, I.K. Khurana, & K.K. Raman. "Do the Big 4 and the second-tier firms provide audits of similar quality?" Journal of Accounting and Public Policy, vol. 29, pp. 330–352, 2010.

[63]   J.P. Doh, & T.R. Guay. "Corporate social responsibility, public policy, and NGO activism in Europe and the United States: An institutional-stakeholder perspective." Journal of Management Studies, vol. 43, pp. 47–73, 2006.

[64]   J. Peloza. "Using corporate social responsibility as insurance for financial performance." California Management Review, vol. 48, pp. 52–65, 2006.

[65]   J.R. Cohen, L.L. Holder-Webb, L. Nath, & D. Wood. "Corporate reporting of nonfinancial leading indicators of economic performance and sustainability." Accounting Horizons, vol. 26, pp. 65–90, 2012.

[66]   J.R. Francis, & M.D. Yu, "Big 4 office size and audit quality." The Accounting Review, vol. 84, pp. 1521–1552, 2009.

[67]   K.E. Schnietz, M.J. Epstein. "Exploring the financial value of a reputation for corporate social responsibility during a crisis." Corporate Reputation Review, vol. 7, pp. 327–45, 2005.

[68]   K.J. Reichelt, & D. Wang. "National and office-specific measures of auditor industry expertise and effects on audit quality." Journal of Accounting Research, vol. 48, pp. 647–686, 2010.

[69]   Kanagaretnam, G.V. Krishnan, & G.J. Lobo. "An empirical analysis of auditor independence in the banking industry." The Accounting Review, vol. 85, pp. 2011–2046, 2010.

[70]   K. Koh, & Y.H. Tong. "The effects of clients' controversial activities on audit pricing." Auditing: A Journal of Practice & Theory, vol. 32, pp. 67–96, 2013.

[71]   K. Menon, & D.D. Williams. "Investor reaction to going concern audit reports." The Accounting Review, vol. 85, pp. 2075–2105, 2010.

[72]   KPMG. "Audit Point of view." Internet: https://assets.kpmg/content/dam/kpmg/ca/pdf/2016/08/ca-what-is-audit-quality.pdf. 2016.

[73]   Chen, B. Srinidhi, A. Tsang, & W. Yu. "Audited financial reporting and voluntary disclosure of corporate social responsibility (CSR) reports." Journal of Management Accounting Research, vol. 28, pp. 53–76, 2016.

[74]   L.E. Preston, & D.P. O'Bannon. "The corporate social–financial performance relationship." Business and Society, vol. 36, pp. 419–429, 1997.

[75]   L. Holder-Webb, J.R. Cohen, L. Nath, & D. Wood. "The supply of corporate social responsibility disclosures among US firms." Journal of Business Ethics, vol. 84, pp. 497–527, 2009.

[76]   L.P. Fields, D.R. Fraser, & M.S. Wilkins. "An investigation of the pricing of audit services for financial institutions." Journal of Accounting and Public Policy, vol. 23, pp. 53–77, 2004.

[77]   M.C. Jensen. (2001). "Value maximization, stakeholder theory, and the corporate objective Function." Journal of Applied Corporate Finance, vol. 14, pp. 8–21, 2001.

[78]   M.E. Clarkson, "A stakeholder framework for analyzing and evaluating corporate social performance." Academy of Management Review, vol. 20, pp. 92–117, 1995.

[79]   M.E. McCombs, & D.L. Shaw. "The agenda-setting function of mass media." Public Opinion Quarterly, vol. 36, pp. 176–187, 1972.

[80]   M.L. Barnett, & R.M. Salomon. "Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance." Strategic Management Journal, vol. 27, pp. 1101-1122, 2006.

[81]   M.M. Cheng, W.J. Green, & J.C.W. Ko. "The impact of strategic relevance and assurance of sustainability indicators on investors' decisions." Auditing: A Journal of Practice & Theory, vol. 34, pp. 131–162, 2015.

[82]   M.P. Donohoe, & W. Robert Knechel. "Does corporate tax aggressiveness influence audit pricing?" Contemporary Accounting Research, vol. 31, pp. 284–308, 2014.

[83]   Weber. "The business case for corporate social responsibility: A company-level measurement approach for CSR." European Management Journal, vol. 26, pp. 247–261, 2008.

[84]   O.K. Hope, D. Hu, & W. Zhao. "Third-party consequences of short-selling threats: The case of auditor behavior." Journal of Accounting and Economics, vol. 63, pp. 479–498, 2017.

[85]   P.A. Griffin, & Y. Sun. "Going green: Market reaction to CSRwire news releases." Journal of Accounting and Public Policy, vol. 32, pp. 93–113, 2013.

[86]   P.C. Fiss, E.J. Zajac. "The symbolic management of strategic change: sensegiving via framing and decoupling." Academy of Management Review, vol. 49, pp. 1173–93, 2006.

[87]   P.C. Godfrey. "The relationship between corporate philanthropy and shareholder wealth: A risk management perspective." Academy of Management Review, vol. 30, pp. 777–798, 2005.

[88]   P.C. Godfrey, C.B. Merrill, & J.M. Hansen. "The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis." Strategic Management Journal, vol. 30, pp. 425–445, 2009.

[89]   Dodd, N. Dopuch, R. Holthausen, & R. Leftwich. "Qualified audit opinions and stock prices: Information content, announcement dates, and concurrent disclosures." Journal of Accounting and Economics, vol. 6, pp. 3–38, 1984.

[90]   P.M. Clarkson, Y. Li, G.D. Richardson, & F.P. Vasvari. "Does it really pay to be green? Determinants and consequences of proactive environmental strategies." Journal of Accounting and Public Policy, vol. 30, pp. 122–144, 2011.

[91]   P.M. Clarkson, X. Fang, Y. Li, & G. Richardson. "The relevance of environmental disclosures: Are such disclosures incrementally informative?" Journal of Accounting and Public Policy, vol. 32, pp. 410–431, 2013.

[92]   Public Company Accounting Oversight Board (PCAOB). "Assessing and Responding to

[93]   Risk in the Current Economic Environment. Staff Audit Practice Alert, No.9." Washington, DC: PCAOB. 2011.

[94]   R. Ball, & L. Shivakumar. "The role of accruals in asymmetrically timely gain and loss recognition." Journal of Accounting Research, vol. 44, pp. 207–242, 2006.

[95]   R. Doogar, S.P. Rowe, & P. Sivadasan. "Asleep at the wheel (again)? Bank audits during the lead-up to the financial crisis." Contemporary Accounting Research, vol. 32, pp. 358–391, 2015.

[96]   RepRisk. 2015. "The Volkswagen and FIFA scandals – the predictive power of RepRisk." Internet: reprisk.com, Feb. 9, 2021.

[97]   R. Makni, C. Francoeur, & F. Bellavance. "Causality between corporate social performance and financial performance: Evidence from Canadian firms." Journal of Business Ethics, vol. 89, pp. 409–422, 2009.

[98]   R. Simnett, A. Vanstraelen, & W.F. Chua. "Assurance on sustainability reports: An international comparison." The Accounting Review, vol. 84, pp. 937–967, 2009.

[99]   R. W. Houston, M.F. Peters, & J.H. Pratt. "Nonlitigation risk and pricing audit services." Auditing: A Journal of Practice & Theory, vol. 24, pp. 37–53, 2005.

[100]   R.W. Ingram, & K.B. Frazier. "Environmental performance and corporate disclosure." Journal of Accounting Research, vol. 18, pp. 614–622, 1980.

[101]   S. Balsam, J. Krishnan, & J.S. Yang. "Auditor industry specialization and earnings quality." Auditing: A Journal of Practice & Theory, vol. 22, pp. 71–97, 2003.

[102]   S.C. Asthana, & J.P. Boone. "Abnormal audit fee and audit quality." Auditing: A Journal of Practice & Theory, vol. 31, pp. 1–22, 2012.

[103]   S. El Ghoul, O. Guedhami, C.C.Y. Kwok, & D.R. Mishra. "Does corporate social responsibility affect the cost of capital?" Journal of Banking & Finance, vol. 35, pp. 2388–2406, 2011.

