

**T.C.
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**



**THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND
FINANCIAL PERFORMANCE: A RESEARCH ON SOME LISTED FIRMS
IN BORSA ISTANBUL BIST-30 STOCK INDEX**

THESIS

Paul Jonathan Yimga

**Department of Business
Business Administration Program**

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T.C.
İSTANBUL AYDIN ÜNİVERSİTESİ
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İşletme İngilizce Anabilim Dalı, İşletme Yönetimi İngilizce Tezli Yüksek Lisans Programı Y1712.130009 numaralı öğrencisi Paul Jonathan YIMGA'nın *İstanbul Aydın Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliği'nin 9. (1) maddesine* göre hazırlayarak Enstitümüze teslim ettiği **“The Relationship Between Corporate Governance And Financial Performance: A Research On Some Listed Firms In Borsa Istanbul Bist-30 Stock Index”** adlı tezi, Yönetim Kurulumuzun 18.12.2020 tarihli ve 2020/19 sayılı toplantısında seçilen ve küresel salgın COVID-19 sebebiyle Skype aracılığı ile toplanan biz jüri üyeleri huzurunda, ilgili yönetmelik gereğince 37,16 dakika süre ile aday tarafından savunulmuş ve sonuçta adayın tezi hakkında oybirliği ile Kabul kararı verilmiştir.

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Dr. Öğr. Üyesi Mustafa
ÖZYEŞİL

İşbu tutanak, tez danışmanı tarafından jüri üyelerinin tez değerlendirme sonuçları dikkate alınarak jüri üyeleri adına onaylanmıştır.

Tez Savunma Sınavı Jüri Üyeler

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DECLARATION

I hereby declare with the respect that the study “the relationship between corporate governance and financial performance: a research on some listed firms in Borsa Istanbul BIST-30 Stock Index”, which I submitted as a Master thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the Bibliography. (11/01/2021)

Paul Jonathan Yimga

FOREWORD

First, I would like to express my endless gratitude to God for being who I am right now and helping me to find patience, strength within myself to complete this thesis.

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January, 2021

Paul Jonathan Yimga

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ABBREVIATIONS

| | |
|---------------|--|
| ATR | :Asset Turnover Ratio |
| EBITDA | :Earnings before Interest, Taxes, Depreciation, and Amortization |
| ROA | :Return on Asset |
| ROE | :Return on Equity |

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ABSTRACT

This study examined the relationship between corporate governance and financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index between 2012 and 2019. Meanwhile, the specific objectives are to determine the long-run relationship between corporate governance and financial performance and explore the correlation between corporate governance and financial performance. The hypotheses were tested using 5% level of significance. The study employed panel unit root testing, panel cointegration analysis, and panel granger causality test as the estimation techniques. It was found that the panel v -statistic value was -0.885149 and p-value of 0.8120 with its weighted statistic value of -1.229632 and p-value of 0.8906, panel rho-statistic value was 1.864404 and p-value of 0.9689 with the weighted value of 1.73765 and its p-value of 0.9636, the panel PP-statistic value was 0.174469 and p-value 0.5693 with the weighted -1.305849 and p-value 0.0958, the Panel ADF-Statistic value was 0.191093 and p-value of 0.5758 with its weighted value of -1.291603 and its p-value of 0.0982. However, the study concluded that there is no long run relationship between corporate governance and firm performance.

Keywords: *Corporate Governance, ROE, ROA, EBIDTA, and ATR*

**KURUMSAL YÖNETİM İLE FİNANSAL PERFORMANS ARASINDAKİ
İLİŐKİ: BORSA İSTANBUL BİST-30 HİSSE SENEDİ ENDEKSİNDE
BULUNAN BAZI FİRMALAR ÜZERİNE BİR ARAŐTIRMA**

ÖZET

Bu alıŐmada 2012-2019 yılları arasında Borsa İstanbul Bist-30 Hisse Senetleri Endeksi'nde borsada işlem gören bazı firmaların kurumsal yönetim ile finansal performansı arasındaki ilişki incelenmiştir. Bu arada, özel hedefler, kurumsal yönetişim ve finansal performans arasındaki uzun vadeli ilişkiyi belirlemek ve kurumsal yönetim ile finansal performans arasındaki ilişkiyi keşfetmektir. Hipotezler% 5 anlamlılık seviyesi kullanılarak test edildi. alıŐmada tahmin teknikleri olarak panel birim kök testi, panel eşbütünleşme analizi ve panel granger nedensellik testi kullanılmıştır. Ağırlıklı istatistik değeri -1.229632 ve p-değeri 0.8906 olan panel v-istatistik değeri -0.885149 ve p-değeri 0.8120, panel rho-istatistik değeri 1.864404 ve p-değeri 0.9689 olarak belirlendi. 1,73765 ve p-değeri 0,9636, panel PP-istatistik değeri 0,174469 ve p-değeri 0,5693 ağırlıklı -1,305849 ve p-değeri 0,0958, Panel ADF-İstatistik değeri 0,191093 ve p-değeri 0,5758 ile -1.291603 ağırlıklı değeri ve 0.0982 p değeri. Ancak alıŐma, kurumsal yönetişim ile firma performansı arasında uzun vadeli bir ilişki olmadığı sonucuna varmıştır.

Anahtar Kelimeler: Kurumsal Yönetim, ROE, ROA, EBIDTA ve ATR

1. INTRODUCTION

Organizations are established by groups with the goal of reaching results that one individual may not have accomplished (Tran & Tian, 2013). Better outcomes are generated through organizational structure and governance that guides the organization to achieve these objectives. Concerning the intent of the establishing the organization, there is possibility that an organization can be as productive (profitable) or failure (unprofitable). Organizations establish internal order and relationships between organizational sections to achieve these goals, which can be defined as organizational structure. Organizational sections along with their management relationships and mechanisms are essential to the smooth functioning of any organization. Many influences that come from their complex world or from the company itself are affected by organizations (Tran & Tian, 2013).

During a few decades ago, corporate governance was a hot subject of discussion in the developed countries (Dwivedi & Jain, 2005). The responsibility of corporate governance has also extended to the developing nations through the opening of markets and deregulation. Marketplace globalization has, on the one hand, made the world market open to the private sector, and, on the other, increased domestic competition with the arrival of multinational corporations (Dwivedi & Jain, 2005). In this scenario, governance quality is now a vital survival factor and a cornerstone of strategic advantage; it has also become a significant factor affecting a company's ability to secure funding from financial markets. Shareholders and other investors became aware of the benefits of good governance procedures in safeguarding their concerns. Corporate governance as the mechanism and system used to guide and control the business's activities and policies towards increasing corporate efficiency and transparency with the end goal (Zabri, Ahmad, & Wah, 2016). Corporate governance deals with the mechanisms and frameworks by which shareholders involved in the business's well-being take steps to prevent their interests (Ehikioya, 2009). An effective corporate governance structure enables an organization attract investment,

increase capital, and improve the corporate efficiency foundations and prevents a corporation from exposure to potential financial distress. Strong business governance focuses in the company's management on the concepts of accountability, openness, justice and duty.

From an economic point of view, governance assumes a substantial role in ensuring productivity in which insufficient resources are transferred to best return investment project. This has also become a vital factor for corporate investments (Bushee, Carter & Garakos, 2007) and an element of policy measures by investors (Karpoff, 2001). Corporate governance structure is of two categories such as internal structures (like board size, independence of the board, age and directors) and external mechanisms (like competitive business dynamics and corporate management talent and sector). Two of the most important internal structure metrics are Board Size and Independence were mostly used in the literature. Each business or organization, while optimizing shareholder capital, seeks to increase its own profits (Fayab, Ayoub, & Ayoub, 2017). An effective corporate governance serves as a basic framework for any investor seeking to invest in a company (Thomson, 2009) and emphasizes that the purpose of corporate governance is to determine that annual reports are accessible and to publicize detailed information that is useful to stakeholders. In addition, a corporation, seeking to develop a good system of corporate governance, strives to ensure proper creditors legitimacy. In specific situations, social actions which help to solve social and economic problems may address legitimacy. However, corporate social responsibility is one of the components of the governance processes of an entity (Nasrullah, 2004). In fact, effective corporate governance includes corporate social responsibility and actions of good management (Ayuso & Argandona, 2007).

The connection between corporate governance and financial performance of any organization cannot be ignored, most especially in the financial settings. Samson and Tarila (2014) opined that the idea of corporate governance is mostly common to service industry and multinational firms, and most nations have been referred to corporate governance as an item of great importance on the policy agenda in the recent time. Corporate governance involves the manner in which the affairs of business and institutions are governed by their boards of

directors and senior management, affecting how institutions set corporate objectives; run the day-to-day operations of the business; consider the interests of recognized stakeholders; align corporate activities and behaviors with the expectation that banks will operate in a safe and sound manner, and in compliance with applicable laws and regulations; and protect the interests of depositors (Basel Committee, 1999). More so, the Organization for Economic Co-operation and Development (OECD) defines corporate governance as involving a set of relationships between a company's management, its board, its shareholders, and other stakeholders. Corporate governance offers the structure in which the objectives of the firm are established and the ways and manners of achieving those objectives and monitoring performance. Good corporate governance is expected to show proper incentives for the board and management to pursue objectives that are in the interests of the firm and shareholders.

Thus, corporate governance structures vary across the globe, shareholders agree that certain frameworks need to be established to reduce issues of fraud, bullying, and misconduct by ensuring corporate accountability, and transparency. Governance is therefore structured to carry out a supervisory scheme using strategies such as board composition, duality, monitoring and wages providing investors with the details required to keep administration responsible for their actions (Al-Malkawi & Pillai, 2012). A review of the concepts exposed the diverse school of thoughts from different academic institutions, either based on governance as a stakeholder (Monks and Minow, 2003) or as a shareholder term (Imam and Malik, 2007; Zingales, 1998). Ungureanu (2008), however, argues that no governance model is optimal, and their logical implementation depends on the cultural and legal context of the country being examined, the regulation of financial markets and the existing form of business entity. Gregory and Simms (1999) argue that good corporate governance is essential because it facilitates the economically efficient both within the business and in the overall economy and helping industries and businesses to obtain lower-cost capital investment through strengthened shareholder and investor trust, both home and abroad. They often say it's important to increase companies' sensitivity to community desires and needs,

and to boost companies' long-term efficiency. More so, corporate success is generally expressed in the form the organization is run and in the effectiveness of the governance structure of the company (haniffa & Hudaib, 2006).

1.1 Problem Identified

Corporate interests are increasingly concerned with social substance problems, while at the same time optimizing economic efficiency to please stakeholders and behaving in a socially beneficial approach to the society (Rodriguez-Fernandez, 2015). The shareholders exercise their position through the general assemblies in demanding ethical attitudes and behaviors at the corporate level, thus exerting a strong influence on the Board of Directors 'formulation of strategies. They need accountability, productivity and effectiveness on the part of management in order to achieve financial benefits and thereby ensure the long-term survival of the business, while requiring the incorporation of environmentally responsible strategies into the businesses (Pava & Krausz, 1996). Governance results from the distinction between the ownership of the company and its control in response to a structure that guides and regulates the companies (Cadbury, 2000). Fama, (1980); Fama and Jensen, (1983) proposed that agency theory built the foundation for a possible dispute between the principal (stockholders) and the agent (managers) while Martín and López (2004) stated the question of owner influence over administration and the tools available to implement that influence is known as corporate governance; a clear governance structure, like the Board of Directors, assumes a significant role in educating and guiding administration to take the most suitable measures at any moment in time and with each entity (Cuervo, 2002). The Board of Directors helps maintain the firm's long-term survival through optimizing shareholder profitability and aligning the company's priorities with those of the interest groups (Coombs & Gilley, 2005). The board's decisions are assumed to lead to various levels of performance, and potential adoption of social responsibility policies (Ingle, Mueller, and Cocks, 2011), and the implementation of a special socially responsible investment plan (Mill,2006).

