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Audit Committee Effectiveness and Corporate Sustainable Growth: The Case of Egypt

Abstract

The purpose of this study is to examine the association between audit committee (AC hereafter) effectiveness, measured by its characteristics; AC size, AC independence and AC meetings and corporate sustainable growth rate (SGR hereafter) in the Egyptian setting. It also explores how results differ between service and non–service firms and whether the main results persist when only profitable firms are being examined.

To obtain relevant information about AC characteristics and SGR, the study relied on the board of directors' and annual reports of non–financial firms listed on the Egyptian Stock Exchange (EGX) during the period spanning from 2015 to 2019. Multiple regression models were developed to test the research hypotheses and conduct sensitivity and additional analyses.

After controlling for audit quality, ownership concentration, firm size, firm age and firm risk, regression results didn't Show significant positive association between AC size and SGR. However, AC independence and AC meetings are positively and significantly associated with SGR. Ownership concentration is positively and significantly associated with SGR, while audit quality is negatively

and significantly associated with SGR. Two sensitivity checks and additional analyses were conducted to provide further evidence. Results are robust to an alternative measure of SGR and AC independence. The role that ACs play in SGR differ between service and non-service firms. Results remain unchanged when only profitable firms are examined.

The results demonstrate that ACs in Egypt play an important monitoring and governance role in the sustainable growth of non-financial firms listed on EGX. The Egyptian Corporate Governance Code related to ACs fulfilled its goals. The study results are of great value to policy makers, regulators, accounting professionals, researchers and other stakeholders.

Keywords: AC effectiveness, corporate sustainable growth rate (SGR), non-financial firms, Egypt.

فعالية لجنة المراجعة ونمو الشركات المستدام: حالة مصر

ملخص البحث

استهدف البحث اختبار العلاقة بين فعالية لجنة المراجعة، والمقاسة من خلال خصائصها؛ حجم اللجنة واستقلالها واجتماعاتها والنمو المستدام للشركات، وذلك بالتطبيق على البيئة المصرية. كما استهدف البحث التحقق مما اذا كانت اختلاف طبيعة نشاط الشركات (شركات خدمية فى مقابل شركات غير خدمية) يؤثر على نتائجه، وما اذا كانت نتائج البحث تختلف فى حالة اختبار العلاقة محل الدراسة على الشركات الرابحة فقط. للحصول على البيانات اللازمة لاختبار فروض البحث، والمتمثلة فى تلك المتعلقة بخصائص لجنة المراجعة والنمو المستدام للشركات، اعتمدت الدراسة على التقارير السنوية للشركات غير المالية المسجلة فى البورصة المصرية وتقارير مجلس الإدارة الخاصة بها فى الفترة من ٢٠١٥ حتى ٢٠١٩. تم تصميم نماذج انحدار متعدد لاختبار فروض البحث وإجراء تحليل حساسية وتحليل إضافى.

تضمنت الدراسة مجموعة من المتغيرات الرقابية، والتى يمكن أن تؤثر على النمو المستدام للشركات، وهى جودة المراجعة، تركز الملكية، حجم الشركة وعمرها ومخاطرها. لم تتوصل الدراسة إلى وجود علاقة إيجابية ومعنوية بين حجم لجنة المراجعة والنمو المستدام للشركات، ولكنها خلصت إلى وجود علاقة إيجابية ومعنوية بين استقلال واجتماعات لجنة المراجعة من ناحية والنمو المستدام للشركات من ناحية أخرى. كما خلصت الدراسة إلى وجود علاقة إيجابية ومعنوية بين تركز الملكية والنمو المستدام للشركات وعلاقة سلبية ومعنوية بين جودة المراجعة والنمو المستدام للشركات. تم إجراء تحليل حساسية واستخدام مقاييس بديلة للمتغيرات المستقلة والمتغير التابع. كما تم إجراء تحليل إضافى للتحقق من أثر اختلاف طبيعة النشاط وتحقيق أرباح من قبل الشركات على العلاقة محل الدراسة. اختلفت العلاقة بين خصائص لجنة المراجعة والنمو المستدام للشركات باختلاف طبيعة النشاط (ما بين الشركات الخدمية وغير الخدمية). لم تتغير نتائج الدراسة عند اختبار العلاقة محل البحث على الشركات الرابحة فقط.

توضح الدراسة أن لجان المراجعة فى مصر تلعب دوراً حوكمياً ورقابياً مهماً فى النمو المستدام للشركات غير المالية المسجلة فى البورصة المصرية. وقد حققت قواعد حوكمة الشركات المتعلقة بلجان المراجعة الهدف المرجو منها. تعتبر نتائج البحث ذات قيمة بالنسبة لواضعى السياسات، المنظمين، الباحثين فى مجال المحاسبة وأصحاب المصالح الأخرى.