[104]   S.G. Chung, B.W. Goh, J. Ng, & K.O. Yong. "Voluntary fair value disclosures beyond SFAS 157's three-level estimates." Review of Accounting Studies, vol. 22, pp. 430–468, 2017.

[105]   S.P. Kothari, A.J. Leone, & C.E. Wasley. "Performance matched discretionary accrual measures." Journal of Accounting and Economics, vol. 39, pp. 163–197, 2005.

[106]   S. Waddock, & N. Frasure-Smith. "Corporate responsibility audits: doing well by doing good." Sloan Management Review, vol. 41, pp. 75, 2000.

[107]   S.W.G. Robb, & L.E.S.T. Zarzeski. "Nonfinancial disclosures across Anglo-American countries." Journal of International Accounting, Auditing and Taxation, vol. 10, pp. 71–83, 2001.

[108]   T.B. Bell, R. Doogar, & I. Solomon. "Audit labor usage and fees under business risk auditing." Journal of Accounting Research, vol. 46, pp. 729–760, 2008.

[109]   T. Lys, J.P. Naughton, & C. Wang. "Signaling through corporate accountability reporting." Journal of Accounting and Economics, vol. 60, pp. 56–72, 2015.

[110]   V. Muslu, S. Mutlu, S. Radhakrishnan, & A. Tsang. "Corporate social responsibility report narratives and analyst forecast accuracy." Journal of Business Ethics, vol. 154, pp. 1119–1142, 2019.

[111]   W. Green, & Q. Li. "Evidence of an expectation gap for greenhouse gas emissions assurance." Accounting, Auditing & Accountability Journal, vol. 25, pp. 146-173, 2011.

[112]   W.R. Kinney Jr, Z. Palmrose, & S. Scholz. "Auditor independence, non-audit services, and restatements: Was the US government right?" Journal of Accounting Research, vol. 42, pp. 561–588, 2004.

[113]   X. Luo, & C.B. Bhattacharya. "The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk." Journal of Marketing, vol. 73, pp. 198–213, 2009.

[114]   Y. Kim, M.S. Park, & B. Wier. "Is earnings quality associated with corporate social responsibility?" The Accounting Review, vol. 87, pp. 761–796, 2012.

[115]   Z. Rezaee. "Business sustainability research: A theoretical and integrated perspective." Journal of Accounting Literature, vol. 36, pp. 48–64, 2016.

[116]   Z. Rezaee. (2017). Business sustainability: Performance, compliance, accountability and integrated reporting. Philadelphia, PA: Routledge, pp. 1-302, 2015.

Appendix I

Variable Definition

Current RRI	The current level of media and stakeholder exposure of a company related to ESG issues
Peak RRI	The highest level of reputational risk exposure related to ESG issues over the last 2 years.
RRI Trend	Difference in the RepRisk Index (RRI) between current date and the date 30 days ago.
ABS_ACCRUAL $_{i,t}$	Absolute value of total accruals
BIG4 $_{i,t}$	One if firm is audited by a Big 4 audit firm and zero otherwise
BM $_{i,t}$	Ratio of book value to closing market value at fiscal year ends
Book Value of Equity $_{i,t}$	Book value per share times shares outstanding at the end of fiscal year for firm i during fiscal year t
Book Value Per Share $_{i,t}$	Book value per share at the end of fiscal year for firm i during fiscal year t
CAP_INTENSITY $_{i,t}$	Net property, plant and equipment divided by total assets
Current RRI $_{i,t}$	the media and stakeholder exposure of a company at the current time
DA $_{i,t}$	Discretionary accruals based on modified Jones Model (1991), Kothari et al. (2005) or Ball and Shivakumar (2006)
Earnings (in millions) $_{i,t}$	Earnings per share before extraordinary items times shares outstanding for firm i during fiscal year t
Earnings per share $_{i,t}$	Earnings per share at the end of fiscal year for firm i during fiscal year t
FOROPS $_{i,t}$	One if foreign income or loss is not equal to zero and zero otherwise
GCONCERN $_{i,t}$	One if an auditor issues a going concern opinion and zero otherwise
INT_INTENSITY $_{i,t}$	R&D plus advertising divided by sales
LEV $_{i,t}$	Ratio of long-term liability to total assets
LEVREC $_{i,t}$	Ratio of accounting receivables to total assets
Leverage $_{i,t}$	Total assets minus common equity divided by common equity for firm I during fiscal year t
LNAF $_{i,t}$	Log of Audit fees
LNNAF $_{i,t}$	Log of non-audit fees for firm i for year t
LNTA $_{i,t}$	Log of total assets
LOGSEG $_{i,t}$	Log of the number of business segments
LOSS $_{i,t}$	One if net income is negative and zero otherwise
Market_Capitalization $_{i,t}$	Log of shares outstanding times stock price at the end of fiscal year
MATERIAL_WEAKNESS $_{i,t}$	Number of weaknesses in a firm's internal controls
MB $_{i,t}$	Ratio of closing market value to book value at fiscal year ends
OPCFO $_{i,t}$	Cash flows from operations scaled by total assets
OPCYCLE $_{i,t}$	Log of the operating cycle calculated as the sum of 360/ costs of goods sold turnover and 360/sales turnover
Operating Cash Flow $_{i,t}$	Log of cash flows from operations scaled by total assets
Peak RRI $_{i,t}$	an overall risk indicator for the highest level of criticism over the past two years received by a company
Price per share $_{i,t}$	Price at the end of fiscal year for firm i during fiscal year t
RESTATEMENT $_{i,t}$	One if a firm has restated its financial statement and zero otherwise
ROA $_{i,t}$	Ratio of earnings before extraordinary items to total assets
RRI Trend $_{i,t}$	the change in the RRI within the past 30 days

Total Assets$_{i,t}$	Total assets for firm i during fiscal year t
ZSCORE$_{i,t}$	Altman's [1983] raw scores

The above variables are used in the following models.

Appendix II
Empirical Models

There is no direct measure of audit quality. Prior studies have used various proxies to measure audit quality. We select two measures of audit quality commonly used in the audit literature— audit fees and discretionary accruals.

Audit Fees Model
We use audit fees as the first proxy of audit quality. For this purpose, we adopt the Francis, Reichelt and Wang (2005) model to examine the association between the ESG risk and audit fees:

$LNAF_{i,t} = \omega_0 + \omega_1 ESG\_Risk_{i,t} + \omega_2 LNTA_{i,t} + \omega_3 LEV_{i,t} + \omega_4 ROA_{i,t} + \omega_5 MB_{i,t} + \omega_6 OPCFO_{i,t} + \omega_7 ABS\_ACCRUAL_{i,t} + \omega_8 SEGSUM_{i,t} + \omega_9 LOSS_{i,t} + \omega_{10} ZSCORE_{i,t} + \omega_{11} BIG4_{i,t} + \omega_{12} MATERIAL\_WEAKNESS_{i,t} + \omega_{13} RESTATEMENT_{i,t} + \omega_{14} YEAR\ FE + \omega_{15} INDUSTRY\ FE + v_{i,t}$ (1)

In this model, we use the natural logarithm of audit fees (*LNAF*) as the dependent variable. *ESG_Risk* is either *Current RRI* or *Peak RRI* or *RRI Trend* explained in the previous section. The ω_1 coefficient is expected to be positive if higher ESG risk leads to increase in audit fees. We run the regressions on each ESG risk measure separately. Following prior literature on audit quality, we include control variables that are related to both firm characteristics and other audit–related characteristics (Reichelt & Wang, 2010; Schroeder & Shepardson, 2016). *LNTA*, the proxy for firm size, is the natural logarithm of total assets and prior studies show that large firms are more likely to pay higher audit fees; *LEV* is the ratio of long-term liabilities to total assets. *LEVREC* is the ratio of accounting receivable to total assets. *ROA* is calculated as net income divided by average total assets, *MB* is the market to book ratio, calculated as market capitalization divided by book value, and *OPCFO* is cash flow from operations divided by average total assets. *ABS_ACCRUAL* is the absolute value of total accruals divided by average total assets, *SEGSUM* is the number of business segments used to control for complexity of firms, *LOSS* is "1" if income before extraordinary items is negative, and "0" otherwise, and *ZSCORE* is the Altman financial distress score (1983). *BIG* is an indicator variable that equals "1" if the client has a Big 4 auditor, and "0" otherwise, and *MATERIAL_WEAKNESS* is an indicator variable equals 1 if the auditor issued a material weakness opinion on internal controls. *RESTATEMENT* is also an indicator variable that equals 1 if there is a presence of restatements in a client's financial statements and 0 otherwise. We include firm and industry fixed effects in our fixed effect model to focus on within-firm variations. *INDUSTRY FE* is the industry fixed effects. *YEAR FE* is the year fixed effects. Our primary variable of interest is *ESG Risk*, we predict that it will be positive and significant, indicating that increase in ESG risks will increase audit fees.