The global financial crisis has been attributed to failures in corporate governance (Sharfman, 2009; & Kirkpatrick, 2009). Hence, the competence and

transparency of the Boards of Directors and their approach towards risk-taking and ethical values have been subjected to greater scrutiny (Mollah & Zaman, 2015). Significant numbers of losses acknowledged by many companies have brought to the fore problems of risk management, regulatory oversight, and transparency. Nonetheless, the contradicting results from the previous researchers necessitated this study to further examine the subject matter.

1.2 Research Questions

The following questions are expected to be answered at the completion of this study

- How does corporate governance affect financial performance in long-run of some listed firms in Borsa Istanbul Bist-30 Stock Index?
- To what degree does corporate governance correlated to financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index?

1.3 Specific Objectives

The specific objectives are to:

- assess the long-run relationship between corporate governance and financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index;
- explore the correlation between corporate governance and financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index.

1.4 Study Hypotheses

The hypotheses to be tested are:

H_{0i}: There is no long-run relationship between corporate governance and financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index.

H_{0ii}: Corporate governance does not have significant correlation to financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index.

1.5 Study Purpose

Generally, firms are the backbones of any economy, therefore it is of immense importance for economies to have a healthy and buoyant business system with effective corporate governance practices. However, this study is valuable to organization's management, shareholders, managers, academia, policy makers, and investors. The organization's management including staff of the listed and unlisted firms would get an understanding of how efficiency corporate governance could resulted in performance. This will assure them that the firm has structure and that the results of their efforts would not be jeopardized by the directors. Thus, this understanding will encourage them to cooperate with the Board of Directors. In the same vein, the results of this study will help the directors in deciding on how to use the corporate governance indices to further the interest of the shareholders and comply with standards set by the regulators. Work becomes easier when there is structure and the results can be predicted.

1.6 Study Scope

The purpose of this study is to investigate the relationship between corporate governance and firm performance of some listed firms in Borsa Istanbul BIST-30 stock index. Six of the most leading firms were chosen for this study which includes: ARCLK, ASELS, DOHOL, TAVHL, TTKOM, and TUPRS. The data were obtained from the published annual financial reports of the selected firms for a period of 8 years, from 2012 to 2019.

2. LITERATURE REVIEW

2.1 Concept of Corporate Governance

In this case, corporate governance is associated with providing a solution to the dilemma of the principal agent (Ehikioya, 2009). As the financial provider, the principal seeks ways to ensure that the agent (employee relations) manages their cash flow in a direction as to ensure optimum returns for them as shareholders and other investors. Corporate governance proponents have established inner and outer governance structures that mitigate the issue with agencies (Agarwal & Knoeber, 1996). The efficiency of these regulatory mechanisms relies in significant part on the ecosystem. 'The structure of corporate governance such as board size, firm's age, leverage, ownership structure, and duality of CEO has a major impact on the business performance. Historical evidence shows that the correlation between structure of corporate governance and corporate results could either be negative or positive (Ehikioya, 2009).

Corporate governance studies have established two fundamental types of corporate ownership: centralized, and decentralized. The ownership structure is widely decentralized among most developed economies. In developing nations in which there is a weak framework for protecting shareholder interests, however, the ownership mechanism is extremely centralized. According to La-Porta and Lopez (1999), concentration of ownership is a reaction to various extents of legal security for minority investors across nations. A highly centralized ownership model aims to impose greater pressure on governance to participate in practices that optimize the interests of investors and other interested parties. The empirical studies on the correlation between ownership and efficiency revealed a mixed finding. Demsetz and Lehn (1985) considered no connection between corporate efficiency and concentration of ownership. Other studies like McConnell and Serveas (1990) discovered a positive connection between ownership and corporate quality. In some studies, carried out in India, ownership was stated to have a positive connection with the

valuation of a firm (Sarkar & Sarkar, 2000; Khanna & Palepu, 2000). The structure of the board could be used to minimize the issue with the principal agent. The role of outside directors is intended to improve the company's ability to defend itself from environmental risks, and to combine the company's resources for greater profit. Work on the effect of external directors has therefore grown considerably but with varying results.

Some concur that the board of directors' number influences efficiency of the firm. The administration of the company and its operations is delegated to the board. There is no consensus about whether this is best for a large or small group. Yermack (1996) indicates that the smaller the executive team, the higher the efficiency of the company, and further stated that the policy making process for larger boards is found to be sluggish. Monitoring costs and inadequate coordination within a larger board were also seen as a justification for endorsing limited board size (Jensen, 1993). There are some studies who revealed that companies with a larger board size will drive managers to seek lower capital costs and improve efficiency (Anderson, Mansi, & Reeb, 2004). Wen, Rwegasira, & Bilderbeek, 2002) and Abor (2007) presented studies in supporting a positive connection between leverage and board size. They suggested that huge superior boards management capacity is using higher return to increase the firm's value. The Board of Directors represents the shareholders, and other stakeholders typically find opportunities to monitor the management's activities to maximize profit. Such move is to encourage the executives to seek financial institutions debt financing.

Financial institutions like banks have both the expertise and other tools to manage firms 'operations, hence acting as a valuable tool for mitigating the tension between the principal agents. Financial institutions are especially interested to see the governance of companies in which they have a partnership take steps to boost the company's performance. Ahuja and Majumdar (1998) for example found a positive association between the firm's debt rates and efficiency. They stated that a high debt contributes to better financial performance. It is commonly argued that in a corporate setting where the same person occupies the positions of CEO and Chairperson, the principal-agent question is more apparent. CEO duality does have a way to influence the

Company's overall efficiency. Fama and Jensen (1983) first proposed the reason for separating CEO and Chairperson role. Yermack (1996) said companies are more competitive when the offices of CEO and Chairman are kept independently. In companies with no duality of CEO, a set of checks and balances are introduced, and this discourages the agent from partaking in manipulative conduct. Companies with distinctly different CEO and Chairperson roles are likely to use the optimum debt level in their capital structure (Fosberg, 2004).

2.2 Organizational Structure

In one sense, structure is the set of duties which are used for the job to be performed and organization's chart best reflects this. In a different context, structure is the framework of market skills, governance, expertise, functional connections and system. Walton (1986) regarded structure as the foundation for organization, including hierarchical levels and obligations, duties and positions, and coordination and problem-solving mechanisms. Structure is the central distinction and relationship pattern, and Thompson (1966) further stressed that structure is the process in which the organization impose limits and parameters for optimal efficiency by demarcating roles, resource management, and other matters. Structure is contained in an interrelated series of events that completing and renewing a cycle of activities. Structure identified as the method for differentiating and integrating the organization Differentiation is connected to the extent in which employees function as quasi entrepreneurs, while integration is expressed in a way that each and every participant of the organization must do their utmost to achieve institutional objectives. An organization is likewise a collection of components in the units of interaction, structured stage, and decision making (Martinelli, 2001). Sablynski (2012) briefly described the structure of the organization as "how duty tasks are systematically separated, organized and managed. The structure of the organizations suggests a permanent system of activities and duties (Skivington & Daft, 1991). In other words, organizational structure is a collection of strategies by which the organization is segregated into separate tasks and then harmonizes these tasks. Underdown (2012) stated organizational structure as a structured system of

tasks and accountability interactions that monitor, organize, and empower employees to work together to accomplish the objectives of an organization. Andrews (2012) claimed that the organizational structure represents job responsibilities, relationships and transparency for the outcomes of the process and sub-processes. Organizational structure guides the skills of work, employee motivation, and collaboration among the senior management and delegates for the organization's flow of strategies and priorities to formulate plans (Herath, 2007). Organizational structure is a means to delegate duty and control, and work routines are performed among the members of the organization (Gerwin & Kolodny, 1992; Germain, 1996).

2.3 Size of the Board

Boards are known as structures in the literature to alleviate the impact of current agency issue in corporations (Dwivedi & Jain, 2005). Since boards are big decision-making bodies, size can influence the board's decision-making process and functionality. The Board's optimal size has been a subject of discussion over the years. Board size varies significantly across nations. A British company's average board size in 1996 was 7, while some of Japanese firms had about 60 directors on their boards (Balasubramanian, 1997). Empirical literature includes contrary evidence linking board size with organizational success. One research team (Dalton, daily, Ellstrand, and Johnson, 1998; Pearce and Zahra, 1992) suggests board size to be correlated with firm success in a positive sense. Proponents of this view claim that a wider board should include people from various backgrounds, adding experience and intelligence to the board and reducing the cost of management decisions. Thus, size is believed to be correlated with the planning process's range of opinions. Size of the board is often found to be correlated with an organization's structural transition. Through this viewpoint, it is suggested that smaller boards do not properly consider the need to implement or facilitate strategic change, lack of coherent perception of options or lack of conviction in proposing strategic reform (Goilden & Zajac, 2001). An alternate interpretation relates this relation to the composition of boards. Larger boards may comprise of more investors who allow companies to follow more cautious decision-making practices, because the cost of credibility,

if the company fails, is likely to have a higher relative to their private gain if a proposal comes out successful. This essentially leads to the disparity in internal and external risk tolerance of the directors (Eisenberg, Sundgren, & Wells, 1998).

The other perspective indicates that it would be less successful for larger boards than smaller ones (Dwivedi & Jain, 2005). That view is focused on the dynamics and social psychological studies. As bigger boards struggle from the issue of obligation diffusion or social pottering, whereby different board members underestimate the probability that others will notice their weak interventions. Larger board size can also make it tougher for members to make good use of their experience and expertise due to difficulties organizing the contributions. The board is therefore more abstract and less a component of the governance process (Hermalin & Weisbach, 2001). Subsequently, several researchers provided empirical proof supporting this view and finding a negative association between board size and business efficiency (Yermack, 1996; Van-Ees & Postma, 2002).

2.4 Empirical Review

Bauer, Guenster, and Otten (2004) investigated corporate governance effects in Europe between 2000 and 2001. From the review, the descriptive and cross-sectional regression methods revealed that corporate governance and some of its variables are negatively insignificant to return on equity.

Among Indian firms, Dwivedi and Jain (2005) conducted corporate governance aiming at size of board and ownership. They used a panel simultaneous equation regression and found that board size as a proxy of governance exhibited a significant positive influence on firms in Indian.

Hanifa and Hudaib (2006) examined governance structure and firm performance among companies in Malaysia from 1996 to 2000. They employed descriptive, correlation and regression methods and found that board size reported significant to performance while board composition reported insignificant.

Tam and Tan (2007) investigated the connection between governance, ownership and performance in Malaysia using univariate and multivariate

analysis. They showed that various types of owners exhibited distinct behavioral characteristics and priorities for governance activities in an atmosphere of widespread shareholding concentration.

Aljifri and Moustafa (2007) studied corporate governance impact on firm performance in UAE using cross-sectional regression analysis and revealed that ownership, debt ratio, dividends exhibited a significant effect on performance of the selected firms.

Larcker, Richardson, and Tuna (2007) carried out corporate governance and performance of the organization using principal component analysis, descriptive analysis, correlation test, and regression analysis and revealed that governance has significant impact on performance.

Cornett, Marcus, and Tehranian (2008) examined the connection between governance and performance on earnings using discretionary accruals and regression analysis. They discovered that corporate variables have significant influence on performance and earnings management.

Mashayekhi and Bazaz (2008) studied the connection between governance and performance in Iran. They employed descriptive, correlation and regression analyses and found that board size is negatively connected with performance of the firms.