الكلمات المفتاحية: فعالية لجنة المراجعة، معدل نمو الشركات المستدام، الشركات غير المالية، مصر

1. Introduction

Recently, the business world suffered from severe corporate scandals like Enron, WorldCom, Tyco and Parmalat that lead stakeholders in general, and investors in particular, to reconsider the corporate governance concept and its role in economic development. Corporate governance rules were issued to enforce the role of management, board of directors, ACs, internal and external auditors in fulfilling the firm's targets and enhancing the level of transparency and financial reporting quality.

Corporate governance is one of the main elements of a sustainable business, as it enables firms to maintain trust with management, investors, regulatory bodies and the public in general. Corporate governance is not a value in itself, but it will help firms in creating long term value and sustainable growth. Nowadays, firms need to make sure that they are not creating financial value only, but also social and natural corporate value (EY, 2019). Corporate governance will not only monitor management activities and monitor the reliability of financial statements only, but also will help firms to sustain and be financially stable (Jensen, 1986).

Agency theory focuses on the relationship between principles and agents in an attempt to explain this relationship and resolve the disputes between both parties and reduce agency costs. Agency theory is considered to be one of the main foundations in the literature of corporate governance. According to this theory, ACs can be one of the ways to reduce agency costs which can be a decline in the firm's value, as a result of management's behavior, and improve the level of corporate transparency (Islam, Islam, Bhattacharjee, and Islam, 2010). ACs are an important and necessary part of corporate governance and they are considered a monitoring mechanism that links different parties involved in the financial reporting process in order to improve the quality of financial reporting (McMullen, 1996). Stakeholders expect that ACs provide effective monitoring and oversight that protect their different interests, although AC members meet periodi-

cally and discuss complex issues and their knowledge of the firms' operations and control is much less than that of the management (DeZoort, Hermanson, Archambeault and Reed, 2002).

ACs can play a crucial role in corporate sustainable growth by helping the board of directors in fulfilling its oversight responsibilities in the areas of financial reporting, internal control systems, risk management systems, internal and external audit quality. It is expected that effective ACs, that are of the right size, meet frequently to discuss financial and non-financial issues and their members are independent, can help the firms to fulfill their financial targets, reduce errors, illegal acts and manipulation (Klien, 2002). Also, it is expected that AC effectiveness is positively associated with the quality of internal control and internal audit and will contribute towards improving the level of financial transparency (Islam et al., 2010; Khlif & Samaha, 2016) and increasing the level of corporate social responsibility disclosure (Said, Zainuddin & Haron, 2009) that will ultimately affect the level of corporate sustainable growth positively.

The purpose of this study is to examine the association between AC effectiveness, measured by its characteristics; AC size, AC independence and AC meetings and corporate sustainable growth of non-financial firms in the Egyptian setting. It also explores how results might differ between service and non-service firms and whether the main results persist when only profitable firms are being examined.

To examine the association between AC effectiveness and corporate sustainable growth of non-financial firms in Egypt, the study relied on a sample of 370 firm-year observations that were selected from non-financial firms listed on EGX during the period spanning from 2015 to 2019. Multiple regression models were developed to examine the association between AC characteristics; AC size, AC independence and AC meetings and SGR. The study used two monitoring control variables; audit quality and ownership concentration and three corporate

characteristics; firm size, firm age and firm risk. To test the robustness of the results and provide further evidence, two sensitivity checks and additional analyses were conducted.

Regression results provided evidence that AC independence and AC meetings are positively and significantly associated with SGR, while AC size has no significant positive association with SGR. Also, regression results presented evidence that audit quality is negatively and significantly associated with SGR, while ownership concentration is positively and significantly associated with SGR. On the other hand, corporate variables are not significantly associated with SGR. These results indicate that independent nonexecutive audit committee members can play an important role in monitoring the financial reporting process objectively and those who meet at least once every quarter will have enough time to discuss financial and non-financial issues that may affect the level of sustainable growth of non-financial firms in Egypt.

This paper contributes to the literature of corporate governance and its impact on corporate sustainable growth. Although several research papers have been conducted to examine the impact of corporate governance characteristics in general, and board of directors' characteristics in particular, on corporate sustainable growth (Maher, & Andersson, 2000; Zare, Moeinadin, & Heyrani, 2014; Li, Liu, & Ren, 2015; Mukherjee & Sen, 2019), however up to my knowledge, no prior research examined the association between AC characteristics and corporate sustainable growth. Also, this paper will help policymakers and regulators to understand how AC effectiveness is associated with the sustainable growth of non-financial firms listed on EGX.

The remainder of the paper is organized as follows. The next section discusses the literature review and develop the research hypotheses. The third section discusses the research methodology and design. The fourth section presents the empirical results and conclusions and implications are presented in the last section.

2. Literature Review and Hypotheses Development

2.1 ACs in Egypt

The Egyptian Corporate Governance Code was issued in 2005 to help all firms in their application of good governance practices and adoption of an integrated approach towards growth and sustainability to be consistent with the Egyptian Institute of Directors' (EIoD) mission and strategy for the benefit of different stakeholders and the community as a whole.