Discretionary Accruals Model
We use discretionary accruals as our second proxy for audit quality. Prior studies on audit quality use the magnitude of discretionary accruals as a proxy for audit quality (e.g. Asthana & Boone, 2012; Balsam et al., 2003; Boone et al., 2010; Choi et al., 2010; Chung et al., 2017; Francis & Yu, 2009; López & Peters, 2012; Reichelt & Wang, 2010; Reynolds & Francis, 2000). Client firms with higher discretionary accruals are likely to manage earnings. Whereas, when auditors see higher discretionary accruals, they are likely to spend more time auditing to prevent distorted earnings. We use absolute discretionary accruals estimated using annual cross-sectional regression model at the industry-level. We use three approaches to measure discretionary accruals. First, we calculate discretionary accruals using the error term of the modified Jones (1991) model given in equation (1).

$$\frac{Accruals_t}{A_{t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{t-1}}\right) + \alpha_2 \left(\frac{\Delta S_t}{A_{t-1}}\right) + \alpha_3 \left(\frac{PPE_t}{A_{t-1}}\right) + \varepsilon_t \qquad (2)$$

We also use two alternative measures of discretionary accruals developed by and Ball & Shivakumar (2006) and Kothari et al. (2005). These measures of discretionary accruals are the errors terms derived terms from equations (3) and (4).

$$\frac{Accruals_t}{A_{t-1}} = \gamma_0 + \gamma_1\left(\frac{1}{A_{t-1}}\right) + \gamma_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \gamma_3\left(\frac{PPE_t}{A_{t-1}}\right) + \gamma_4\left(\frac{ROA_t}{A_{t-1}}\right) + \sigma_t \qquad (3)$$

$$\frac{Accruals_t}{A_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{\Delta S_t}{A_{t-1}}\right) + \beta_2\left(\frac{PPE_t}{A_{t-1}}\right) + \beta_3\left(\frac{CFO_t}{A_{t-1}}\right) + \beta_4 DCFO_t + \beta_5\left(\frac{CFO_t}{A_{t-1}}\right) * DCFO_t + \mu_t$$
$$(4)$$

Where, *Accruals* denotes total accruals (income before extraordinary items minus cash flow from operations). *A*, Δ*S*, and *PPE* represent total assets, changes in net revenue, and gross property, plant, and equipment, respectively; *CFO* represents cash flow from operations; *DCFO* is a dummy variable that equals 1 if *CFO* is negative, and 0 otherwise; and *ε, σ, μ* are error terms in equations (2), (3), and (4), respectively. We expect that firms with higher ESG risk will have lower discretionary accruals because increase in audit work will constrain the client firms to keep their discretionary accruals low.

Regression model in equation (5) is used to explore the association between discretionary accruals and ESG risks in the form of current RRI, peak RRI, and RRI Trend:

$DA_{i,t} = \omega_0 + \omega_1 ESG\_Risk_{i,t} + \omega_2 LNTA_{i,t} + \omega_3 LEV_{i,t} + \omega_4 ROA_{i,t} + \omega_5 MB_{i,t} + \omega_6 FOROPS_{i,t} + \omega_7 OPCFO_{i,t} + \omega_8 LOSS_{i,t} + \omega_9 ABS\_ACCRUAL_{i,t} + \omega_{10} OPCYCLE_{i,t} + \omega_{11} ZSCORE_{i,t} + \omega_{12} LOGSEG_{i,t} + \omega_{13} CAP\_INTENSITY_{i,t} + \omega_{14} INT\_INTENSITY_{i,t} + \omega_{15} BIG4_{i,t} + \omega_{16} YEAR\ FE + \omega_{17} INDUSTRY\ FE + v_{i,t}$
(5)

We use fixed effect model to estimate the impact of ESG risks on discretionary accruals. We expect that firms with higher risks are not likely to manage earnings and, therefore, ω_1 coefficient will be negatively associated with discretionary accruals. *DA* is the discretionary accruals; Discretionary accruals (DAi,t) is based on the modified Jones (1991) model developed by Dechow et al. (1995) stated in Equation (1). All variables are defined in Appendix I. *ESG_Risk* is either Current RRI, Peak RRI, or RRI Trend. Following prior literature on audit quality, we include control variables that are related to both firm characteristics and other audit-related characteristics (e.g., Reichelt and Wang, 2010; Schroeder and Shepardson, 2016). *LNTA*, the proxy for firm size, is the natural logarithm of total assets while large firms are more likely to have higher accruals or lower audit quality. *LEV* is total liabilities divided by total assets; *ROA* is (net income)/average total assets; *MB* is the market to book ratio which is calculated as market capitalization divided by book value; *FOROPS* is the absolute value of foreign exchange income/loss; *OPCFO* is (cash flow from operations)/average total assets; *LOSS* is "1" if income before extraordinary items is negative, and "0" otherwise; *ABS_ACCRUAL* is the absolute value of total accruals/average total assets; *OPCYCLE* is the natural logarithm of the operating cycle (calculated as the sum of 360/cost of goods sold turnover and 360/sales turnover) and this measure is used to control for the time needed to realize accruals in cash flows (Dhaliwal et al., 2011). *ZSCORE* is the Altman financial distress score (1983); *LOGSEG* is the natural logarithm of the number of business segments is used to control for complexity of firms; *CAP_INTENSITY* is the capital asset intensity calculated as net property, plant and equipment divided by total assets. *INT_INTENSITY* is the intangible asset intensity measured as R&D plus advertising divided by sales. These two measures are used to control for asset structure of a firm and the probability of accrual adjustments because of differences in measurement of assets (Schroeder and Shepardson, 2016). *BIG4* is defined as an indicator variable that equals "1" if the client is audited by one of the Big 4 audit firms and "0" otherwise. We include firm and industry fixed effects in our fixed effects model to focus on within-firm variations. *YEAR FE* is year fixed effects and *INDUSTRY FE* is industry fixed effects.

ESG Risks and Firm Performance
In this section, we explore the relationship between ESG risks and firms' financial performance measured using market valuation. We include in the performance models two audit-quality proxies (i.e., discretionary accruals, and log of audit fees). The independent variable of interest in these models is one of the three

ESG risks proxies (current, trend, and peak). We use Ohlson (1990) valuation framework in developing our performance models containing our key variable -- ESG risk, and discretionary accruals, audit fees, and control variables. We obtain control variables from Jain et al. (2016); these variables are going concern, book value of equity, and earnings. The dependent variable is price per share, market capitalization (market price share * number of commons shares outstanding), and operating cash flow in models 6, 7, and 8. The three performance models are given below.