Bauer, Frijns, Otten, and Tourani-Rad (2008) examined the effect governance on performance in Japan using cross-sectional and regression analyses. They reported that not all corporate governance factors affect performance during the study period.

Ehikioya (2009) investigated the structure of government and performance in Nigeria between 1998 and 2002. The regression result revealed that ownership exhibited a positive significant on performance.

Gürbüz, Aybars and Kutlu (2010) wrote on the relationship between corporate governance and financial performance evidence from Turkey between 2005 and 2008. They employed generalized least square and found a positive connection between corporate governance and institutional ownership on financial performance.

Mulyadi and Anwar (2012) focused on the impact of corporate governance on profitability and corporate disclosure in Indonesia using regression analysis and revealed that profitability and corporate governance disclosure exhibited a significant influence between each other.

Coşkun and Sayilir (2012) conducted a study on the connection between corporate governance and financial performance among Turkish companies from 2006 to 2010. They found that CG does not statistically influence Tobin's Q.

Additionally, Mustafa, Othman, and Perumai (2012) wrote on the linked between corporate social responsibility and performance of the companies in Malaysia using structural equation modeling. They showed that CSR has a significant impact on performance during the study period.

Liu, Uchida and Yang (2012) wrote in corporate governance in China including firm value. They use descriptive analysis and regression method and found that managerial ownership minimizes the issues of expropriation of State-owned corporations.

Guo and Kumara (2012) studied the association between corporate governance and performance of firms in Sri Lanka using multiple regression analysis. They showed that board size displayed a negative impact on performance while firm size exhibited a significant influence on performance.

Yilmaz and Buyuklu (2012) examined the impact of corporate governance on firm performance in Turkey using panel data analysis. They reported that corporate governance variables influence firms' performances.

Bijalwan and Madan (2013) examined the relationship between corporate structure and performance in India between 2010 and 2011 using graphical and regression method. It was revealed that strong connection exists between board composition and performance of the firms in India.

Vo and Phan (2013) carried out the connection between corporate and performance in Vietnam from 2006 to 2011 using flexible generalized least squares and revealed that corporate variables are positively significant to return on asset (ROA).

Waworuntu Wantah, and Rusmanto (2014) used correlation test to examine the connection between corporate responsibility and performance in Indonesia and revealed a significant correlation between CSR and performance of the firms.

Gupta and Sharma (2014) wrote on corporate governance impact among Indian and South Korean firms using frequency analysis. They reported that governance activities have inadequate impact on financial performance of the firms.

In Spain, Rodriguez-Fernandez (2015) researched on the governance and performance among Spanish firms using descriptive and correlation tests. It was discovered that there exists a positive correlation among the variables of corporate governance and performance.

Black, Kim, Jang, and Park (2015) analyzed corporate governance effects and firm value in Korea between 1998 and 2004 using panel regression analysis. It was showed that good governance increases firm profitability.

Ersoy and Koy (2015) wrote on the relationship between corporate performance and ownership structure in Turkey between 2008 and 2013. The study reported that the concentration of the large shares of companies one or a few shareholders has a negative effect on related firm's performance.

Gras-Gil, Manzano, and Fernández (2016) examined the connection between corporate social responsibility and management in Spain from 2005 to 2012. They employed descriptive and regression analysis and showed that negative relationship exists between CSR and earning management.

Zabri, Ahmad and Wah (2016) investigated the practices of corporate governance and performance in Malaysia across 100 firms using descriptive and correlation analysis. They found that board size exhibited a negative and significant to ROA but not significant to ROE.

A study conducted among the Lebanese Banks by Fayad, Ayoub, and Ayoub (2017) on corporate responsibility and performance using regression analysis. They found that positive impact revealed between corporate responsibility and performance.

Detthamrong, Chancharata, and Vithessonthi (2017) examined the connection between governance, capital structure and performance in Thailand using descriptive analysis, correlation test and panel analysis and revealed that corporate governance is not related to leverage and performance.

Maqbol and Zameer (2018) wrote on the connection between corporate responsibility and performance among banks in India from 2007 to 2016. They employed descriptive and panel regression analysis. It was found that positive connection exists between corporate social responsibility and performance of the banks in India.

Pillai and Al-Malkawi (2018) studied the connection between governance and performance of the firms among the Gulf Cooperation Council between 2005 and 2012. They used generalized least squares method and found that corporate governance revealed a significant effect on performance during the study period.

Ciftci, Tatoglu, Wood, Demirbag, and Zaim (2019) investigated corporate governance mechanism and performance in Turkey using panel analysis. They discovered that most of the control variables such as ownership concentration, board size, CEO duality leverage, firm age, women board member was negatively significant to Tobin's Q but some of them were positively significant to ROA.

In Malaysia, Ghazali (2019) examined ownership, governance and performance using descriptive and regression analyses. The study found that positive significant correlation exists between ownership and governance including performance of the firm.

Table 2.1: Summary of Empirical

| Scholars' Name | Year | Variable | Method | Findings |
|--------------------------------|------|--|---|--|
| Bauer, Guenster, and Otten | 2004 | ROE, Tobin's q, Age, book value assets, firm's governance ratings | Descriptive and cross-sectional regression methods | Revealed that corporate governance and some of its variables are negatively insignificant to return on equity |
| Dwivedi and Jain | 2005 | Tobin's q, ROCE, Board size, Foreign shareholders, and ownership. | Panel Simultaneous regression method | Found that board size as a proxy of governance exhibited a significant positive influence on firms in Indian. |
| Hanifa and Hudaib | 2006 | ROA, Tobin's Q, Board size, board composition, managerial shareholders, and duality, | Descriptive, correlation, and regression methods | Found that board size reported significant to performance while board composition reported insignificant |
| Tam and Tan | 2007 | Ownership, CEO duality, Age, and size | Univariate and multivariate analysis | They showed that various types of owners exhibit distinct behavioral characteristics and priorities for governance activities in an atmosphere of widespread shareholding concentration. |
| Aljifri and Moustafa | 2007 | Ownership, debt ratio, dividends, board size, firm size, and audit type. | Cross-sectional regression analysis | Revealed that ownership, debt ratio, dividends exhibited a significant effect on performance of the selected firms |
| Larcker, Richardson, and Tuna | 2007 | Board size, Lead director, Debt, Meetings, Block, Active, and Affiliated | Principal component analysis, descriptive analysis, correlation test, and regression analysis | Revealed that governance has significant impact on performance. |
| Cornett, Marcus, and Tehranian | 2008 | Board composition, CEO's age, CEO's tenure, Firm asset, and board of directors | Discretionary accruals and regression analysis. | They discovered that corporate variables have significant influence on performance and earnings management. |

Table 2.1: (con) Summary of Empirical

| Scholars' Name | Year | Variable | Method | Findings |
|---------------------------------------|------|---|--|---|
| Mashayekhi and Bazaz | 2008 | EPS, ROA, ROE, board size, and board independence | Descriptive, correlation and regression analyses | They found that board size is negatively connected with performance of the firms |
| Bauer, Frijns, Otten, and Tourani-Rad | 2008 | Board accountability, shareholder right, corporate behavior, and remuneration. | Cross-sectional and regression analyses. | They reported that not all corporate governance factors affect performance during the study period. |
| Ehikioya | 2009 | Ownership, CEO duality, Firm size, and leverage | Regression | The result revealed that ownership exhibited a positive significant on performance |
| Gürbüz, Aybars and Kutlu | 2010 | Age, LNSALES, Leverage, DIVYIELD, CAPINT etc | GLS | They employed generalized least square and found a positive connection between corporate governance and institutional ownership on financial performance. |
| Mulyadi and Anwar (2012) | 2012 | ROE, board independence and institutional ownership | Regression Test | Revealed that profitability and corporate governance disclosure exhibited a significant influence between each other |
| Coşkun and Sayilir | 2012 | Corporate governance, ROE, Tobin's Q | Regression Analysis | They found that CG does not statistically influence Tobin's Q. |
| Mustafa, Othman, and Perumai | 2012 | CSR and performance | SEM | They showed that CSR has a significant impact on performance during the study period |
| Liu, Uchida and Yang | 2012 | Ownership, Firm value, ROA, Tobin's Q, Duality, bank debt to total asset, and export sales to total sales | Descriptive and regression analysis | Managerial ownership minimizes the issues of expropriation of State-owned corporations |
| Guo and Kumara | 2012 | Board size, firm size, CEO duality, ROA, Tobin's Q, and proportion of non-executive directors | Multiple regression analysis | They showed that board size displayed a negative impact on performance while firm size exhibited a significant influence on performance. |

Table 2.1: (con) Summary of Empirical

| Scholars' Name | Year | Variable | Method | Findings |
|----------------------------------|------|---|--|---|
| Yilmaz and Buyuklu | 2012 | board size, share of independent board members, foreign investors, leverage ratio | Panel fixed effect, panel random and panel OLS | examined the impact of corporate governance on firm performance in Turkey using panel data analysis. They reported that corporate governance variables influence firms' performances. |
| Vo and Phan | 2013 | ROA, Board size, Outside director, board compensation, and board ownership | Flexible generalized least squares | Revealed that corporate variables are positively significant to return on asset. |
| Bijalwan and Madan | 2013 | ROE, PAT, ROA, ROCE, Size, and Ownership structure | Graphical and regression analysis | It was revealed that strong connection exists between board composition and performance of the firms in India. |
| Waworuntu Wantah, and Rusmanto | 2014 | CSR and Performance | Correlation Test | Revealed a significant correlation between CSR and performance of the firms. |
| Gupta and Sharma | 2014 | ROA, ROE, Share price, and corporate governance | Frequency | They reported that governance activities have inadequate impact on financial performance of the firms |
| Rodriguez-Fernandez | 2015 | ROE, ROA, QTobin, GRI, GC, Index, and LNasset | Descriptive and Correlation Tests | It was discovered that there exists a positive correlation among the variables of corporate governance and performance. |
| Black, Kim, Jang, and Park | 2015 | Board structure, Ownership, shareholder rights, and disclosure | Panel Regression | It was showed that good governance increases firm profitability |
| Ersoy and Koy | 2015 | Tobin's Q, owner, EBITTotAssts, Total Debts/Total Assets, Liquidity Ratio | Panel analysis | The study reported that the concentration of the large shares of companies one or a few shareholders has a negative effect on related firm's performance. |
| Gras-Gil, Manzano, and Fernández | 2016 | ROA, Size, Discretionary accruals, CSR, and Leverage | Descriptive and regression analysis | Showed that negative relationship exists between CSR and earning management |
| Zabri, Ahmad and Wah | 2016 | ROE, ROA, Board size, and Board independence. | Descriptive and correlation analysis | They found that board size exhibited a negative and significant to ROA but not significant to ROE. |

Table 2.1: (con) Summary of Empirical

| Scholars' Name | Year | Variable | Method | Findings |
|--|------|---|---|---|
| Fayad, Ayoub, and Ayoub | 2017 | ROA, Community development, Human development, and Economic development | Regression Analysis | They found that positive impact revealed between corporate responsibility and performance. |
| Detthamrong, Chancharata, and Vithessonthi | 2017 | Corporate governance, leverage, committee size, performance | Descriptive analysis, correlation test and panel analysis | Revealed that corporate governance is not related to leverage and performance |
| Maqbol and Zameer | 2018 | ROE, ROA, Size, Risk, Age, NP, Stock Market Return, CAP, CSR, PE | Descriptive and panel regression analysis | It was found that positive connection exists between corporate social responsibility and performance of the banks in India. |
| Pillai and Al-Malkawi | 2018 | Government shareholdings, audit type, size, CSR, and leverage | Generalized least squares | Found that corporate governance revealed a significant effect on performance during the study period |
| Ciftci, Tatoglu, Wood, Demirbag, and Zaim | 2019 | Ownership concentration, board size, CEO duality leverage, firm age, women board member | Panel Analysis | Found that most of the control variables were negatively significant to Tobin's Q but some of them were positively significant to ROA |
| Ghazali | 2019 | Firm size, board size, Tobin's Q, and Independent of the chairman. | Descriptive and regression analysis | The study found that positive significant correlation exists between ownership and governance including performance of the firm |

Source: Researcher's Design (2020)

3. METHODOLOGY

This study used quantitative scientific research method of observation to collate numerical data. This method answers why and how a certain phenomenon may occur rather than how often. Secondary form of data shall be employed in this study using descriptive research design. The descriptive research will describe the attributes about the variables.