According to the Egyptian Corporate Governance Code, an AC is established to assist the board of directors in fulfilling its roles and duties. An AC shall be formed of independent and nonexecutive members of the board or from outside the firm. The composition of ACs should be approved by the board of directors that should also define the selection criteria of the members, define their tasks and monitor their work and set their remuneration (ECCG, 2005; ECGC, 2016; EFSA, 2020).

The AC should be made up of at least three members, at least two of them are nonexecutives and should meet at least once every three months (4 times a year). The duties of the AC include monitoring the firm's internal control, financial statements and the related accounting policies, ensuring the firm's compliance with rules and regulations, discussing and reviewing the internal audit plan and the internal audit report, nominating an external auditor to the board and reviewing the audit plan set by him (ECCG, 2005; ECGC, 2016; EFSA, 2020).

2.2 Corporate Sustainable Growth

Corporate sustainable growth rate reflects the growth rate achieved by firms without relying on external financing from banks or financial markets and is defined as "the annual percentage of increase in sales that is consistent with the firm's established financial policies" (Higgins, 1977, p. 7). Prior studies investigated the impact of corporate governance mechanisms on factors that may have considerable effect on the corporate sustainable growth and reached mixed results. On one side, and based on a sample of 54 companies listed on Tehran

Stock Exchange during the period 2006–2012, Zare et al. (2014) didn't find any significant relationship between board size, meetings, shareholdings, share of independent directors on board and sustainable growth. But they found that managing director duality of duties is negatively and significantly related to growth rate. On the other hand, based on a sample of 372 family listed firms in Shanghai and Shenzhen stock market in china, Li et al. (2015) found that board size is negatively associated with sustainable growth of family firms and board meetings, independence and chairman stake are positively associated with sustainable growth. In a recent study, Mukherjee and Sen, 2019 investigated the relationship between board size, independence, meetings, female presentation and CEO duality on corporate sustainable growth. Based on a sample of 139 non-financial companies listed on the National Stock Exchange in India, the authors found that larger board size and limited number of independent members have a positive impact on the companies' performance and sustainable growth.

2.3 AC Effectiveness

DeZoort, et al., (2002, p. 41) defined an effective AC as "… has qualified members with the authority and resources to protect stakeholder interests by ensuring reliable financial reporting, internal controls, and risk management through its diligent oversight efforts". This definition shows that an effective AC uses its resources, such as suitable number of qualified members to provide diligent oversight in order to fulfill its objective and protect the different stakeholders' interests.

Prior research placed considerable emphasis on the characteristics and effectiveness of ACs and whether they fulfill their expected roles and duties; oversight of financial reporting systems, review of internal control system including internal audit, monitor of the risk management process and external audit functions (ECODA, 2011; PWC, 2016). Although one would expect that AC effectiveness will be reflected positively on the firm's financial performance and reporting quality, the prior results were inconclusive.

Regarding the impact of AC effectiveness on the financial performance, disclosures and reporting systems, Bedard, Chtourou & Courteau (2004) investigated the effect of AC expertise, independence, and meetings on aggressive earnings management. Based on a sample of 300 US firms during 1996, the authors found that AC independence and financial and governance expertise are negatively associated with earnings management, however AC size and AC meetings were not significant. Mangena & Pike (2005) examined the effect of AC characteristics on the level of interim financial disclosures. The authors hypothesized that AC shareholdings will be negatively related to the level of financial disclosure, and the AC size and financial expertise will be positively associated with the level of interim financial disclosure. Based on a sample of 262 UK listed firms, the authors found that AC financial expertise is positively associated with interim financial disclosures. On the other side, Lin, Li & Yang (2006) examined the effect of AC characteristics on earnings quality (measured by earnings restatement). Based on a sample of 212 firm in US in 2001, the authors found that AC size plays a significant role in overseeing the financial reporting quality, however the AC financial expertise, meetings, independence and stock ownership have no significant impact on earnings quality.

Consistently, Madawaki & Amran (2013) examined the impact of AC formation and characteristics on financial reporting quality measured by earnings quality. Using a sample of 70 companies listed on the Nigerian Stock Exchange during 2011, the authors found that AC formation, existence of an independent AC chair and AC expertise have a positive and significant impact on earnings quality. In the same context, Rizwan, Asrar, Siddiqui & Usmani (2016) investigated the impact of corporate governance mechanisms; board size, board diversity, remuneration committee, AC, insider ownership, dividend and board independence, on the financial performance of the top 20 companies which were registered in Karachi Stock Exchange during the period 2007–2014. The authors found evidence that the presence of AC, together with inside ownership, board size, existence of independent/non–executive directors on board, and dividend payout ratio have a positive and significant impact on the firms' financial perfor-

mance. In a recent study, Alqatamin (2018) examined the impact of AC charac-teristics on company financial performance, measured by ROA. Based on a sam-ple of 165 non-financial companies listed on the Amman Stock Exchange during the period 2014–2016, the authors found that AC size, independence and gender diversity have positive and significant impact on company performance, while experience and number of meetings of ACs have no significant impact on com-pany performance.