$Price\ Per\ Share_{i,t} =$

$\alpha_0 + \alpha_1 ESG\ risk_{i,t-1} + \alpha_2 Discretinary\ Accruals + \alpha_3 Going\ Concern_{i,t} + \alpha_4 Log\_Auditfees_{i,t} +$

$\alpha_6 Book\ value\ per\ share_{i,t} + \alpha_7 Earnings\ per\ share_{i,t} + \varepsilon_{i,d}$ (6)

$Market\ Capitalization_{i,t}$
$$= \alpha_0 + \alpha_1 ESG\ risk_{i,t-1} + \alpha_2 Discretinary\ Accruals_{i,t} + \alpha_3 Going\ Concern_{i,t}$$
$$+ \alpha_4 Log\_Auditfees_{i,t} + \alpha_5 Book\ Value\ to\ Equity_{i,t} + \alpha_6 Earnings_{i,t}$$
$$+ \varepsilon_{i,d} \qquad (7)$$

$$Operating\ Cash\ Flows_{i,t} = \alpha_0 + \alpha_1 ESG\ risk_{i,t-1} + \alpha_2 Discretinary\ Accruals_{i,t} + \alpha_3 Going\ Concern_{i,t} +$$
$$\alpha_4 Log\_Auditfees_{i,t} + \alpha_5 Book\ Value\ to\ Equity_{i,t} + \alpha_6 Earnings_{i,t} + \varepsilon_{i,d} \qquad (8)$$

We expect that the current period performance of firms (price per share, market valuation, or operating cash flow) would largely dependent upon previous period reputational risk exposure of the firms in our sample. We argue that higher the reputational risk exposure in the previous period, the more responsive will the market be to the current period performance. Therefore, we expect a positive association between ESG risk and valuation/performance measures. With respect to other variables, we expect positive association between these variables and firm valuation measures (stock price per share, market capitalization, and operating cash flow). The discretionary accruals (Robin & Wu, 2015) and audit fee variables are likely to increase with increasing firm valuation suggesting expanding or high growth firms. The higher book value and earnings also suggest higher contemporaneous valuation measure. Firms with going concern opinion at the year-end may have a negative or insignificant association with stock price per share (Blay & Geiger, 2001; Dodd et al., 1984; Jones, 1996; Menon & Williams, 2010).

Conflict of interest/Competing interest: The authors have no conflict of interest to declare that are relevant to the content of this article.

Availability of data and material: The data that support the findings of this study are available from Wharton Research Data Services (WRDS) but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of WRDS.

Code availability: The SAS code was created by the authors and is available upon request.

Boards Contributing to the Protection of the Environment: Looking at the Dynamics between In-groups and Out-groups

Sara De Masi *sara.demasi@unifi.it*
Department of Economics and Management
University of Florence
Via delle Pandette 9, 50127 Florence, Italy

Abstract

The inconclusiveness of previous research on the relationship between women on boards and pro-environmental initiatives calls for a reassessment of this association. Following the social identity theory, this study examines the influence of women on boards on the corporate decisions related to the emissions reduction, by distinguishing between women as out-group members and men as in-group members. Using an econometric model that employs a sample of FTSE-MIB companies over the years 2009-2018, the findings show that the ability of the board to use the women's contribution changes according to the dynamics between out-group and in-group. Specifically, when the board has only one women director, the in-group members (men) fail to consider in their decisions the woman's perspectives and her sensitivity toward the environmental consequences of the business activities. These dynamics influence the board's attention towards the protection of the environment. When the out-group reaches a considerable size (three women) the dynamics between in-group and out-group change and the board becomes more engaged in environmental issues. The results also find that there is a turning point, after which the board engagement towards a better protection of the environment does not increase with the number of women directors, showing an inverted U-shaped relationship.

Keywords: Corporate Governance, Environmental Protection, Board Dynamics, Women on Boards.

1. INTRODUCTION

Pollution is considered as of one of the main negative consequences associated to the business activities. Examples of the impacts that an organization might have on the environment are pollutant emissions coming from the production processes; water and energy consumption; waste produced after the end of the product's life etc. It is argued that one of the main challenges that the society today has to manage is how firms respond to the environmental issues and how they deliberately develop environmentally friendly strategies, such as the introduction of green innovation practices or the adoption of environmental technologies to reduce the impact of the business activity on the environment [1]; [2].

In this regard, the board of directors plays a relevant role. In performing its strategic tasks, it takes important decisions related to the environmental strategies and the practices that the company should take [3]; [4]. However, putting in place pro-environmental initiatives aimed at the protection of the environment such as the reduction of pollutant emissions is not trivial: it requires investments that are costly and that might not be in line with the maximization of shareholders' wealth.

Board gender diversity is considered a key variable in directing the board towards sustainable and environmental friendly actions [5]; [6]; [7]. Women have leadership style, attitude, values that are relevant to make the boards more engaged in pro-environmental activities and sustainable development. They can improve the board decision-making, bringing multiple alternatives [8] and enhance ethical organization behaviour [9].

Prior empirical research about the relationship between women on boards and pro-environmental initiatives reports inconclusive results [10]; [11]; [12]; [6]; [13]; [14]; [15]; [16]. I revisit the association between women on boards and pro-environmental initiatives such as the reduction of pollutant emissions in the light of the social identity theory. I argue that a possible reason that can explain the mixed results is related to the contribution that women bring to the boards. This contribution depends on the women's self-confidence to express their opinion. According to the social identity theory, the influence of women on the board activities varies according to how similar people consider themselves to other group members. Specifically, individuals with similar characteristic such as gender, form sub- groups within the board. Conventionally, men, who numerically dominate the board, create an in-group, whereas the minority (women) creates an out-group. People that belong to the in-group tend to do not trust and do not accept alternative views coming from the out-group members [17]. The dynamics between the in-group and the out-group explain how the board uses the values and the perspectives coming from the women sitting in the board.

Drawing on this theory, I empirically test the effect of women on boards on the environmental protection proxied as the reduction of pollutant emissions. In order to measure the contribution of women that results from the dynamics between in-group and out-group I consider three different situations: (1) the mere presence of women on boards, (2), reaching three women on boards (the so called critical mass), and (3) going beyond the turning point of three women on the boards. Using a sample of FTSE-MIB companies over the years 2009-2018 and employing an econometric model, the results show that having a solo women director is not enough to push the board toward a greater consideration of the environmental impact of the business activities. Boards with three women directors are more likely to exploit the benefits coming from the board gender diversity. Going beyond this threshold of three women and checking for the nonlinear U- shaped relationship between women on boards and the reduction of pollutant emissions, the findings also document that the board does not strengthen the engagement towards a better protection of the environment. Considering the ongoing debate on the women on boards and environmental issues, to my best knowledge this is the first study looking at the contribution of women directors for the environmental decisions such as the emissions reduction considering the dynamics between in-group and out-group. This study sheds light on the inconsistent results in the literature about women on boards and corporate sustainability. By showing the different effect of women on boards according to the size of the out-group they form, I move forward the discussion about gender diversity and environmental performance. In addition, I give insights about the contribution of women on boards for the reduction of pollutant emissions, showing when and how their impact on the board is visible and positive.

In the remainder of this paper, I review the literature and I develop the hypotheses. Then, I present the sample and describe the empirical results. In the last section, I discuss the implications of the research and present the conclusions.

2. LITERARURE REVIEW
2.1 Women on Boards and the Environmental Protection
Corporate law around the world states that the decision-making power of the company is vested in the shareholders' meetings and in the board of directors. Despite some differences across countries, the shareholders' meeting traditionally appoints the board which is responsible for managing the company and implementing projects aimed at the achievement of the corporate purpose [51]. Specifically, the board of directors performs a set of tasks that includes the definition of the strategic context, the monitoring of the company performance and the management of the relationship between the company and its stakeholders [45]. Discussing the environmental impact of the business activities and its consequences for shareholders and stakeholders is part of the board agenda. Although the environmental consequences of the business activities vary across industries, this kind of discussions is applicable across all sectors.

Many studies have pointed out that the board composition is a key driver that influences board decisions and the decision-making process. In particular, board diversity can lead to better decisions, since it increases the pool of information and knowledge that the board can use. In principle, diverse board would be less likely to incur in the phenomenon of group-think which leads the board members to agree with the main common viewpoint. In this vein, women directors are considered to be particular relevant to avoid group-think and induce the board to make decisions aimed at a better protection of the environment and a sustainable corporate development. There are three main reasons that explain that statement. Firstly, women are more sensitive to the stakeholders' needs than men [19]; [20]; [4]. They are more likely to go beyond the monetary results, looking also at the non-financial results. Secondly, women are more long-term oriented than men and they are more likely to acknowledge outcomes such as the protection of the environment [25]; [20]; [26]. This attitude might be the results of their job role, since they are more likely to serve positions that deal with the environmental protection and sustainable development [19]; [27]. Thirdly, women have a leadership style that is more prone towards open debates and participative decision-making [21]; [22]. [23] document that women are more committed and involved, which help them to create a good atmosphere in the board. This approach contributes to develop lively discussions and a more comprehensive consideration of different perspectives [24]. Taken together, women on boards are likely to provide firms with values and points of view to get the board more engaged in pro-environmental initiatives such as carbon strategies and innovations; reduction of pollutant emissions and compliance with sustainability-related regulations.