3.1 Model Specification

The study model is presented in functional and econometric forms as follows:

$$\text{CORPG} = f(\text{ATR}, \text{ROA}, \text{EBITDA}, \text{ROE})$$

$$\text{CORPG} = \beta_0 + \beta_1 \text{ATR} + \beta_2 \text{ROA} + \beta_3 \text{EBITDA} + \beta_4 \text{ROE} + \mu$$

Where:

CORPG=Corporate Governance

ATR=Asset Turnover Ratio

ROA=Return on Asset

EBITDA=Earnings before Interest, Taxes, Depreciation and Amortization

ROE=Return on Equity

μ =Error Term

β_0 =Constant Parameter

$\beta_1 - \beta_5$ =Coefficients of Regression

3.2 Estimation Technique

The estimation techniques this study is aiming to employ as stated as follows:

- Panel Unit Root
- Panel Descriptive Analysis

- Panel Correlation Test
- Panel Granger Causality

3.3 Conceptual Framework

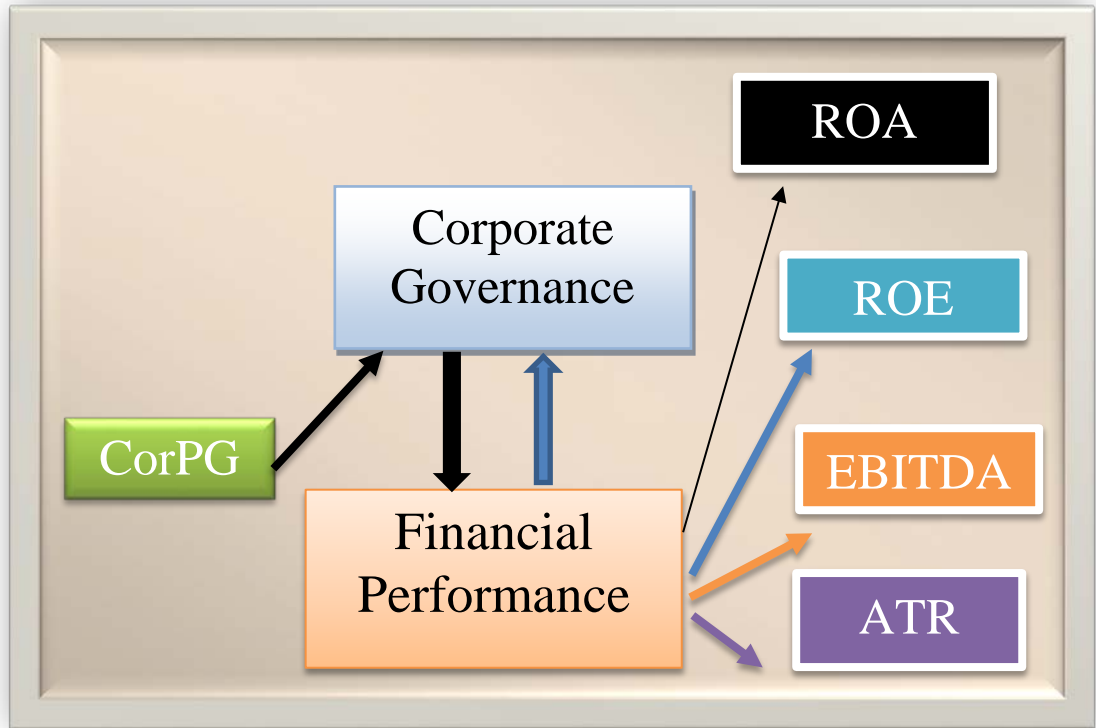


Figure 3.1: Conceptual framework shows the relationship between corporate governance and financial performance.

Source: Author's design, (2020)

The figure above shows the linkage between financial performance variables and the corporate governance. The proxy for corporate governance is CorPG while that of financial performance are ROA, ROE, EBITDA, and ATR.

4. DATA ANALYSIS AND INTERPRETATION

4.1 Panel Descriptive Analysis

This study conducted panel descriptive analysis to know the attributes of the data in terms of its average value, minimum, maximum, and the normality tests.

Table 4.1: Panel Descriptive Report

| c | ATR | CORPG | EBITDA | ROA | ROE |
|-----------------|----------|-----------|----------|-----------|-----------|
| Mean | 0.866705 | 1.945757 | 0.220515 | 0.064784 | 0.191783 |
| Median | 0.641911 | 1.968074 | 0.159296 | 0.063359 | 0.219030 |
| Maximum | 2.702481 | 1.985292 | 0.638539 | 0.331399 | 0.741387 |
| Minimum | 0.205181 | 0.968016 | 0.019866 | -0.043088 | -0.231709 |
| Std. Dev. | 0.561898 | 0.144663 | 0.169059 | 0.063328 | 0.173295 |
| Skewness | 1.448100 | -6.632774 | 0.746148 | 1.269092 | -0.078465 |
| Kurtosis | 4.696423 | 45.34421 | 2.326282 | 7.997686 | 4.369225 |
| Jarque-Bera | 22.53166 | 3938.014 | 5.361684 | 62.83850 | 3.798809 |
| Probability | 0.000013 | 0.000000 | 0.068505 | 0.000000 | 0.149658 |
| Sum | 41.60185 | 93.39635 | 10.58472 | 3.109619 | 9.205601 |
| Sum Sq. Dev. | 14.83927 | 0.983590 | 1.343298 | 0.188490 | 1.411469 |

Source: Author's compilation

The outcome of panel descriptive analysis reported that asset turnover ratio (ATR) has the average value of 0.866705, the median is 0.641911, with the maximum and minimum values of 2.702481 and 0.205181 including the standard deviation value of 0.561898. The Skewness value is 1.448100, indicating that ATR has a positive skewed value, the Kurtosis shows a value of 4.696423, implying that ATR is leptokurtic, because the value is more 3. Meanwhile, the Jarque-Bera shows the value of 22.53166 with probability value of 0.000013, indicating that ATR is not normally distributed. The CorPG which was used as the proxy for corporate governance reveals an average value of

1.945757 with the median value of 1.968074, maximum value of 1.985292, minimum value of 0.968916, and the standard deviation value of 0.144663. The Skewness statistic shows the value of -6.63774, indicating that CorPG is negatively skewed or moving largely to the left. The Kurtosis shows the value of 45.34421, signifying that it is leptokurtic, while the Jarque-Bera value with the probability value are 3938.014 and 0.0000, indicating that CorPG is not normally distributed. The report of EBITDA shows the average value of 0.220515, the median value of 0.159296, maximum value of 0.638539, minimum value of 0.019866, and the standard deviation value of 0.169059. Also, the Skewness value is 0.746148, signifying that EBITDA is positively skewed, the Kurtosis has the value of 2.326282, indicating that EBITDA is platykurtic because it is less than 3. The Jarque-Bera with the probability have the values of 5.361684 and 0.068505, indicating that EBITDA is normally distributed. ROA descriptive reports that the mean value is 0.064784 with median value of 0.063359, maximum value of 0.331399, minimum value of -0.043088, and the standard deviation of 0.063328. The Skewness reports the value of 1.269092, indicating a positive skewness, the Kurtosis reported a leptokurtic with the value of 7.997686 and the Jarque-Bera shows that ROA is not normally distributed because the p-value is more than 5% level of significant. The average value of ROE is 0.191783, the median value is 0.219030, the maximum value is 0.741387, the minimum value is -0.231709, standard deviation value is 0.173295. The Skewness statistic value is -0.078465, implying that ROE is negatively skewed, the Kurtosis value is 4.369225, indicating a leptokurtic type of Kurtosis while the Jarque-Bera value is 3.798809 with probability value of 0.149658, signifying that ROE is not normally distributed during the study period.

4.2 Panel Unit Root Result

The panel unit root testing is conducted in order to examine the stationarity of the variables. Meanwhile, there exists two different types of panel unit root, which are: the common unit root and the individual unit root. The Levin, Lin & Chu (2002) was used for the common unit root while PP-Fisher was employed for the individual unit root. The unit root at level was tested though it was not

stationary, then the first difference was conducted. The hypotheses and results are presented below:

Ho: The residual is not stationary

H1: The residual is stationary

Table 4.2: Common Unit Root Process (Levin, Lin & Chu) @ Level

| Variable | Stat-Value | P-value | Integration Order |
|----------|------------|---------|-------------------|
| ATR | -1.32760 | 0.0922 | Not stationary |
| CORPG | 4.0260 | 1.0000 | Not stationary |
| EBITDA | 1.25775 | 0.8958 | Not stationary |
| ROA | -0.74572 | 0.2279 | Not stationary |
| ROE | -0.88000 | 0.1894 | Not stationary |

Source: Author's compilation

The report of the panel common unit root shows that ATR has the critical stat value of -1.32760 with p-value 0.0922, CORPG has the critical value of 4.0260 and p-value of 1.0000, EBITDA has a critical value of 1.25775 and p-value of 0.8958, ROA has -0.74572 with p-value of 0.2279 and ROE has critical value of -0.88000 with p-value of 0.1894. This report shows that all the variables are not stationary level that is, the null hypothesis failed to be rejected.

Table 4.3: Common Unit Root Process (Levin, Lin & Chu) @ First Difference

| Variable | Stat-Value | P-value | Integration Order |
|----------|------------|---------|-------------------|
| ATR | -4.61688 | 0.0000 | Stationary |
| CORPG | -2.90576 | 0.0018 | Stationary |
| EBIDTA | -5.25861 | 0.0000 | Stationary |
| ROA | -4.77998 | 0.0000 | Stationary |
| ROE | -5.78934 | 0.0000 | Stationary |

Source: Author's compilation

The first difference of the common unit root of Levin, Lin, & Chu (2002) reports that ATR has the critical value of -4.61688 and p-value of 0.000, CORPG has the critical value of -2.90576 with p-value of 0.0018, EBITDA has the critical value of -5.25861 with p-value of 0.0000, ROA has the critical value of -4.77998 with p-value of 0.0000 and ROE has the critical value of -5.78934

with p-value of 0.0000. This implies that all the variable became stationary after first difference and the null hypothesis was rejected.

Table 4.4: Individual Unit Root Process (PP-Fisher Test) @ Level

| Variable | Stat-Value | P-value | Integration Order |
|----------|------------|---------|-------------------|
| ATR | -0.41197 | 0.3402 | Not stationary |
| CORPG | 4.20590 | 1.0000 | Not stationary |
| EBIDTA | 0.47239 | 0.6817 | Not stationary |
| ROA | -1.26378 | 0.1032 | Not stationary |
| ROE | -0.72373 | 0.2346 | Not stationary |

Source: Author's compilation

The above table presented the panel individual unit root which reveals that ATR has the stat value of -0.41197 with p-value 0.3402, CORPG has the critical value of 4.20590 and p-value of 1.0000, EBIDTA has a critical value of 0.47239 and p-value of 0.6817, ROA has -1.26378 with p-value of 0.1032 and ROE has critical value of -0.72373 with p-value of 0.2346. This report shows that all the variables are not stationary level that is, the null hypothesis failed to be rejected.