Concerning the impact of AC effectiveness on the quality of internal control and audit, Krishnan (2005) investigated the impact of AC quality on the quality of corporate internal control. Based on a sample of 128 companies in US over the period 1994–2000, the authors provided evidence that AC independence and financial expertise are less likely to be related to internal control problems, whether reportable conditions or material weaknesses. In Egypt, Khlif & Samaha (2016) investigated the relationship between AC activity, external auditor's size and internal control quality. Based on a sample of 344 firm–year observations over the period 2007–2010, the authors found evidence that AC meetings have a significant and positive effect on internal control quality and such impact is more pronounced when the firms are audited by one of the big 4 audit firms.

In the US again, Lisic, Neal, Zhang & Zhang (2016) investigated the impact of chief executive officers' (CEOs) power on the negative association between AC effectiveness and internal control weaknesses. The authors posited that pow-erful CEOs can have a negative impact on the effectiveness of ACs and moderate the AC effectiveness in mitigating internal control problems and this moderating effect increases with the CEO's insider trading profits. Based on a sample of 7217 firm–year observations in US during the period 2004–2010, the authors found that AC financial expertise is negatively associated with internal control weak-nesses, however this association is moderated by CEO power. This means that CEO has a negative impact on the effectiveness of AC. This moderating effect is stronger when CEO makes profits from insider trading. Focusing on internal au-dit quality, Zaman & Sarens (2019) investigated the informal interactions be-tween AC and internal audit. It is expected that such interactions will increase

the effectiveness of AC in fulfilling its monitoring role. The authors examined the impact of AC characteristics and AC chair characteristics on these informal interactions based on a questionnaire survey of 160 chief audit executives in UK. The authors found evidence that the independence of AC and the knowledge and experience of its chair, together with the quality of internal audit are positively and significantly associated with the informal interactions between AC and internal audit.

Regarding the impact of AC characteristics on the quality of external audit, Gana & Lajmi (2013) investigated the association between AC size, meetings, independence and expertise and the quality of external audit. Based on a sample of 96 firms listed on Belgian Stock Exchange, the authors found that AC size and meetings are significantly and positively associated with external audit quality. A complementary relationship is found between AC size and meetings on one side and quality of external audit on the other side. However the authors found that AC expertise substitute the quality of external audit.

Because corporate sustainable growth depends to a great extent on the company's approach to manage its risks, Alzharani & Aljaaidi (2015) investigated the association between AC characteristics; size, independence and meetings and risk monitoring activities of Saudi listed industrial firms. Based on 102 hand collected firm–year observations during the period 2007–2011, the authors found that AC size is a proxy for AC effectiveness and is positively associated with risk monitoring activities. Consistently, Tai, Lai & Yang (2018) investigated the influential role of AC on corporate risk management. The authors expected that AC characteristics; meetings, independence, size and financial background will play an important role in monitoring the firms' hedging activities and risk shifting behavior, as they are independent and are not influenced by the CEO and can understand the firms' activities. Based on a sample of 2364 firm–year observations of non–financial S&P firms during the period 2004–2010, the authors found evidence that ACs play an important role in monitoring the firms' hedging activities and the decision to hedge is affected by the board size, AC size, AC independence and AC financial background. Also, the board size, AC meetings and inde-

pendence have a positive impact on the extent to hedge. Firms with good corporate governance has more incentive to hedge.

Regarding the impact of ACs on environmental performance, Sofia (2019) investigated the impact of company size and corporate governance on environmental performance, measured by the disclosure of sustainability report. Based on a sample of 50 Non Stated Owned Enterprises in Indonesia, the author found no significant impact of AC meetings nor board of directors on environmental performance. The author found that this result might be due to ineffective AC meetings and prioritizing private and group interests rather than company interests

Because corporate sustainable growth is related to the companies' objective to create value to different stakeholders and not just shareholders, prior research placed emphasis on the role of ACs on corporate social responsibility disclosure in particular and voluntary disclosure in general, it is important to discuss how AC effectiveness might have an impact on the firms' social disclosures. In Pakistan, based on a sample of 150 Malaysian listed companies in 2006, Said, et al., 2009 found evidence that government ownership and AC independence are positively and significantly associated with the level of corporate social responsibility disclosure. In Egypt, Samaha, Dahawy, Hussainey & Stapleton (2012) investigated the impact of corporate governance attributes on the level of the corporate governance voluntary disclosure. Based on a sample of 100 listed firms, the authors didn't find significant impact of the existence of ACs on the corporate governance disclosure. They noted that the role of the ACs in Egypt doesn't comply with the fundamentals of agency theory and play a limited role in improving corporate financial disclosures.

In UK, Li, Mangena & Pike (2012) examined the relationship between AC characteristics and the disclosure of intellectual capital. Based on a sample of 100 firms listed on London Stock Exchange, the authors found that AC size and meetings are positively associated with the level of intellectual capital disclosure. However the level of financial expertise and independence of AC members were proven to be insignificant. Also, the AC directors' shareholdings were proven to

be negatively associated with the intellectual capital disclosure. In Bangladesh, Khan, Muttakin & Siddiqui (2013) investigated the impact of corporate governance on corporate social responsibility disclosure. Based on a sample of 116 manufacturing listed companies on Dhaka Stock Exchange during the period 2005–2009, the authors found that the presence of an AC, together with public ownership, foreign ownership and board independence have a positive and significant impact on corporate social responsibility disclosures.