Previous studies focusing on the effect of women directors on environmental issues report mixed results. Some research does not find significant relationship between women directors and environmental issues. [16] show that a greater number of women on boards does not necessarily lead to more socially and environmental responsible corporate behavior. Similarly, [15] report no significant difference between women and men on boards regarding the adoption of corporate activities related to the environmental quality. Other studies instead document the role of women on boards as an important driver to increase the company's attention towards the environmental consequences of its business activities [7]; [6]. They show that women are associated to better environmental strategies and sustainable practices [11]; [18].

One of the possible reasons that explain these inconclusive results is related to the definition of environmental performance. Previous studies consider the environmental agenda as a dimension of the complex sustainability engagement construct, because it might be difficult to distinguish between social and environmental performance or within the different environmental dimensions [28]; [6]; [29]. Isolating the unique impact on environmental performance and on its single components is needed to better understand the effect of women on environmental protection. In this vein, there are calls asking for more research [30]; [31]; [32]; [20]. Papers investigating the effect of women on boards on a specific environmental issue are scant. [19], [33] and [34] analyze the impact of gender diversity on the voluntary disclosure of greenhouse gas (GHG) emissions in the form of a carbon disclosure project report. They document a positive and significant association between the percentage of women on boards and the propensity to disclose GHG information. Looking at the carbon emission performance, [24] and [35] document a positive impact of the percentage of women on boards on carbon reduction initiatives and on biodiversity reduction. In a recent study, [5] show that women directors are more likely to formulate corporate policies aimed at promoting cleaner production and reducing the negative consequences for the environment. However, there are other studies that show opposite results. Using an international sample of the largest companies, [36] find that board gender diversity, measured as the percentage of women on boards, does not influence carbon emission disclosure. Their results suggest that the effect of women directors on emissions reductions might be influenced by other factors. The contradicting empirical results calls for a deeper investigation of the effect of women on boards for environmental protection.

2.2 Measuring the Contribution of Women for the Protection of the Environment

Another possible reason of the inconclusive evidence of the effects of women directors on environmental activities might be the inadequate measure of women on boards. This paper builds on the social identity theory [37] which argues that individuals define themselves according to their membership in certain groups. This self-identification, which is based on salient demographic characteristics such as gender, segments the board between in-groups and out-groups. As a minority, women on boards are categorized as out-group. This categorization changes the behavior of the people creating a process of board depersonalization because "people are not viewed as unique and multifaceted individuals but as matches relevant to the in-group and out-group prototype" ([22], pag. 93). This depersonalization process influences people's perceptions, attitudes and esteem about one another. In-group members share trust and cohesiveness. They pay great attention on the opinion and perspectives coming from the in-group members. They tend instead to devaluate opinion coming from out-group members [46]. Out-group members are more likely to be perceived as less competent [38], and hence their perspectives are considered not important and less credible. Previous studies document that out-group members are blamed for negative company's results and are less likely to be appreciated for the positive performance [39]. In this situation, out-group members may choose to stay silent and do not challenge the main viewpoints during the decision-making. [52] show that an individual is more likely to conform to the in-group when he/she faces unanimous opinion. However, if he/she eventually speaks-up, it will be very likely that his/her opinion will not be considered. Consequently, the board of directors will not exploit the benefit coming from the board gender diversity, failing to accept the woman's pro-environmental perspectives. As a consequence, this attitude removes the advantages deriving from gender diversity [15]. Following the above reasoning, I hypothesize the following:

Hypothesis 1. When there is a solo women director, the board does not exploit her environmental protection attitude, failing to put in place initiatives to reduce pollutant emissions.

Empirical results about women on boards suggest that it exists a dynamics between in-group and out-group that might influence the board outcomes [40]; [7]; [41]. [42] study the behavioral effect of different numerical representation of women on boards. They show that when the number of women on boards reach the threshold of three, women creates a "normalization": gender is not considered a barrier to communication anymore and women directors are more likely to express their opinion and raise questions. Specifically, interviewing fifty women directors, they show that boards with at least three women change their dynamics and their style, increasing the likelihood that the women's opinion is heard. Similarly, [41] document that women directors' contribution to the level of firm innovation becomes evident when the board reaches the number of at least three women directors. Drawing on these previous studies, I argue that when the out-group has three women, the out-group members are able to gain trust, and as consequence they are more likely to influence and challenge the opinion of in-group members. This means that in this situation the different knowledge, experiences and values that women bring to the boards are more likely to be used by the in-group members in an effort to satisfy stakeholders' needs [43]; [30]. Based on that, I posit the following hypothesis:

Hypothesis 2. When women on boards reach the threshold of three, the board uses the women's contribution, becoming more engaged towards environmental protection which results in a reduction of the pollutant emissions.

[42] analyze the effect of having three women directors or more on the board outcomes. Their study suggests that the incremental influence of adding a new women on board might result in an higher commitment toward the protection of the environment. In theory, a more equal balance between in-group and out-group would relax the conflict among them. It would enhance the perceptions of male directors about women who would be considered equally colleagues. In order to test this effect, I go beyond the turning point of three women by including a quadratic term of the percentage of women directors on the board. Based on these arguments, I hypothesize as follows:

Hypothesis 3. After reaching the minimum number of three women, board continues to be positive influenced by women directors, which results in the enhancement of pro- environmental initiatives such as the reduction of pollutant emissions.

3. METHODOLOGY
3.1 Sample and Variables
The sample consists in all FTSE-MIB companies (40 listed companies) over the years 2009 - 2018. These companies, which are selected by Italian Stock Exchange, are the largest and leading companies across all industries [54]. The total number of companies listed in Italy are 228, and the FTSE-MIB represents approximately 80% of the domestic market capitalization. The choice of the country is crucial for this study. Italy is one of the countries that introduced gender quota law in 2012. This regulation mandates listed public companies to increase the number of women on boards, by setting in the second board term a minimum threshold of one-third of women that the board should achieve. The Italian gender quota law has created a natural experiment where it is possible to study board gender diversity, overcoming the potential endogeneity problems. Data about pollutant emissions are collected by Refinitiv-Eikon database. Using publicly-reported data, this database measures a company's relative environmental performance, in terms of emissions, environmental product innovation, the use of green technologies etc. The information is transformed in scores that measure how well the company performs in terms of environmental protection. In this analysis, I focus on the protection of the environment proxied as the pollutant emissions reduction score. This measure indicates the ability of the company to reduce the pollutant emissions that come from its business activities. The pollutant emissions include carbon and other gas emissions, water discharged and waste produced. This is the dependent variable. A high value indicates excellent performance in terms of environmental protection, that results in a minimization of the environmental impact.

In order to measure the influence of women on boards according to the interaction between in-group and out-group, a set of independent variables has been used. The first independent variable is called "presence of women" and it is a dummy variable that equals to 1 if there is one women sitting on the board of directors and zero otherwise. This measure captures the situation when women is seen as a minority that creates an out-group within the board. Following the social identity theory, her opinion and perspectives are not considered by the in-group members since she is not seen as a valuable resource. The second variable is called "3 women directors". This is a dummy variable that assumes a value of 1 if the board has three women, and 0 otherwise [30]; [41]. It captures the situation when the out-group members gain trust and their opinion and values are more likely to be exploited by the in-group members. The third variable is called "women squared", that is the quadratic term of the percentage of women on boards. This variable helps to determine the threshold level after which women on the board exert an effect on environmental performance with an opposite sign [7]. I include other control variables: the variable called "%IND" that measures the percentage of independent directors on the board; the variable "CEOChairman" which is a dummy variable that assumes 1 if the CEO is also the Chairman of the board and zero otherwise; the variable "CSR_comm" is a dummy equal to 1 if the board has established also a corporate social responsibility committee (CSR) and zero otherwise; "B_SIZE" and "F_size" that are respectively the board size measured as the total number of directors in the board and the firm size measured as the logarithmic transformation of total assets. All variables are defined in Table 1.