Table 4.5: Individual Unit Root Process (PP-Fisher Test) @ First Difference

| Variable | Stat-Value | P-value | Integration Order |
|----------|------------|---------|-------------------|
| ATR | -4.94349 | 0.0000 | Stationary |
| CORPG | -5.28930 | 0.0000 | Stationary |
| EBIDTA | -4.90959 | 0.0000 | Stationary |
| ROA | -5.61319 | 0.0000 | Stationary |
| ROE | -4.02928 | 0.0000 | Stationary |

Source: Author's compilation

The first difference of the individual root of PP-Fisher (1988) reports that ATR has the stat value of -4.94349 and p-value of 0.000, CORPG has the critical value of -5.28930 with p-value of 0.0000, EBIDTA has the critical value of -4.90959 with p-value of 0.0000, ROA has the critical value of -5.61319 with p-value of 0.0000 and ROE has the critical value of -4.02928 with p-value of 0.0000. This implies that all the variable became stationary after first difference and the null hypothesis was rejected.

4.3 Panel Cointegration Testing

Table 4.6: Pedroni Residual Cointegration Test

| Series: ATR CORPG EBITDA ROA ROE | | | | |
|--|-----------|--------|-----------------------|--------|
| Null Hypothesis: No cointegration | | | | |
| Trend assumption: No deterministic intercept or trend | | | | |
| Newey-West automatic bandwidth selection and Bartlett kernel | | | | |
| Alternative hypothesis: common AR coefs. (within-dimension) | | | | |
| | Statistic | Prob. | Weighted Statistic | Prob. |
| Panel v-Statistic | -0.885149 | 0.8120 | -1.229632 | 0.8906 |
| Panel rho-Statistic | 1.864404 | 0.9689 | 1.793765 | 0.9636 |
| Panel PP-Statistic | 0.174469 | 0.5693 | -1.305849 | 0.0958 |
| Panel ADF-Statistic | 0.191093 | 0.5758 | -1.291603 | 0.0982 |
| Alternative hypothesis: individual AR coefs. (between-dimension) | | | | |
| | Statistic | Prob. | | |
| Group rho-Statistic | 3.059900 | 0.9989 | | |
| Group PP-Statistic | -1.620694 | 0.0525 | | |
| Group ADF-Statistic | -2.442774 | 0.0073 | | |

Source: Author's compilation

Table 4.6 presented the Pedroni cointegration test of the variables and the result shows the panel v-statistic value of -0.885149 and p-value of 0.8120 with its weighted statistic value of -1.229632 and p-value of 0.8906, panel rho-statistic value is 1.864404 and p-value of 0.9689 with the weighted value of 1.73765 and its p-value of 0.9636, the panel PP-statistic value is 0.174469 and p-value 0.5693 with the weighted -1.305849 and p-value 0.0958, the Panel ADF-Statistic value of 0.191093 and p-value of 0.5758 with its weighted value of -1.291603 and its p-value of 0.0982. This indicates that there is no long run relationship between/among the variable since all the p-values are more than 5% level of significance. More so, the group rho-Statistic value of the panel cointegration test is 3.059900 with the p-value of 0.9989, the group PP-Statistic reported the value of -1.620694 with the p-value of 0.0525 while the group ADF-Statistic -2.442774 with its p-value of 0.0073, indicating that two out of

the 11 tests reported that there exists long-run relationship though it is concluded that long-run association-ship does not exists among the variables.

4.4 Panel Causality Testing

Table 4.7: Pairwise Granger Causality Tests

| Pairwise Granger Causality Tests | | | |
|-------------------------------------|-----|-------------|--------|
| Lags: 2 | | | |
| Null Hypothesis: | Obs | F-Statistic | Prob. |
| EBITDA does not Granger Cause CORPG | 36 | 0.01641 | 0.9837 |
| CORPG does not Granger Cause EBITDA | | 1.12748 | 0.3368 |
| ROA does not Granger Cause CORPG | 36 | 1.94441 | 0.1601 |
| CORPG does not Granger Cause ROA | | 0.95454 | 0.3960 |
| ATR does not Granger Cause CORPG | 36 | 0.12661 | 0.8815 |
| CORPG does not Granger Cause ATR | | 1.37534 | 0.2677 |
| ROE does not Granger Cause CORPG | 36 | 0.61633 | 0.5464 |
| CORPG does not Granger Cause ROE | | 2.04764 | 0.1461 |
| ROA does not Granger Cause EBITDA | 36 | 0.45910 | 0.6361 |
| EBITDA does not Granger Cause ROA | | 0.08030 | 0.9230 |
| ATR does not Granger Cause EBITDA | 36 | 0.06621 | 0.9361 |
| EBITDA does not Granger Cause ATR | | 1.85373 | 0.1736 |
| ROE does not Granger Cause EBITDA | 36 | 0.29200 | 0.7488 |
| EBITDA does not Granger Cause ROE | | 0.07884 | 0.9244 |
| ATR does not Granger Cause ROA | 36 | 0.81579 | 0.4516 |
| ROA does not Granger Cause ATR | | 0.32857 | 0.7224 |
| ROE does not Granger Cause ROA | 36 | 0.93189 | 0.4046 |
| ROA does not Granger Cause ROE | | 0.97950 | 0.3868 |
| ROE does not Granger Cause ATR | 36 | 0.38190 | 0.6857 |
| ATR does not Granger Cause ROE | | 0.91685 | 0.4103 |

Source: Author's compilation

The report of the Pairwise granger causality test presented in Table 4.7 reveals the F-stat value of 0.01641 and the p-value of 0.9837 between EBITDA and corporate governance (CORPG), indicating that EBITDA does not granger cause CORPG while the F-stat value of 1.12748 with p-value of 0.3368 between

CORPG and EBITDA, shows that CORPG does not granger cause EBITDA, that is, there is no uni or bi- directional relationship between the two variables. The correlation test reported that F-stat value of 1.94441 with the p-value of 0.1601 between ROA and CORPG, implying that ROA does not granger CORPG while the F-stat value of 0.95454 with the p-value of 0.3960 between CORPG and ROA, indicates that CORPG does not granger cause ROA, that is, there is no uni or bi-directional relationship the ROA and CORPG. Also, the F-stat of 1.37535 with p-value of 0.2677 between corporate governance and asset turnover ratio, indicating that corporate governance does not granger cause asset turnover ration while the F-stat value of 0.12661 and p-value of 0.8815 between asset turnover ratio and corporate governance, indicating that asset turnover ratio does not granger corporate governance. However, there is no bi-direction relationship between corporate governance and asset turnover ratio. More so, the F-stat value of 0.61633 with p-value of 0.5464 between ROE and CORPG reveals that ROE does not granger cause CORPG while the F-stat value of 2.04764 and p-value of 0.1461 between CORPG and ROE indicating that CORPG does not granger cause ROE, that is there exists no uni or bi-directional association-ship between CORPG and ROE.

4.5 Discussion of Findings

The outcome of the analysis reported that ATR was positively skewed, and it was leptokurtic in nature while the Jarque-Bera showed not normally distributed. Corporate governance revealed a negative skewed or moving largely to the left, its Kurtosis showed leptokurtic, while the Jarque-Bera reported not normally distributed. The report of EBITDA showed a positive skewed, the Kurtosis was platykurtic because it is less than 3 while the Jarque-Bera with the probability revealed a normal distributed. ROA descriptive reported that a positive skewness, the Kurtosis reported a leptokurtic and the Jarque-Bera showed not normally distributed. ROE was negatively skewed; the Kurtosis indicated a leptokurtic type of Kurtosis while the Jarque-Bera value reported not normally distributed during the study period.

The Pedroni cointegration test indicated that there is no long run relationship between/among the variable since all the p-values are more than 5% level of significance.

The report of the Pairwise granger causality test presented that EBITDA does not granger cause CORPG while the CORPG does not granger cause EBITDA, that is, there is no uni or bi- directional relationship between the two variables. The correlation test reported that ROA does not granger CORPG while CORPG does not granger cause ROA, that is, there is no uni or bi-directional relationship the ROA and CORPG. Also, corporate governance does not granger cause asset turnover ratio while asset turnover ratio does not granger corporate governance. However, there is no bi-direction relationship between corporate governance and asset turnover ratio. More so, ROE does not granger cause CORPG while CORPG does not granger cause ROE, that is there exists no uni or bi-directional association-ship between CORPG and ROE.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Corporate governance is a term relating to the policies and procedures regulating companies. The main actors in corporate governance are directors and executives, but staff, suppliers and other stakeholders also have an involvement. Compliance standards, rules and legislation guarantee that businesses are equal to their owners, clients and staff. Corporate governance also offers a means for businesses to perform equally in their business. In certain ways, companies and sectors vary. Volume, assets, shareholders and other issues render it difficult to enforce identical rules and regulations for any circumstance encountered by businesses. Corporate business approaches have emerged into a standard of fundamental principles for businesses that prove that they administer themselves well and work with fairness, transparency and responsibility.

However, this study examined the relationship between corporate governance and financial performance of some listed firms in Borsa Istanbul Bist-30 Stock Index. Meanwhile, the specific objectives are to determine the long-run relationship between corporate governance and financial performance and explore the correlation between corporate governance and financial performance. The hypotheses were tested using 5% level of significance. Numerous previous literatures were being reviewed ranging from conceptualization, empirical reviews to theoretical clarifications. Secondary data were used and source from the selected firms in Borsa Istanbul Bist-30 Stock Index. However, the study concluded that there is no long run relationship between corporate governance and firm performance. More so, it was reported that there is no uni or bi- directional relationship between EBITDA and corporate governance, no uni or bi-directional relationship the return on asset and corporate governance, no bi-direction relationship between

corporate governance and asset turnover ratio, and there exists no uni or bi-directional association-ship between corporate governance and return on equity.

5.2 Recommendations

Corporate governance is meant to facilitate the development of accountability and effective governance, thereby leading to the long-term sustainability of corporations. The purpose of these interventions is to enhance trust in corporations by offering truthful information as well as accountability. Meanwhile, in line with the findings of this investigation, it is recommended that corporate governance should be formulated to enhance causality with the financial performance of the corporations.

5.3 Suggestion for other Researchers

This study had investigated the relationship between corporate governance and financial performance of some listed firms in Turkey between 2012 and 2019, thus, it is suggested that other studies should examine the effect of corporate governance on firm performance using a sectoral comparability.