In Malaysia, Madi, Ishak & Manaf (2014) investigated the impact of AC characteristics on voluntary disclosure. Based on a sample of 500 listed companies on Bursa Malaysia during 2009, the authors found that AC size, AC independence and AC multiple directorship have a positive impact on voluntary disclosure, however, AC meetings and financial expertise have no significant impact on voluntary disclosure. In Malaysia also, Othman, Ishak, Arif & Aris (2014) investigated the impact of AC characteristics on voluntary ethics disclosure. Based on a sample of 94 listed companies on Bursa Malaysia, the authors found evidence that AC tenure and multiple directorship have a significant impact on voluntary ethics disclosure. However, AC size, independence, expertise and meeting frequency are not significantly associated with voluntary ethics disclosure. In Australia, Appuhami & Tashakor (2017) investigated the impact of AC characteristics on CSR disclosure. Using a sample of 300 ASX listed firms during the period 2012–2013, the authors found that AC size, independence, meetings frequency and gender diversity have a positive and significant impact on the level of CSR disclosure.

In Indonesia, Setiany, Hartoko, Suhardjanto & Honggowati (2017) examined the impact of AC characteristics on the level of financial disclosure. Based on a sample of 100 companies listed in Kompas 100 index in the Indonesian Stock Exchange, the authors found that AC size, independence and tenure were proven to positively affect the level of financial disclosure. Whereas the number of AC meetings, time commitment of AC members and their educational background were insignificant.

It is clear from prior research that there is a great emphasis on the association between AC characteristics and effectiveness on one side and the quality of financial reporting quality and performance, internal control and internal audit quality, risk management process, external audit quality and the disclosures of intellectual capital and corporate social responsibility on the other side. There is prior research that investigated the impact of corporate governance practices in general and board of directors' characteristics in particular on corporate social responsibility, however no previous research concentrated on the association between AC characteristics and corporate sustainable growth.

For the purpose of this study, specific AC characteristics will be selected to reflect its effectiveness and examine its association with corporate sustainable growth. These characteristics are AC size, AC independence and AC meetings.

2.4 Hypotheses Development

2.4.1 AC size and corporate sustainable growth

AC size is a proxy of its diligence (He, Labelle, Piot & Thornton, 2009). Alqatamin (2018) noted that ACs should be of the right size, so as to fulfill their roles efficiently. ACs should have at least three members. It is expected that an AC with many members will be able to fulfill its monitoring role more efficiently, however too large ACs might suffer from communication problem and might lose focus, which might have a negative impact on AC quality and effectiveness (Alqatamin, 2018; Tai, et al., 2018). On the other hand, too small ACs will suffer from lack of expertise, skills and knowledge and will not fulfill their roles in the best interests of stakeholders (Alqatamin, 2018). Prior research investigated the association between AC size and different financial and nonfinancial aspects of the company, however results were inconclusive. Prior research found that AC size is positively associated with firm's earnings quality (Lin, et al., 2006), financial performance (Alqatamin, 2018), risk management system (Alzharani & Aljaaidi, 2015), the decision to hedge (Tai, et al., 2018), the level of intellectual capital disclosure (Li, et al., 2012) and the level of corporate social responsibility disclosure (Appuhami & Tashakor, 2017). It can be inferred also that AC size will

enable it to provide effective oversight of the financial reporting system by mitigating earnings management and reducing the likelihood of errors, manipulation and illegal acts (McMullen, 1996). This will be reflected on better and representative financial performance. Additionally, it is expected that AC size will be positively associated with its ability to oversee the internal control system including the quality of internal audit.

Accordingly, the first research hypothesis will be as follows:

H1: There is a significant positive association between AC size and corporate sustainable growth in the Egyptian setting.

2.4.2 AC Independence and Corporate Sustainable growth

In order to fulfill its role effectively, the members of ACs should be independent. The independence of AC members will make the committee more objective in monitoring the financial reporting process and will reduce the agency problem between the executives and shareholders (Alqatamin, 2018). In addition, the independence of members will reduce the level of abnormal accruals and so the chances of management errors and manipulation (Klien, 2002). Prior research found evidence that AC independence is positively associated with the company's financial performance (Alqatamin, 2018), quality of internal control (Krishnan, 2005), internal audit quality (Zaman & Sarens, 2019), the decision to hedge (Tai, et al., 2018), voluntary disclosure (Madi, et al., 2014), level of financial (Setiany, et al., 2017) and corporate social responsibility disclosure (Appuhami & Tashakor, 2017). It is expected that AC independence will be reflected positively on the firm's financial performance and the quality of financial reporting.