Variable	Measurement
Environmental protection	This score measures the level of pollutant emissions created during the production and operational processes. An higher values indicates a better environmental protection
Presence of women	It is a dummy variable that assumes the value 1 if a board has at 1 woman; 0 otherwise.
% women	The percentage of women on boards reported by the company.
3 women directors	It is a dummy variable that assumes the value 1 if a board has 3 women; 0 otherwise.
Women directors squared	It is a quadratic transformation of the percentage of women on boards.
B_size	The number of members on the board.
CEO Chairman	It is a dummy equal to 1 if 1 if the CEO is also Chairman, 0 otherwise.
CSR_comm	It is a dummy equal to 1 if 1 if the board has established a corporate social responsibility committee, 0 otherwise.
% Indep	The percentage of independent directors reported by the company.
F_size	The logarithmic transformation of total assets at the end of the fiscal year.

TABLE 1: Description of the variables.

3.2 Data Analysis

The analysis tests the added value of women on boards for the environmental protection by regressing the dependent variable Y (the environmental protection proxied as the reduction of pollutant emissions) on a vector of the independent variables X (that includes: (1) the presence of women; (2) three women directors and (3) women directors squared) and a set of control variables Z (that includes: B_size; CEO Chairman, % Indep and F-size). The model tested is shown below:

$$Y_{j,t} = b_0 + b_1 X_{j,t} + b_2 Z_{j,t} + \varepsilon_{j,t}$$

where b is the constant, b1 and b2 are the coefficients, and ε is the residual term. Indices j and t define the firm and time dimensions, respectively. See Table 1 for detailed definitions of the variables. I test the hypotheses using panel data in order to control for omitted and unobserved variable bias. I use fixed effect method of estimation. This choice comes from the results of the tests run on all the specifications presented, which were insignificant for the Hausman tests and significant for the Breusch. Stata 15 was used to run the analysis.

Table 2 presents the descriptive statistics of the variables used in this study. The variable "Environmental protection", which potentially ranges between 0 and 100%, shows a mean value of 61.33%. The average percentage of women on boards is 18.05%, ranging from zero to 53.33%. This mean value is the pooled value of the sample and it does not consider the change among the years. The average board size is 12.57 and the average percentage of independent directors is 55.87%. The variables "presence of women", "three women directors", "CSR_comm" and "CEOChairman" are dummy variables. The correlation matrix (Appendix 1) demonstrates correlations among variables, showing that the variable "environmental protection" is significantly and positively associated with the variables related to women on boards (the presence of women, the percentage of women; and having three women on the boards), with the presence of corporate social responsibility committee, with the presence of independent directors and with the firm size. The coefficients in the correlation matrix are less than 0.5, showing that multicollinearity is not an issue here.

Variable	Obs	Mean	Std. Dev.	Min	Max
Environmental protection	309	61.33	36.34	0.00	99.83
Presence of women	302	0.02	0.15	0.00	1.00
% women	302	18.08	14.06	0.00	53.33
three women directors	302	0.40	0.49	0.00	1.00
CSR_Comm	309	0.68	0.47	0.00	1.00
% Indep	293	55.87	22.27	0.00	100
B_size	302	12.78	4.37	7.00	25.00
CEOChairman	309	0.22	0.41	0.00	1.00
F_size	379	16.80	1.90	11.06	20.75

TABLE 2: Descriptive statistics.

4. RESULTS

Table 3 reports the empirical results of the analysis. Boards that have only one women experience a low attitude towards the environmental protection (Model 1). The variable "presence of women" is negative and statistically significant. This shows that when women are just a mere presence, the boards do not exploit the woman's sensitivity towards the environmental consequences of the business activities. This is because men, belonging to the in-group, do not consider the solo women as a valuable asset. In this "old boys club", the main view points coming from the in-group are less likely to be challenged. The solo women might follow the main idea of the in-group and even adopt male roles in order to feel accepted and conform with the in-group [45]. These results show that the potential contribution coming from the board gender diversity might be undermined by in-group-members.

Following [42] who suggest that women may influence the board when they reach the threshold of three, I test the model considering the dummy "three women directors" which identifies boards with three women (Model 2). Findings show that having three women on boards result in an enhancement of the protection of the environment. This means that when women are three, the board is engaged in the protection of the environment and makes decisions aimed at reducing the pollutant emissions coming from its business activities. At this threshold, the dynamics between in-group and out-group change. The out-group gains trust and its contribution is more likely to be employed in the board discussions. Because of the sensibility of women towards a better environmental protection, the board will increase its engagement towards environmental issues which translates in a reduction of pollutant emissions created by the production processes. At this threshold, the out-group members can therefore bring advice and resources that can influence board decisions in adopting pro-environmental initiatives and programs to mitigate global environmental challenges.

In Model 3 I include a quadratic term of the percentage of women on boards to identify the turning point in the predicted emission reductions [7]; [44]. Results report a nonlinearity between women on boards and the protection of the environment, suggesting an inverted U- shaped relationship. This means that there is a threshold level after which women on boards exert an effect on the emissions score with an opposite sign. Contrary to [42] who analyze the effect of three women or more on the board, I argue that the incremental influence of adding a women on board might not result in an incremental strong commitment towards the protection of the environment. In a recent study about women on boards, [40] document that when women represent more than 40% of the board, the board members do not change their behavior. This suggests that a more equally balance between in-group and out-group does not necessary lead to a higher influence of women (out-group) over the environmental decisions such as the reduction of pollutant emissions.

	Environmental protection		
	(Model 1)	(Model 2)	(Model 3)
Presence of women	-18.92***		
	(-3.32)		
three women directors		7.06***	
		(3.35)	
Women directors squared			-0.10*
			(-1.75)
% women			0.63***
			(2.66)
CSR_Comm	6.71*	5.22	4.70
	(1.75)	(1.36)	(1.21)
B_size	-0.41	-0.41	-0.34
	(-1.34)	(-1.35)	(-1.06)
% Indep	0.16**	0.04	0.04
	(1.91)	(0.52)	(0.53)
CEOduality	4.09	4.05	2.89
	(1.28)	(1.27)	(0.92)
F_size	5.99***	4.98*	4.88
	(2.07)	(1.69)	(1.66)
R^2 (overall)	0.36	0.29	0.28
R^2 (between)	0.32	0.10	0.26
R^2 (within)	0.10	0.25	0.11
N. Obs	293	293	293
N. firms	38	38	38

TABLE 3: Results.

5. DISCUSSIONS AND IMPLICATIONS

This paper focuses on the contribution of women directors for the board decisions related to the reduction of pollutant emissions, by analyzing the dynamics between the in-group and the out-group. The corporate sensitivity towards environmental protection depends on the values, believes and culture shared among the board members [49] [50]. Women directors pay particular attention on the stakeholders' interests which include the environmental protection. The possibility that women's values and attitudes are shared and used by the board depends on the dynamics between the in-group and the out-group. Applying the social identity theory, this paper shows that the potential contribution coming from women on boards is hampered when the board has a solo women. Results show that the board fails to use the sensitivity of women towards the environmental protection when there is a solo woman director. Boards with only one women on the boards experience worst environmental performance in terms of emissions reduction than boards with more than one women director. When the out-group reaches a considerable size (three women), the dynamics between in-group and out-group change and the women's contribution has been exploited. However, an incremental effect of having a new women director does not result in an higher commitment toward the protection of the environment.

This paper provides important implications both for the theory and the practice. The evidence that the potential contribution coming from the board gender diversity might be undermined by in-group-members, pushes forward the discussion of women on boards, Research on corporate governance and specifically on gender board diversity focuses on the consequences of having women on boards, looking mainly on the number or the percentage of women directors. This study goes beyond the surface, moving the discussion from the numerical presence of women on boards to the board dynamics that women could create.