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Developers of the tests that we used in our study.

www.isyatirim.com

APPENDICES

Appendice 1 Analysis

APPENDICE 1 ANALYSIS

Panel Descriptive Analysis

| | ATR | CORPG | EBITDA | ROA | ROE |
|-----------------|----------|-----------|----------|-----------|-----------|
| Mean | 0.866705 | 1.945757 | 0.220515 | 0.064784 | 0.191783 |
| Median | 0.641911 | 1.968074 | 0.159296 | 0.063359 | 0.219030 |
| Maximum | 2.702481 | 1.985292 | 0.638539 | 0.331399 | 0.741387 |
| Minimum | 0.205181 | 0.968016 | 0.019866 | -0.043088 | -0.231709 |
| Std. Dev. | 0.561898 | 0.144663 | 0.169059 | 0.063328 | 0.173295 |
| Skewness | 1.448100 | -6.632774 | 0.746148 | 1.269092 | -0.078465 |
| Kurtosis | 4.696423 | 45.34421 | 2.326282 | 7.997686 | 4.369225 |
| | | | | | |
| Jarque-Bera | 22.53166 | 3938.014 | 5.361684 | 62.83850 | 3.798809 |
| Probability | 0.000013 | 0.000000 | 0.068505 | 0.000000 | 0.149658 |
| | | | | | |
| Sum | 41.60185 | 93.39635 | 10.58472 | 3.109619 | 9.205601 |
| Sum Sq. Dev. | 14.83927 | 0.983590 | 1.343298 | 0.188490 | 1.411469 |
| | | | | | |
| Observations | 48 | 48 | 48 | 48 | 48 |

Panel Unit Root Testing

Common Unit Root Process (Levin, Lin & Chu)

ATR @Level

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | -1.32760 | 0.0922 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on ATR

| Cross section | 2nd Stage Coefficient | Variance of Reg | HAC of Dep. | Lag | Max Lag | Band-width | Obs |
|---------------|-----------------------|-----------------|-------------|-------|---------|------------|-----|
| 1 | -0.04231 | 0.1182 | 0.0182 | 1 | 1 | 6.0 | 6 |
| 2 | -0.00861 | 0.0013 | 0.0014 | 1 | 1 | 2.0 | 6 |
| 3 | 0.23489 | 0.0255 | 0.0373 | 1 | 1 | 0.0 | 6 |
| 4 | -0.12519 | 0.0026 | 0.0034 | 1 | 1 | 2.0 | 6 |
| 5 | -0.03201 | 0.0011 | 0.0018 | 1 | 1 | 1.0 | 6 |
| 6 | -0.05393 | 0.1609 | 0.1912 | 1 | 1 | 0.0 | 6 |
| | Coefficient | t-Stat | SE Reg | mu* | sig* | | Obs |
| Pooled | -0.02586 | -1.390 | 1.109 | 0.004 | 1.049 | | 36 |

ATR @First Difference

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | -4.61688 | 0.0000 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on D(ATR)

| Cross section | 2nd Stage Coefficient | Variance of Reg | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|-----------------------|-----------------|-------------|-------|---------|-----------|-----|
| 1 | -2.23764 | 0.1134 | 0.0573 | 1 | 1 | 5.0 | 5 |
| 2 | -1.11580 | 0.0009 | 0.0006 | 1 | 1 | 5.0 | 5 |
| 3 | -0.86606 | 0.0504 | 0.0103 | 1 | 1 | 5.0 | 5 |
| 4 | -1.53565 | 0.0042 | 0.0028 | 1 | 1 | 5.0 | 5 |
| 5 | -0.80767 | 0.0015 | 0.0004 | 1 | 1 | 5.0 | 5 |
| 6 | -1.19230 | 0.1684 | 0.1154 | 1 | 1 | 5.0 | 5 |
| | Coefficient | t-Stat | SE Reg | mu* | sig* | | Obs |
| Pooled | -1.19529 | -4.825 | 1.051 | 0.004 | 1.049 | | 30 |

Individual Unit Root Process (PP-Fisher Test)

ATR @Level

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 18.0540 | 0.1141 |
| PP - Choi Z-stat | -0.41197 | 0.3402 |

** Probabilities for Fisher tests are computed using an

asymptotic Chi-square distribution. All other tests

assume asymptotic normality.

Intermediate Phillips-Perron test results ATR

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.5132 | 6.0 | 7 |
| 2 | 0.6396 | 2.0 | 7 |
| 3 | 0.9968 | 6.0 | 7 |
| 4 | 0.1335 | 6.0 | 7 |
| 5 | 0.0126 | 6.0 | 7 |
| 6 | 0.2188 | 1.0 | 7 |

ATR @First Difference

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 49.4002 | 0.0000 |
| PP - Choi Z-stat | -4.94349 | 0.0000 |

** Probabilities for Fisher tests are computed using an

asymptotic Chi-square distribution. All other tests

assume asymptotic normality.

Intermediate Phillips-Perron test results D(ATR)

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.0001 | 5.0 | 6 |
| 2 | 0.0628 | 1.0 | 6 |
| 3 | 0.0473 | 1.0 | 6 |
| 4 | 0.0170 | 0.0 | 6 |
| 5 | 0.1000 | 5.0 | 6 |
| 6 | 0.0371 | 5.0 | 6 |

Common Unit Root Process

CORPG @Level

Null Hypothesis: Unit root (common unit root process)

Series: CORPG

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | 4.02600 | 1.0000 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on CORPG

| Cross section | 2nd Stage Coefficient | Variance of Reg | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|-----------------------|-----------------|-------------|-----|---------|-----------|-----|
| 1 | 0.00215 | 4.E-05 | 4.E-05 | 1 | 1 | 1.0 | 6 |
| 2 | -0.09592 | 0.1346 | 0.1418 | 1 | 1 | 0.0 | 6 |
| 3 | 0.00218 | 4.E-05 | 4.E-05 | 1 | 1 | 1.0 | 6 |
| 4 | 0.00212 | 7.E-06 | 3.E-05 | 1 | 1 | 2.0 | 6 |
| 5 | 0.00301 | 9.E-05 | 9.E-05 | 1 | 1 | 1.0 | 6 |
| 6 | 0.00172 | 5.E-05 | 4.E-05 | 1 | 1 | 1.0 | 6 |

| | Coefficient | t-Stat | SE Reg | mu* | sig* | Obs |
|--------|-------------|--------|--------|-------|-------|-----|
| Pooled | 0.00214 | 4.223 | 1.023 | 0.004 | 1.049 | 36 |

CORPG @First Difference

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| | - | |
| Levin, Lin & Chu t* | 2.90576 | 0.0018 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on D(CORPG)

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|-------|---------|-----------|-----|
| 1 | -0.99696 | 6.E-05 | 3.E-05 | 1 | 1 | 5.0 | 5 |
| 2 | -18.6308 | 0.1941 | 0.1656 | 1 | 1 | 0.0 | 5 |
| 3 | -1.03760 | 5.E-05 | 2.E-05 | 1 | 1 | 5.0 | 5 |
| 4 | -0.34434 | 1.E-05 | 8.E-05 | 1 | 1 | 0.0 | 5 |
| 5 | -0.87490 | 0.0001 | 4.E-05 | 1 | 1 | 5.0 | 5 |
| 6 | -1.43194 | 5.E-05 | 8.E-05 | 1 | 1 | 3.0 | 5 |
| | Coefficient | t-Stat | SE Reg | mu* | sig* | | Obs |
| Pooled | -0.84301 | -3.013 | 1.033 | 0.004 | 1.049 | | 30 |

Individual Unit Root Process (PP-Fisher)

CORPG @Level

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 2.90752 | 0.9962 |
| PP - Choi Z-stat | 4.20590 | 1.0000 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results CORPG

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.9917 | 6.0 | 7 |
| 2 | 0.2607 | 0.0 | 7 |
| 3 | 0.9959 | 6.0 | 7 |
| 4 | 0.9936 | 1.0 | 7 |
| 5 | 0.9634 | 4.0 | 7 |
| 6 | 0.9482 | 3.0 | 7 |

CORPG @First Difference

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 57.0291 | 0.0000 |
| PP - Choi Z-stat | -5.28930 | 0.0000 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results D(CORPG)

Cross

| section | Prob. | Bandwidth | Obs |
|---------|--------|-----------|-----|
| 1 | 0.0034 | 0.0 | 6 |
| 2 | 0.6160 | 0.0 | 6 |
| 3 | 0.0037 | 0.0 | 6 |
| 4 | 0.0045 | 1.0 | 6 |
| 5 | 0.0268 | 1.0 | 6 |
| 6 | 0.0004 | 1.0 | 6 |

Common Uni Root Process

EBIDTA @Level

Null Hypothesis: Unit root (common unit root process)

Cross-sections included: 6

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | 1.25775 | 0.8958 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on EBITDA

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|-------|---------|-----------|-----|
| 1 | -0.12339 | 0.0067 | 0.0012 | 1 | 1 | 6.0 | 6 |
| 2 | 0.01729 | 0.0005 | 0.0003 | 1 | 1 | 6.0 | 6 |
| 3 | -0.06261 | 0.0002 | 0.0003 | 1 | 1 | 2.0 | 6 |
| 4 | 0.07468 | 0.0070 | 0.0087 | 1 | 1 | 0.0 | 6 |
| 5 | 0.03638 | 0.0004 | 0.0015 | 1 | 1 | 1.0 | 6 |
| 6 | -0.10529 | 0.0016 | 0.0014 | 1 | 1 | 0.0 | 6 |
| | Coefficient t-Stat | SE Reg | mu* | sig* | | | Obs |
| Pooled | 0.02722 | 1.322 | 1.036 | 0.004 | 1.049 | | 36 |

EBIDTA @First Difference

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| | - | |
| Levin, Lin & Chu t* | 5.25861 | 0.0000 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on D(EBITDA)

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|-------|---------|-----------|-----|
| 1 | -2.08716 | 0.0073 | 0.0033 | 1 | 1 | 5.0 | 5 |
| 2 | -1.54428 | 0.0003 | 0.0004 | 1 | 1 | 5.0 | 5 |
| 3 | -1.27910 | 8.E-05 | 0.0001 | 1 | 1 | 5.0 | 5 |
| 4 | -1.11681 | 0.0088 | 0.0100 | 1 | 1 | 1.0 | 5 |
| 5 | -0.08375 | 0.0007 | 0.0005 | 1 | 1 | 1.0 | 5 |
| 6 | -1.15601 | 0.0019 | 0.0013 | 1 | 1 | 2.0 | 5 |
| | Coefficient t-Stat | SE Reg | mu* | sig* | | | Obs |
| Pooled | -1.22431 | -5.495 | 1.095 | 0.004 | 1.049 | | 30 |

Individual Unit Root Process

EBIDTA @Level

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 11.5567 | 0.4819 |
| PP - Choi Z-stat | 0.47239 | 0.6817 |

** Probabilities for Fisher tests are computed using an

asymptotic Chi-square distribution. All other tests

assume asymptotic normality.

Intermediate Phillips-Perron test results EBITDA

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.3954 | 1.0 | 7 |
| 2 | 0.9737 | 6.0 | 7 |
| 3 | 0.0324 | 4.0 | 7 |
| 4 | 0.6561 | 0.0 | 7 |
| 5 | 0.8607 | 1.0 | 7 |
| 6 | 0.4389 | 0.0 | 7 |

EBIDTA @First Difference

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 51.3800 | 0.0000 |
| PP - Choi Z-stat | -4.90959 | 0.0000 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results D(EBITDA)

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.0002 | 5.0 | 6 |
| 2 | 0.0078 | 4.0 | 6 |
| 3 | 0.0348 | 5.0 | 6 |
| 4 | 0.0077 | 0.0 | 6 |
| 5 | 0.4833 | 1.0 | 6 |
| 6 | 0.0403 | 0.0 | 6 |

Common Uni Root Process

ROA @Level

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| | - | |
| Levin, Lin & Chu t* | 0.74572 | 0.2279 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on ROA

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|-------|---------|-----------|-----|
| 1 | -0.10821 | 0.0003 | 0.0002 | 1 | 1 | 4.0 | 6 |
| 2 | 0.13884 | 0.0011 | 0.0011 | 1 | 1 | 1.0 | 6 |
| 3 | -2.80560 | 0.0168 | 0.0046 | 1 | 1 | 6.0 | 6 |
| 4 | 0.07042 | 0.0006 | 0.0003 | 1 | 1 | 6.0 | 6 |
| 5 | -0.69623 | 0.0015 | 0.0029 | 1 | 1 | 1.0 | 6 |
| 6 | -0.15245 | 0.0017 | 0.0009 | 1 | 1 | 6.0 | 6 |
| | Coefficient | t-Stat | SE Reg | mu* | sig* | | Obs |
| Pooled | -0.06368 | -0.775 | 1.139 | 0.004 | 1.049 | | 36 |

ROA @ First Difference

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | 4.77998 | 0.0000 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on D(ROA)

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | HAC of Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|------------|---------|-----------|-----|
| 1 | -1.31265 | 0.0004 | 0.0001 | 1 | 1 | 5.0 | 5 |
| 2 | -0.89761 | 0.0014 | 0.0042 | 1 | 1 | 0.0 | 5 |
| 3 | -2.35716 | 0.0259 | 0.0266 | 1 | 1 | 5.0 | 5 |
| 4 | -1.54814 | 0.0004 | 0.0002 | 1 | 1 | 5.0 | 5 |
| 5 | -1.48802 | 0.0035 | 0.0048 | 1 | 1 | 5.0 | 5 |
| 6 | -4.22497 | 0.0007 | 0.0017 | 1 | 1 | 5.0 | 5 |
| Pooled | -1.67930 | -4.980 | 1.165 | 0.004 | 1.049 | | 30 |

Individual Unit Root Process

ROA @ Level

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 20.4304 | 0.0594 |
| PP - Choi Z-stat | -1.26378 | 0.1032 |

** Probabilities for Fisher tests are computed using an

asymptotic Chi-square distribution. All other tests

assume asymptotic normality.