Accordingly, the second research hypothesis will be as follows:

H2: There is a significant positive association between AC independence and corporate sustainable growth in the Egyptian setting

2.4.3 AC meetings and corporate sustainable growth

AC meetings are a proxy of their activity and effort (DeZoort et al., 2002; He, et al., 2009). Effective ACs should meet frequently to discuss financial reporting problems in the first place. AC members should meet at least four times a year. It is expected that active ACs, that meet frequently, will have the opportunity to uncover accounting and financial problems and discuss them with management and external auditors to take corrective actions. This improves the level of corporate transparency and improves the reliability of financial statements (Khlif & Samaha, 2016). Accordingly, the probability of preparing the financial statements according to the prevailing accounting standards will be higher and the likelihood of receiving qualified audit reports will be lower (Pucheta-Martinez & Fuentes, 2007). Velnampy, Sivathaasan, Tharanika & Sinthuja (2014) investigated the impact of board leadership structure and AC characteristics on audit quality. Based on a sample of 32 manufacturing companies listed in Sri Lank during the period 2011–2013, the authors found that AC meetings are positively and significantly associated with audit quality. Prior research found evidence that AC meetings are positively associated with internal control quality (Khlif & Samaha, 2016), disclosure of intellectual capital (Li & Mangena, 2012) and corporate social report disclosure (Appuhami & Tashakor, 2017). It can be expected that active ACs will be able to discuss other issues such as the deficiencies in the internal control systems including the internal audit system. This will be reflected positively on the firms' sustainability and continuity in the business world.

Accordingly, the third research hypothesis will be as follows:

H3: There is a significant positive association between AC meetings and corporate sustainable growth in the Egyptian setting

3. Research Design and Methodology

3.1 Sample and data

The study focuses on non-financial firms listed on EGX for financial years ending between 2015 and 2019. The initial population of the study is 220 listed

firms. The study excludes firms in the financial sector (40 firms) as they are sub–ject to different regulatory requirements and corporate governance practices. Af–ter excluding firms with no ACs and that of insufficient data, the final sample was 370 firm–year observations. Table (1) presents the sample selection procedure and table (2) shows the sectors involved in the study with the number of firm–year observations from every sector.

Table1: Sample selection procedure

Total firm-year observations from 2015-2019	1100
Deduct: Observations in the financial industry	(200)
Observations with missing data	(530)
Final sample	370

Table 2: Sample distribution by sector

Sector	No. of firm-year observations
Basic Resources	19
Chemicals	23
Construction and Materials	48
Food and beverages	62
Healthcare and Pharmaceuticals	27
Industrial Goods and Services and Automobiles	34
Media	3
Oil and gas	5
Personal and Household products	27
Real estate	68
Retail	9
Technology	2
Telecommunications	5
Travel and Leisure	36
Utilities	2
Total	**370**

3.2 Measurement of variables
3.2.1 Measurement of dependent variable – SGR

The study relied on the annual reports of the firms in the final sample to measure the sustainable growth rate (SGR). The sustainable growth rate is measured based on Higgins' model (Higgins, 1977).

SGR = [p (1–d) (1+L)] / [t–p (1–d) (1+L)]

Where:

p: net profit margin on sales

d: dividend payout ratio

L: debt to equity ratio

t: asset turnover ratio measured by total assets to sales

3.2.2 Measurement of independent variables – AC characteristics

The study relied on the board of directors' reports of the firms in the final sample to measure the AC characteristics, which are: AC size, AC independence and AC meetings (Table 3).

3.2.3 Measurement of control variables

The study controlled for a number of variables that may influence the rate of corporate sustainable growth. The control variables involve two monitoring variables, which are audit quality (AQUALITY) and ownership concentration (BLOCKOWN) and three corporate variables, which are firm size (FIRMSIZE), firm age (FIRMAGE) and firm risk (LEVERAGE) (Table 3).

Table 3: Variables and measurement

Variable	Acronym	Measurement
Dependent variable		
Sustainable growth rate	SGR	Higgins' model (1977)
Independent variables		
AC size	ACSIZE	Natural logarithm of the number of AC members (Sharma and Iselin, 2012)
AC independence	ACIND	Percentage of independent nonexecutive AC members (Said et al., 2009)
AC meetings	ACMEET	Dummy variable that takes the value 1 if the number of AC meetings held is 4 or more per year and zero otherwise (Bedard et al., 2004)

Control variables		
Audit quality	AQUALITY	Dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and zero otherwise
Ownership concentration	BLOCKOWN	Cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares (Bedard et al., 2004)
Firm size	FIRMSIZE	Natural logarithm of the book value of assets (Appuhami & Tashakor, 2017)
Firm age	FIRMAGE	Natural logarithm of the number of years since the firm is established (Yasuda, 2005)
Firm risk	LEVERAGE	Ratio of total liabilities to book value of assets (Khlif & Samaha, 2016; Appuhami & Tashakor, 2017)

AQUALITY is an indicator variable that captures the impact of audit quality on the corporate sustainable growth rate. Firms audited by one of the big 4 audit firms or the Accountability State Authority (ASA) might show more sustainable growth in comparison with those audited by one of the small audit firms. *BLOCKOWN* is an indicator variable that shows the impact of concentrated ownership on the sustainable growth rate. According to agency theory, owner– ship may provide an incentive to protect one's investment and in the same time may provide inaccurate financial reporting to manipulate the firm's stock prices (Krishnan, 2005). Although ownership concentration might have its costs, but it is expected that blockholders will focus more on the financial performance and this will be reflected positively on the sustainability of firms.