Moreover, this study gives important suggestions about the thresholds of women directors which is needed to have a positive influence on the board decisions related to the environmental

protection. In the recent years many countries have introduced quota laws aimed at increasing the number of women on the board of directors. The main goal was to push companies to include more women into the decision-making position [53] such as the board of directors. These gender quota requirements differ across countries in terms of the minimum percentage of women directors required, the type of the actions (voluntary or mandatory) and the penalties for the non-compliance. This paper documents that the threshold of three women is needed to make the board more engaged towards environmental issues such as the pollutant emissions created by the production processes. It also shows that there is a turning point above which this board engagement does not increase with the number of women directors. This result contributes to the discussion among policy-makers about the quota law requirements that enhance the board effectiveness.

The study presents few limitations that might provide fruitful avenues for future research. The sample includes companies from one single country. This choice helps to give results which are not affected by country-specific variables that might influence and interact with the board attitudes towards a better protection of the environment. Looking at one single country overcomes the problems related to the different rules and practices to enhance the sustainability that are put in place by the governments around the globe. However, a replication of this study focusing on other countries might highlight the possible differences and the different roles of national institutions. Another possible extension of the paper is to look inside the attributes of the board members. Background, nationality, education and past experience might eventually interact with the relationship between women on boards and the environmental protection, changing the dynamics between in-group and out-group and the believes and perceptions of the board members.

6. REFERENCES

[1] Madsen, H. L., Ulhøi, J. P., "Sustainable visioning: Re-framing strategic vision to enable a sustainable corporate transformation", Journal of Cleaner Production, vol. 288, pp. 125602, 2021.

[2] Ahmad, N., Li, H., Tian, X., "Increased firm profitability under a nationwide environmental information disclosure program? Evidence from China", Journal of Cleaner Production, vol. 230, pp. 1176-1187, 2019.

[3] Atif, M., Alam, M. S., Hossain, M. "Firm sustainable investment: Are female directors greener?", Business Strategy & Environment, vol. 29, pp. 3449– 3469, 2020.

[4] Mallin, C., Michelon, G., Raggi, D. "Monitoring intensity and stakeholders' orientation: how does governance affect social and environmental disclosure?", Journal of Business Ethics, vol. 114, pp. 29-43, 2013.

[5] Nadeem, M., Bahadar, S., Gull, A.A. Iqbal, U. "Are women eco-friendly? Board gender diversity and environmental innovation", Business Strategy & Environment, pp. 1–16, 2020.

[6] Naciti, V. "Corporate governance and board of directors: The effect of a board composition on firm sustainability performance", Journal of Cleaner Production, vol. 237, pp. 117727, 2019.

[7] Birindelli, G., Iannuzzi, A. P., Savioli, M. "The impact of women leaders on environmental performance: Evidence on gender diversity in banks", Corporate Social Responsibility and Environmental Management, vol. 26, pp. 1485–1499, 2019.

[8] Westphal, J. D., Milton, L. P. "How experience and network ties affect the influence of demographic minorities on corporate boards", Administrative Science Quarterly, vol. 45(2), pp. 366–398, 2000.

[9]   Ibrahim, N., Angelidis, J., Tomic, I. M. "Managers' attitudes toward codes of ethics: Are there gender differences?" Journal of Business Ethics, vol. 90(3), pp. 343–353, 2009.

[10] Zaid, M. A., Wang, M., Adib, M., Sahyouni, A., Abuhijleh, S. T. "Boardroom nationality and gender diversity: Implications for corporate sustainability performance", Journal of Cleaner Production, vol. 251, pp.119652, 2020.

[11] Chams, N., García-Blandon, J., "Sustainable or not sustainable? The role of the board of directors", Journal of Cleaner Production vol. 226, pp. 1067-1081, 2019.

[12] Hollindale, J., Kent, P., Routledge, J., Chapple, L. "Women on boards and greenhouse gas emission disclosures", Accounting and Finance, vol. 59, pp. 277–308, 2019.

[13] Ben-Amar, W., Chang, M., McIlkenny, P. "Board gender diversity and corporate response to sustainability initiatives: Evidence from the carbon disclosure project", Journal of Business Ethics, vol. 142, pp. 369–382, 2017.

[14] Fuente, J.A., García-Sánchez, I.M., Lozano, M.B. "The role of the board of directors in the adoption of GRI guidelines for the disclosure of CSR information", Journal of Cleaner Production, vol. 141, pp. 737-750, 2017.

[15] Galbreath, J. "Are there gender-related influences on corporate sustainability? A study of women on boards of directors", Journal of Management & Organization, vol. 17(1), pp. 17–38, 2011.

[16] Rodriguez-Dominguez, L., Gallego-Alvarez, I., Garcia-Sanchez, I. M. "Corporate governance and codes of ethics", Journal of Business Ethics, vol. 90, pp. 187, 2009

[17] Halliday, C. S., Paustian-Underdahl, S. C., Fainshmidt, S. " Women on boards of directors: a meta-analytic examination of the roles of organizational leadership and national context for gender equality", Journal of Business and Psycology, vol. 36, pp. 173-191, 2021.

[18] Webb, E. "An examination of socially responsible firms' board structure", Journal of Management and Governance, vol. 8(3), pp. 255-277, 2004.

[19] Liao, L., Luo, L., Tang, Q. " Gender diversity, board independence, environmental committee and greenhouse gas disclosure", The British Accounting Review, vol. 47(4), pp. 409–424, 2015.

[20] Glass, C., Cook, A., Ingersoll, A. R. " Do women leaders promote sustainability? Analyzing the effect of corporate governance composition on environmental performance", Business Strategy & Environment, vol. 25(7), pp. 495–511, 2016.

[21] Bear, S., Rahman, N. Post, C. " The impact of board diversity and gender composition on corporate social responsibility and firm reputation", Journal of Business Ethics vol. 97, pp. 207–221, 2010.

[22] Nielsen, S., Huse, M. "The Contribution of Women on Boards of Directors: Going beyond the Surface" Corporate Governance: An International Review, vol. 18, pp. 136-148, 2010.

[23] Huse, M., Solberg, A. G. "Gender related boardroom dynamics: How women make and can make contributions on corporate boards", Women in Management Review, vol. 21 , pp. 113–130, 2006.

[24] Kanadlı, S. G., Torchia, M., Gabaldon, P. "Increasing women's contribution on board decision making: The importance of chairperson leadership efficacy and board openness", European Management Journal, vol. 36, n. 1, pp. 91-104, 2018.

[25] Haque, F. "The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms", The British Accounting Review, vol. 49, pp. 347-364, 2017.

[26] Matsa, D.A., Miller, A.R., " A female style in corporate leadership? Evidence from quotas", American Economic Journal: Applied Economics, vol. 5, pp. 136-169, 2013,

[27] Post, C., Byron, K., "Women on Boards and Firm Financial Performance: A Meta-Analysis", Academy of Management Journal, vol. 58, pp. 1546–1571, 2015.

[28] Lu, J., Herremans, I. M. " Board gender diversity and environmental performance: An industries perspective", Business Strategy & Environment, vol. 28, pp. 1449– 1464, 2019.

[29] Velte, P., Stawinoga, M., Lueg, R. "Carbon performance and disclosure: A systematic review of governance-related determinants and financial consequences", Journal of Cleaner Production, 254, 120063, 2020.

[30] De Masi, S, Słomka- Gołębiowska, A, Becagli, C, Paci, A. "Toward sustainable corporate behavior: The effect of the critical mass of female directors on environmental, social, and governance disclosure", Business Strategy & Environment, pp. 1– 14, 2021.

[31] Widyawati, L. "A systematic literature review of socially responsible investment and environmental social governance metrics", Business Strategy & Environment. vol. 29, pp. 619– 637, 2020.

[32] Galbreath J. "Is Board Gender Diversity Linked to Financial Performance? The Mediating Mechanism of CSR", Business & Society. 57(5), pp. 863-889, 2018.

[33] Elsayih, J., Tang, Q. and Lan, Y.-C. "Corporate governance and carbon transparency: Australian experience", Accounting Research Journal, Vol. 31 No. 3, pp. 405-422, 2018.