Intermediate Phillips-Perron test results ROA

| Cross section | Prob. | Bandwidth | Obs |
|---------------|--------|-----------|-----|
| 1 | 0.3263 | 4.0 | 7 |
| 2 | 0.7047 | 1.0 | 7 |
| 3 | 0.0319 | 0.0 | 7 |
| 4 | 0.9197 | 6.0 | 7 |
| 5 | 0.0243 | 0.0 | 7 |
| 6 | 0.2235 | 3.0 | 7 |

ROA @First Difference

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 55.6625 | 0.0000 |
| PP - Choi Z-stat | -5.61319 | 0.0000 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results D(ROA)

Cross

| section | Prob. | Bandwidth | Obs |
|---------|--------|-----------|-----|
| 1 | 0.0341 | 3.0 | 6 |
| 2 | 0.0063 | 0.0 | 6 |
| 3 | 0.0024 | 0.0 | 6 |
| 4 | 0.0558 | 5.0 | 6 |
| 5 | 0.0012 | 1.0 | 6 |
| 6 | 0.0234 | 3.0 | 6 |

Common Uni Root Process

ROE @Level

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| | - | |
| Levin, Lin & Chu t* | 0.88000 | 0.1894 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on ROE

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|-------|---------|-----------|-----|
| 1 | -0.08643 | 0.0027 | 0.0010 | 1 | 1 | 6.0 | 6 |
| 2 | 0.03396 | 0.0075 | 0.0068 | 1 | 1 | 1.0 | 6 |
| 3 | -2.75797 | 0.0839 | 0.0234 | 1 | 1 | 6.0 | 6 |
| 4 | 0.02056 | 0.0066 | 0.0017 | 1 | 1 | 6.0 | 6 |
| 5 | -0.72340 | 0.0280 | 0.1350 | 1 | 1 | 0.0 | 6 |
| 6 | -0.15422 | 0.0236 | 0.0110 | 1 | 1 | 6.0 | 6 |
| | Coefficient | t-Stat | SE Reg | mu* | sig* | | Obs |
| Pooled | -0.07204 | -0.914 | 1.093 | 0.004 | 1.049 | | 36 |

ROE @ First Difference

Null Hypothesis: Unit root (common unit root process)

| Method | Statistic | Prob.** |
|---------------------|-----------|---------|
| Levin, Lin & Chu t* | 5.78934 | 0.0000 |

** Probabilities are computed assuming asymptotic normality

Intermediate results on D(ROE)

| Cross section | 2nd Stage Coefficient of Reg | Variance | HAC of Dep. | HAC of Lag | Max Lag | Bandwidth | Obs |
|---------------|------------------------------|----------|-------------|------------|---------|-----------|-----|
| 1 | -1.40483 | 0.0032 | 0.0010 | 1 | 1 | 5.0 | 5 |
| 2 | -1.17477 | 0.0091 | 0.0083 | 1 | 1 | 2.0 | 5 |
| 3 | -2.63277 | 0.1343 | 0.1463 | 1 | 1 | 5.0 | 5 |
| 4 | -1.70811 | 0.0033 | 0.0025 | 1 | 1 | 5.0 | 5 |
| 5 | -2.36019 | 0.0550 | 0.1006 | 1 | 1 | 5.0 | 5 |
| 6 | -4.57152 | 0.0053 | 0.0234 | 1 | 1 | 5.0 | 5 |
| Pooled | -2.08776 | -6.042 | 1.249 | 0.004 | 1.049 | | 30 |

Individual Unit Root Process

ROE @ Level

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 13.5805 | 0.3283 |
| PP - Choi Z-stat | -0.72373 | 0.2346 |

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results ROE

| Cross | | | | |
|---------|--------|-----|---------|-----|
| section | Prob. | Lag | Max Lag | Obs |
| 1 | 0.4303 | 1 | 1 | 6 |
| 2 | 0.7020 | 1 | 1 | 6 |
| 3 | 0.1640 | 1 | 1 | 6 |
| 4 | 0.6847 | 1 | 1 | 6 |
| 5 | 0.0814 | 1 | 1 | 6 |
| 6 | 0.4074 | 1 | 1 | 6 |

ROE @First Difference

Null Hypothesis: Unit root (individual unit root process)

| Method | Statistic | Prob.** |
|------------------------|-----------|---------|
| PP - Fisher Chi-square | 39.6325 | 0.0001 |
| PP - Choi Z-stat | -4.02928 | 0.0000 |

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Intermediate Phillips-Perron test results D(ROE)

| Cross | | | | |
|---------|--------|-----|---------|-----|
| section | Prob. | Lag | Max Lag | Obs |
| 1 | 0.0809 | 1 | 1 | 5 |
| 2 | 0.1447 | 1 | 1 | 5 |
| 3 | 0.3206 | 1 | 1 | 5 |
| 4 | 0.0131 | 1 | 1 | 5 |
| 5 | 0.0529 | 1 | 1 | 5 |
| 6 | 0.0010 | 1 | 1 | 5 |

Panel Correlation

| | ATR | CORPG | EBITDA | ROA | ROE |
|--------|-----------|-----------|-----------|-----------|-----------|
| ATR | 1.000000 | 0.083076 | -0.631630 | 0.100237 | 0.175191 |
| CORPG | 0.083076 | 1.000000 | 0.005806 | -0.198147 | -0.076895 |
| EBITDA | -0.631630 | 0.005806 | 1.000000 | 0.053482 | 0.142901 |
| ROA | 0.100237 | -0.198147 | 0.053482 | 1.000000 | 0.925770 |
| ROE | 0.175191 | -0.076895 | 0.142901 | 0.925770 | 1.000000 |

Panel Cointegration Testing

Pedroni Residual Cointegration Test

Series: ATR CORPG EBITDA ROA ROE

Date: 09/29/20 Time: 14:01

Sample: 2012 2019

Included observations: 48

Cross-sections included: 6

Null Hypothesis: No cointegration

Trend assumption: No deterministic intercept or trend

User-specified lag length: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

| | <u>Statistic</u> | <u>Prob.</u> | Weighted | |
|---------------------|------------------|--------------|------------------|--------------|
| | | | <u>Statistic</u> | <u>Prob.</u> |
| Panel v-Statistic | -0.885149 | 0.8120 | -1.229632 | 0.8906 |
| Panel rho-Statistic | 1.864404 | 0.9689 | 1.793765 | 0.9636 |
| Panel PP-Statistic | 0.174469 | 0.5693 | -1.305849 | 0.0958 |
| Panel ADF-Statistic | 0.191093 | 0.5758 | -1.291603 | 0.0982 |

Alternative hypothesis: individual AR coefs. (between-dimension)

| <u>Statistic</u> | <u>Prob.</u> |
|------------------|--------------|
|------------------|--------------|

| | | |
|---------------------|-----------|--------|
| Group rho-Statistic | 3.059900 | 0.9989 |
| Group PP-Statistic | -1.620694 | 0.0525 |
| Group ADF-Statistic | -2.442774 | 0.0073 |

Cross section specific results

Phillips-Peron results (non-parametric)

| Cross ID | AR(1) | Variance | HAC | Bandwidth | Obs |
|----------|--------|----------|----------|-----------|-----|
| 1 | -0.553 | 0.000445 | 0.000438 | 1.00 | 7 |
| 2 | 0.299 | 0.000830 | 0.001119 | 1.00 | 7 |
| 3 | 0.013 | 0.021741 | 0.005749 | 6.00 | 7 |
| 4 | -0.319 | 0.001078 | 0.000402 | 6.00 | 7 |
| 5 | -0.083 | 0.000644 | 0.000202 | 6.00 | 7 |
| 6 | 0.154 | 0.085621 | 0.085621 | 0.00 | 7 |

Augmented Dickey-Fuller results (parametric)

| Cross ID | AR(1) | Variance | Lag | Max lag | Obs |
|----------|--------|----------|-----|---------|-----|
| 1 | -0.765 | 0.000363 | 1 | -- | 6 |
| 2 | 0.459 | 0.000715 | 1 | -- | 6 |
| 3 | -0.637 | 0.011972 | 1 | -- | 6 |
| 4 | -1.100 | 0.000424 | 1 | -- | 6 |
| 5 | -0.570 | 0.000153 | 1 | -- | 6 |
| 6 | -0.182 | 0.081227 | 1 | -- | 6 |

Panel Causality Testing

Pairwise Granger Causality Tests

Date: 10/07/20 Time: 00:18

Sample: 2012 2019

Lags: 2

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|-------------------------------------|-----|-------------|--------|
| EBITDA does not Granger Cause CORPG | 36 | 0.01641 | 0.9837 |
| CORPG does not Granger Cause EBITDA | | 1.12748 | 0.3368 |
| ROA does not Granger Cause CORPG | 36 | 1.94441 | 0.1601 |
| CORPG does not Granger Cause ROA | | 0.95454 | 0.3960 |
| ATR does not Granger Cause CORPG | 36 | 0.12661 | 0.8815 |
| CORPG does not Granger Cause ATR | | 1.37534 | 0.2677 |
| ROE does not Granger Cause CORPG | 36 | 0.61633 | 0.5464 |
| CORPG does not Granger Cause ROE | | 2.04764 | 0.1461 |
| ROA does not Granger Cause EBITDA | 36 | 0.45910 | 0.6361 |
| EBITDA does not Granger Cause ROA | | 0.08030 | 0.9230 |
| ATR does not Granger Cause EBITDA | 36 | 0.06621 | 0.9361 |
| EBITDA does not Granger Cause ATR | | 1.85373 | 0.1736 |
| ROE does not Granger Cause EBITDA | 36 | 0.29200 | 0.7488 |
| EBITDA does not Granger Cause ROE | | 0.07884 | 0.9244 |
| ATR does not Granger Cause ROA | 36 | 0.81579 | 0.4516 |
| ROA does not Granger Cause ATR | | 0.32857 | 0.7224 |
| ROE does not Granger Cause ROA | 36 | 0.93189 | 0.4046 |
| ROA does not Granger Cause ROE | | 0.97950 | 0.3868 |
| ROE does not Granger Cause ATR | 36 | 0.38190 | 0.6857 |
| ATR does not Granger Cause ROE | | 0.91685 | 0.4103 |