For firm size *(FIRMSIZE)*, it is expected that it will have a positive impact on the corporate sustainable growth, as firms with larger size will be better posi– tioned in the industry. As for firm age *(FIRMAGE)*, it is expected that firms of higher age are more likely to sustain and remain in the business without relying on external funds. On the other hand, it is expected that higher firm risk *(LEV– ERAGE)* will have a negative impact on corporate sustainable growth.

3.3 Model specification

The research hypotheses are tested using the following multiple regression models:

$$SGR_{it} = \beta_0 + \beta_1 ACSIZE_{it} + \beta_2 ACIND_{it} + \beta_3 ACMEET_{it} + \varepsilon_{it} \qquad (1)$$

$$SGR_{it} = \beta_0 + \beta_1 ACSIZE_{it} + \beta_2 ACIND_{it} + \beta_3 ACMEET_{it} + \beta_4 AQUALITY_{it} + \beta_5 BLOCKOWN_{it} + \beta_6 FIRMSIZE_{it} + \beta_7 FIRMAGE_{it} + \beta_8 LEVERAGE_{it} + \varepsilon_{it} \quad (2)$$

Where:

SGR = Sustainable growth rate measured using Higgins' model (Higgins, 1977).

ACSIZE = Natural logarithm of the number of AC members (Sharma and Iselin, 2012).

ACIND = Percentage of independent nonexecutive AC members (Said et al., 2009).

ACMEET = Dummy variable that takes the value 1 if the number of AC meetings held during the year is 4 or more and 0 otherwise (Bedard et al., 2004).

AQUALITY = Dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 otherwise.

BLOCKOWN = Cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares (Bedard et al., 2004).

FIRMSIZE = Natural logarithm of the book value of assets (Appuhami & Tashakor, 2017).

FIRMAGE = Natural logarithm of the number of years since the firm is established (Yasuda, 2005).

LEVERAGE = Ratio of total liabilities to book value of assets (Khlif & Samaha, 2016; Appuhami & Tashakor, 2017).

ε = error term.

it = for firm i in year t.

4. Empirical Findings

4.1 Descriptive statistics of data

The descriptive statistics of the independent, dependent and control variables are shown in table (4). It is clear from the table that the mean value of SGR is – 0.00448, with standard deviation 1.2473. The mean value of the natural logarithm of AC size is 1.1846, with standard deviation 0.21443. Also, for the AC independence, it is shown that the average percentage of AC independence is 94.053% with standards deviation 0.17519. And for the AC meetings, the descriptive statistics revealed that 91% of the firms fulfill the requirement of EGX and held 4 meetings or more per year with standard deviation 0.285. Regarding audit quality, it is shown that nearly half of the firms is being audited by one of the big 4 audit firms or the ASA and the rest is audited by one of the small audit firms, with standard deviation 0.498. Additionally, the descriptive statistics show that the percentage of ownership concentration is 63% on average with a standard deviation 0.21782. The average natural logarithm of the book value of the firms' assets is 20.4516 with standard deviation 1.81628. The average natural logarithm of the firms' age years is 3.5011 with standard deviation 0.55467. The average leverage level of the firms in the sample is 0.86864 with standard deviation 1.61066.

Table 4: Descriptive statistics

	Expected Sign	Mean	Median	Min	Max	SD	N
SGR		-0.00448	0.04143	-23.1701	1.3733	1.2473	370
ACSIZE	+	1.1846	1.0986	0.0000	1.9459	0.21443	370
ACIND	+	0.94053	1.0000	0.0000	1.0000	0.17519	370
ACMEET	+	0.91	1.0000	0.0000	1.0000	0.285	370
AQUALITY	+	0.45	0.0000	0.0000	1.0000	0.498	370
BLOCKOWN	+	0.62996	0.6650	0.0000	0.9999	0.21782	370
FIRMSIZE	+	20.4516	20.4618	14.2195	25.2905	1.81628	370
FIRMAGE	+	3.5011	3.52636	1.60944	7.61085	0.55467	370
LEVERAGE	-	0.86864	0.53237	0.0000	14.9520	1.61066	370

4.2 Correlation analysis

Table (5) presents the association between SGR and the independent and control variables. SGR is positively but not significantly associated with AC size so as not to support the first research hypothesis (*H1*). On the other hand, SGR is positively and significantly associated with AC independence with a Pearson correlation coefficient 0.181 (p<0.01). This correlation provides a preliminary support for the second research hypothesis (*H2*) that predicts that AC independence is positively and significantly correlated with SGR. Regarding AC meetings, the Pearson correlation coefficient (0.176, p<0.01) shown in table (5) indicates that the AC meetings is positively and significantly associated with SGR and this result provides us also with a preliminary support for the third research hypothesis (*H3*). Regarding the control variables, audit quality and firm risk (leverage) are negatively but not significantly associated with SGR, and ownership concentration, firm size and firm age are positively but not significantly correlated with SGR. Overall, Pearson correlation coefficients and VIF values (shown in the next section) indicate that multicollinearity is not a problem in this study (Appuhami & Tashakor, 2017) and the values of Durbin–Watson statistic (shown in the next section) are between 1.5 and 2.5, which suggest that idiosyncratic residuals from the regression analyses are not significantly correlated (Salehi & Shirazi, 2016)