[34] Tingbani, I, Chithambo, L, Tauringana, V, Papanikolaou, N. " Board gender diversity, environmental committee and greenhouse gas voluntary disclosures", Business Strategy & Environment, 29, pp. 2194– 2210, 2020.

[35] Haque, F., Jones, M. J. "European firms' corporate biodiversity disclosures and board gender diversity from 2002 to 2016", The British Accounting Review, Elsevier, vol. 52(2), 2020.

[36] Prado-Lorenzo, J. M. Garcia-Sanchez, I. "The Role of the Board of Directors in Disseminating Relevant Information on Greenhouse Gases", Journal of Business Ethics, Springer, vol. 97(3), pp. 391-424, 2010.

[37] Tajfel, H., Turner, J. C. (1986) The social identity theory of intergroup behavior. In: Worchel, S. and Austin, W. G. (eds.) Psychology of Intergroup Relations, 7–24. Nelson- Hall, Chicago, IL.

[38] Bodenhausen, G. V., Kang, S. K., Peery, D. (2012). Social categorization and the perception of social groups. In S. T. Fiske, & C. N. Macrae (Eds.), SAGE handbook of social cognition (pp. 311-329). Los Angeles, CA: Sage.

[39] Hewstone, M. "The 'ultimate attribution error'? A review of the literature on intergroup causal attribution", European Journal of Social Psychology, 20(4), pp. 311-335., 1990.

[40] De Masi, S. Słomka-Gołębiowska, A., Paci, A. "Women on boards and monitoring tasks: An empirical application of Kanter's theory". Management Decision, forthcoming, 2021.

[41] Torchia, M., Calabrò, A., Huse, M. " Women directors on corporate boards: From tokenism to critical mass", Journal of Business Ethics, 102, pp. 299–317, 2011.

[42] Konrad, A. M., Kramer, V., Erkut, S. "Critical mass: The impact of three or more women on corporate boards". Organizational Dynamics, 37(2), pp. 145–164, 2008.

[43] Rao, K., Tilt, C. "Board composition and corporate social responsibility: The Role of Diversity, Gender, Strategy and Decision Making". Journal of Business Ethics 138, pp. 327–347, 2016.

[44] Joecks, J., Pull, K., Vetter, K.. Gender diversity in the boardroom and firm performance: What exactly constitutes a "critical mass?" Journal of Business Ethics, 118(1), pp. 61–72, 2013.

[45] Rose, C. "Does female board representation influence firm performance? The Danish evidence", Corporate Governance: An International Review, 15, pp. 404–413, 2007.

[46] Hogg, M. A. "A social identity theory of leadership", Personality and Social Psychology Review, 5(3), pp. 184-200, 2001.

[47] Alhaj, N. "The impact of corporate governance on improving overall performance of the companies", International Journal of Business Research and Management, 10(2), pp. 13-28, 2019.

[48] Effiok, S., Effiong, J. "The implication of corporate governance on financial institution's performance in Nigeria", International Journal of Business Research and Management, 3(5), pp. 205 – 219, 2012.

[49] Kamran, H., Khurshid I., Ali, F., Srivastava, N. "Value creation through corporate social responsibility in developing countries: A case study of Proctor & Gamble Pakistan", International Journal of Business Research and Management, 3(6), pp. 279 - 293, 2012.

[50] Lin, C., Chiu, S., "The impact of shared values, corporate cultural characteristics, and implementing corporate social responsibility on innovative behavior", International Journal of Business Research and Management, 8(2), pp. 31-50, 2017.

[51] Zattoni, A. "Corporate governance: How to design good companies", Bocconi University Press. Milano. 2020.

[52] Asch, S. E. "Effects of group pressure upon the modification and distortion of Judgement", in H. Guetzkow (ed.). Groups, leadership and men. Carnegie Press, Pittsburgh, PA, pp. 177–190. 1951.

[53] Kamran H., Ali F., Shehryar M., Natarajan B. "Fostering a diversity culture in business: Npower and the recruitment of ethnic minorities", International Journal of Business Research and Management, 7(2) pp. 15-30, 2016.

[54] Borsa Italiana https://www.borsaitaliana.it/borsa/indici/indici-in-continua/dettaglio.html?indexCode=FTSEMIB&lang=en

Sara De Masi

	1. *Environmental protection*	2. *presence of women*	3. *Three women directors*	4. *% women*	5. *CSR_ comm*	6. *Board size*	7. *CEO duality*	8.. *% Indep*	9. *F_size*
1.	- / -								
2.	0.01	- / -							
3.	0.10*	-0.12**	- / -						
4.	0.12**	-0.14***	0.68***	- / -					
5.	0.66***	0.10*	0.08	0.15***	- / -				
6.	0.02	0.11**	0.31***	-0.03	0.07	- / -			
7.	-0.12	0.18***	-0.04	-0.11**	-0.13***	0.09*	- / -		
8.	0.51***	0.03	0.20***	0.22***	0.42***	0.21***	-0.24***	- / -	
9.	0.35***	0.04	0.17***	0.04	0.18***	0.33***	-0.23***	0.33***	- / -

APPENDIX 1: Correlation Matrix

INSTRUCTIONS TO CONTRIBUTORS

As a peer-reviewed journal, *International Journal of Business Research and Management (IJBRM)* invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Business, Management, Business research, Marketing, MIS-CIS, HRM, Business studies, Operations Management, Business Accounting, Economics, E-Business/E-Commerce, and related subjects. IJRBM is intended to be an outlet for theoretical and empirical research contributions for scholars and practitioners in the business field.

IJBRM establishes an effective communication channel between decision- and policy-makers in business, government agencies, and academic and research institutions to recognize the implementation of important role effective systems in organizations. IJBRM aims to be an outlet for creative, innovative concepts, as well as effective research methodologies and emerging technologies for effective business management

To build its International reputation, we are disseminating the publication information through Google Books, Google Scholar, J-Gate, RePEc, IDEAS, ScientificCommons, Docstoc and many more. Our International Editors are working on establishing ISI listing and a good impact factor for IJBRM.

The initial efforts helped to shape the editorial policy and to sharpen the focus of the journal. Started with Volume 12, 2021, IJBRM appears in more focused issues. Besides normal publications, IJBRM intend to organized special issues on more focused topics. Each special issue will have a designated editor (editors) – either member of the editorial board or another recognized specialist in the respective field.

We are open to contributions, proposals for any topic as well as for editors and reviewers. We understand that it is through the effort of volunteers that CSC Journals continues to grow and flourish.

IJBRM LIST OF TOPICS
The realm of International Journal of Business Research and Management (IJBRM) extends, but not limited, to the following:

- Interdisciplinary Research Relevant to Business,
- Business Accounting
- Business Model and Strategy
- Case Studies
- Customer Relationship Management

- E-commerce, Collaborative Commerce and Net-enhancement
- Finance & Investment
- General Management
- Globalisation, Business and Systems

- Labor Relations & Human Resource Management
- Management Systems and Sustainable Business

- Business & Economics Education
- Business Law
- Business Processes
- Cross-Culture Issues in Business
- Decision Support and Knowledge-based Systems
- Economics Business and Economic Systems
- General Business Research
- Global Business
- Knowledge Management and Organisational Learning
- Management Information Systems
- Managing Systems

- Marketing Theory and Applications
- Organizational Behavior & Theory
- Production/Operations Management
- Public Responsibility and Ethics
- Strategic Management Policy
- Technologies and Standards for Improving Business
- Technopreneurship Management
- Value Chain Modelling Analysis Simulation and Management

- Modelling Simulation and Analysis of Business Process
- Production and Operations Systems
- Public Administration and Small Business Entreprenurship
- Strategic Management and Systems
- Supply Chain and Demand Chain Management
- Technology & Innovation in Business Systems
- Trust Issues in Business and Systems
- Value-based Management and Systems

CALL FOR PAPERS

Volume: 12 - **Issue: 3**

i. Submission Deadline : April 30, 2021   **ii. Author Notification:** May 31, 2021

iii. Issue Publication: June 2021

CONTACT INFORMATION