APPENDICE II

| N o | Equity Code | Equity Name |
|--------|----------------|---|
| 1 | AKBNK | AKBANK T.A.Ş. |
| 2 | ARCLK | ARÇELİK A.Ş. |
| 3 | ASELS | ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. |
| 4 | BIMAS | BİM BİRLEŞİK MAĞAZALAR A.Ş. |
| 5 | DOHOL | DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş. |
| 6 | EKGYO | EMLAK KONUT GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş. |
| 7 | EREGL | EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. |
| 8 | SAHOL | HACI ÖMER SABANCI HOLDİNG A.Ş. |
| 9 | KRDMD | KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş. |
| 10 | KCHOL | KOÇ HOLDİNG A.Ş. |
| 11 | KOZAL | KOZA ALTIN İŞLETMELERİ A.Ş. |
| 12 | KOZAA | KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş. |
| 13 | MGROS | MİGROS TİCARET A.Ş. |
| 14 | PGSUS | PEGASUS HAVA TAŞIMACILIĞI A.Ş. |
| 15 | PETKM | PETKİM PETROKİMYA HOLDİNG A.Ş. |
| 16 | SODA | SODA SANAYİİ A.Ş. |
| 17 | TAVHL | TAV HAVALİMANLARI HOLDİNG A.Ş. |
| 18 | TKFEN | TEKFEN HOLDİNG A.Ş. |
| 19 | TRKCM | TRAKYA CAM SANAYİİ A.Ş. |
| 20 | TCELL | TURKCELL İLETİŞİM HİZMETLERİ A.Ş. |

| | | |
|----|-------|---|
| 21 | TUPRS | TÜPRAŞ-TÜRKİYE PETROL RAFİNERİLERİ A.Ş. |
| 22 | THYAO | TÜRK HAVA YOLLARI A.O. |
| 23 | TTKOM | TÜRK TELEKOMÜNİKASYON A.Ş. |
| 24 | GARAN | TÜRKİYE GARANTİ BANKASI A.Ş. |
| 25 | HALKB | TÜRKİYE HALK BANKASI A.Ş. |
| 26 | ISCTR | TÜRKİYE İŞ BANKASI A.Ş. |
| 27 | TSKB | TÜRKİYE SİNAİ KALKINMA BANKASI A.Ş. |
| 28 | SISE | TÜRKİYE ŞİŞE VE CAM FABRİKALARI A.Ş. |
| 29 | VAKBN | TÜRKİYE VAKIFLAR BANKASI T.A.O. |
| 30 | YKBNK | YAPI VE KREDİ BANKASI A.Ş. |

APPENDICE III

Bist-30 Firms Listed in Corporate Governance Index as of 2019 and Their Rating Scores

| Equity Code / Ratings | Industry | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| ARCLK | MANUFACTURING | 91.07 | 92.8 | 90.995 | 94.8 | 95.23 | 95.23 | 95.35 | 95.8 |
| ASELS | TECHNOLOGY | 87.73 | 90.71 | 88.34 | 91.33 | 91.51 | 92.04 | 92.04 | 9.29 |
| DOHOL | FINANCIAL INSTITUTIONS | 90.31 | 91.81 | 89.995 | 93.56 | 93.98 | 94.06 | 94.18 | 94.99 |
| TAVHL | FINANCIAL INSTITUTIONS | 92.44 | 93.97 | 92.955 | 95.19 | 95.38 | 96.17 | 96.25 | 96.67 |
| TTKOM | TRANSPORTATION STORAGE AND TELECOMMUNICATION | 88.01 | 88.02 | 85.2 | 89.08 | 90.24 | 91.75 | 92.87 | 94 |
| TUPRS | MANUFACTURING | 91 | 93.43 | 89.91 | 94.41 | 94.15 | 94.67 | 94.81 | 95.03 |

ARCLK Put these tables as appendix properly

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total Assets | 9,197,753,000 | 10,228,153,000 | 11,410,916,000 | 12,395,005,000 | 13,738,508,000 | 16,909,368,000 | 20,436,495,000 | 28,368,361,000 | 34,729,500,000 |
| Shareholder's Equity | 3,545,592,000 | 3,841,652,000 | 4,062,850,000 | 4,355,625,000 | 4,657,011,000 | 5,977,947,000 | 6,880,998,000 | 8,183,347,000 | 9,658,284,000 |
| Total Sales | 8,437,239,000 | 10,556,861,000 | 11,097,711,000 | 12,514,033,000 | 14,166,100,000 | 6,096,172,000 | 20,840,613,000 | 26,904,384,000 | 31,941,773,000 |
| Net Income | 541,087,000 | 546,638,000 | 622,695,000 | 637,978,000 | 892,993,000 | 1,304,150,000 | 845,303,000 | 855,841,000 | 953,026,000 |
| EBITDA | 876,391,000 | 1,024,488,000 | 1,163,328,000 | 1,334,034,000 | 1,456,461,000 | 1,636,459,000 | 1,919,931,000 | 2,727,478,000 | 3,338,371,000 |

ASELS

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|
| Total Assets | 2,392,044,247 | 3,324,214,771 | 4,007,975,350 | 5,075,931,710 | 6,245,102,000 | 8,597,861,000 | 11,638,596,000 | 19,473,631,000 | 25,633,043,000 |
| Shareholder's Equity | 1,018,805,470 | 1,265,551,399 | 1,611,967,650 | 2,539,146,760 | 2,840,283,000 | 3,691,004,000 | 4,767,581,000 | 10,132,601,000 | 13,498,388,000 |
| Total Sales | 1,501,878,990 | 1,632,896,367 | 2,171,425,296 | 2,534,501,073 | 2,780,430,000 | 3,768,116,000 | 5,412,253,000 | 9,008,516,000 | 13,012,551,000 |
| Net Income | 160,403,045 | 306,916,856 | 238,546,934 | 392,052,201 | 213,373,000 | 795,201,000 | 1,375,980,000 | 2,319,347,000 | 3,352,673,000 |
| EBITDA | 289,829,567 | 268,586,094 | 435,800,564 | 465,678,689 | 428,484,000 | 716,085,000 | 1,159,247,000 | 1,895,596,000 | 2,853,810,000 |

DOHOL

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|
| Total Assets | 8,688,483,000 | 7,784,827,000 | 7,587,973,000 | 6,877,335,000 | 7,869,320,000 | 9,401,449,000 | 10,577,852,000 | 10,949,810,000 | 11,240,591,000 |
| Shareholder's Equity | 3,069,867,000 | 3,180,918,000 | 3,250,187,000 | 2,755,219,000 | 3,073,004,000 | 3,232,623,000 | 2,961,166,000 | 6,661,678,000 | 7,136,609,000 |
| Total Sales | 2,860,678,000 | 3,066,640,000 | 3,301,327,000 | 3,543,263,000 | 5,951,038,000 | 7,754,572,000 | 7,738,622,000 | 12,146,438,000 | 13,276,601,000 |
| Net Income | -962,174,000 | 256,758,000 | -166,048,000 | -311,638,000 | -172,994,000 | -233,886,000 | -376,546,000 | 3,567,124,000 | 592,933,000 |
| EBITDA | 256,058,000 | 331,290,000 | 272,316,000 | 226,814,000 | 401,224,000 | 683,229,000 | 602,629,000 | 721,437,000 | 678,751,000 |

TAVHL

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Total Assets | 5,086,155,000 | 4,980,503,000 | 6,948,741,000 | 7,465,541,000 | 10,506,371,000 | 11,505,470,000 | 13,640,645,000 | 20,804,281,000 | 25,556,843,000 |
| Shareholder's Equity | 1,161,326,000 | 1,189,085,000 | 1,743,819,000 | 2,054,948,000 | 2,566,153,000 | 2,997,978,000 | 4,034,498,000 | 6,256,416,000 | 8,773,935,000 |
| Total Sales | 2,037,572,000 | 1,863,616,000 | 2,594,925,000 | 2,648,050,000 | 3,026,180,000 | 3,721,986,000 | 4,686,016,000 | 3,975,497,000 | 4,756,204,000 |
| Net Income | 120,501,000 | 304,493,000 | 335,492,000 | 620,614,000 | 604,732,000 | 399,379,000 | 762,673,000 | 1,517,324,000 | 2,415,416,000 |
| EBITDA | 737,638,000 | 828,119,000 | 1,018,140,000 | 1,231,115,000 | 1,120,849,000 | 1,919,238,000 | 2,670,537,000 | 2,538,510,000 | 2,445,228,000 |

TTKOM

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total Assets | 16,174,407,000 | 17,207,850,000 | 18,244,515,000 | 19,877,787,000 | 25,773,904,000 | 26,874,451,000 | 29,148,535,000 | 36,198,511,000 | 39,909,286,000 |
| Shareholder's Equity | 5,769,371,000 | 6,455,148,000 | 5,327,609,000 | 6,303,340,000 | 4,993,368,000 | 3,386,621,000 | 4,555,087,000 | 7,453,603,000 | 9,442,853,000 |
| Total Sales | 11,940,555,000 | 12,706,142,000 | 13,116,958,000 | 13,601,623,000 | 14,522,855,000 | 16,108,594,000 | 18,139,554,000 | 20,430,900,000 | 23,657,108,000 |
| Net Income | 1,899,526,000 | 2,593,130,000 | 1,267,098,000 | 1,968,968,000 | 862,850,000 | -724,340,000 | 1,135,532,000 | -1,391,261,000 | 2,406,783,000 |
| EBITDA | 4,961,023,000 | 4,917,211,000 | 4,794,197,000 | 4,780,201,000 | 5,100,897,000 | 5,388,095,000 | 6,780,756,000 | 8,557,113,000 | 11,089,772,000 |

TUPRS

| Summary Financials of | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total Assets | 14,757,986,000 | 16,647,907,000 | 21,139,387,000 | 21,932,560,000 | 25,470,116,000 | 31,218,180,000 | 38,162,979,000 | 40,035,727,000 | 55,511,558,000 |
| Shareholder's Equity | 4,369,991,000 | 4,846,672,000 | 5,093,602,000 | 6,156,716,000 | 8,305,109,000 | 8,088,386,000 | 10,373,347,000 | 9,824,629,000 | 12,962,835,000 |
| Total Sales | 40,747,047,000 | 42,436,908,000 | 41,078,427,000 | 39,722,712,000 | 36,893,328,000 | 34,854,851,000 | 53,948,110,000 | 88,552,170,000 | 89,600,776,000 |
| Net Income | 1,244,527,000 | 1,471,364,000 | 1,199,190,000 | 1,470,121,000 | 2,563,927,000 | 1,812,790,000 | 3,840,556,000 | 3,761,445,000 | 585,330,000 |
| EBITDA | 2,157,657,000 | 1,247,433,000 | 1,013,863,000 | 789,119,000 | 3,735,315,000 | 3,194,783,000 | 5,637,298,000 | 8,539,433,000 | 3,807,043,000 |

RESUME

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2007-2009 Advance Level Government Bilingual High School, Muyuka, (Cameroon) Economics ,Geography ,History

2009-2013 Bachelor's Degree in Business Administration and Management of Enterprise University of Yaoundé II Soa, Yaoundé (Cameroon)

Work Experience:

2013-2014 -Marketing/sales Agent DS Max Buea, (CMR)

2014-2015- Administrative Secretary Scientia Translation Group

-Activities Planner/Book keeping records

2016-.... –Private Teaching Instructor Scientia Translation Group Soa, (CMR)

Languages:

-English: Native Language

-French: Advanced

-Turkish: Intermediate

Skills:

-Communication, Teamwork, Problem Solving, Flexibility, Creativity

- Computer skills (Microsoft Office) and others