Table 5: Pearson correlations between dependent and independent variable

	SGR	ACSIZE	ACIND	ACMEET	AQUALITY	BLOCKOWN	FIRMSIZE	FIRMAGE	LEVERAGE
SGR	1.00								
ACSIZE	0.040	1.00							
ACIND	0.181***	0.097*	1.00						
ACMEET	0.176***	0.087*	0.110**	1.00					
AQUALITY	-0.052	0.077	0.116**	-0.042	1.00				
BLOCKOWN	0.068	0.260***	-0.014	-0.068	0.270***	1.00			
FIRMSIZE	0.024	0.168***	0.089*	-0.020	0.435***	0.308***	1.00		
FIRMAGE	0.037	0.210***	0.022	-0.012	0.133**	0.144**	0.090*	1.00	
LEVERAGE	-0.003	-0.007	-0.051	0.017	0.139***	0.160	0.063	-0.062	1.00

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

4.3 Hypotheses testing

Table (6) reports the results of regressing AC characteristics; AC size, AC independence and AC meetings on SGR (Model 1). The results show that AC size (*ACSIZE*) has a positive but insignificant effect on SGR (t = 0.205, Sig. = 0.702). However AC independence (*ACIND*) has a positive and significant effect on SGR (t = 3.181, Sig. = 0.002). Additionally, AC meetings (*ACMEET*) has a positive and significant impact on the level of SGR (t = 3.072, Sig. = 0.002). This result is consistent with prior expectations and the previous research findings that AC independence is positively associated with the company's financial performance (Alqatamin, 2018). This will be reflected on the company's sustainable growth. Meanwhile, this result is inconsistent with what Alqatamin (2018) found which is AC meetings are not significantly associated with financial performance.

The regression results in table (6) provide evidence that AC independence and meetings are positively associated with the corporate sustainable growth rate of the non–financial firms listed on EGX. This result indicates that independent

audit committee members will be objective in monitoring the financial reporting process (Alqatamin, 2018) and will play an important role in reducing management errors and manipulation (Klien, 2002) and reporting them without any pressure, which will be reflected positively on the performance and sustainable growth of non-financial firms. Also, AC meetings, which represent the activity and efforts of audit committee members (DeZoort et al., 2002; He et al., 2009), will enable them to discuss financial and non-financial issues and report accounting problems (Pucheta-Martinez & Fuentes, 2007; Khlif & Samaha, 2016), thereby facilitating the preparation of financial statements according to the Egyptian accounting standards, enhancing the level of transparency (Khlif & Samaha, 2016) and so contributing towards the sustainable growth of those firms.

Table 6: Multiple regression results (Model 1)

Variables	VIF	Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
(Constant)		-1.795	0.491		-3.659	0.007
ACSIZE	1.016	0.061	0.297	0.011	0.205	0.702
ACIND	1.020	1.161	0.368	0.163	3.181	0.002***
ACMEET	1.018	0.687	0.224	0.157	3.072	0.002**
R^2				0.058		
Adj. R^2				0.050		
Std. error				1.2157		
Durbin-Watson				2.001		
F value				7.473		
Sig. F				0.000***		
N				370		

SGR sustainable growth rate using Higgins' model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise.

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

After adding the control variables (as shown in Model 2), the regression results in table (7) showed a slight improvement in the value of adj. R^2 (from 0.05 to 0.054) and confirmed the results of Model (1) in table (6), which indicate that AC size *(ACSIZE)* is not significantly associated with SGR (t = -0.401, Sig. =

0.688). This result doesn't support the first research hypothesis (*H1*) which predicts a significant positive association between AC size and SGR. In the same time, regression results provide evidence that AC independence *(ACIND)* (t = 3.412, Sig. = 0.001) and AC meetings *(ACMEET)* (t = 3.151, Sig. = 0.002) are positively and significantly associated with SGR. This result supports the second research hypothesis (*H2*), which predicts a significant positive association between AC independence and SGR and the third research hypothesis (*H3*), which expects a significant positive association between AC meetings and SGR.

Also, it is clear from the regression results in table (7) that ownership concentration *(BLOCKOWN)* is positively and significantly associated with SGR (t = 1.820, Sig. = 0.070). This result is consistent with prior research (Maher and Andersson, 2000), which found that ownership concentration helps in reducing agency cost and providing better monitoring incentives which will have a positive impact on the firm's profitability level. In addition, the result suggests that blockholders in non-financial firms in Egypt are playing an important monitoring role that will be reflected positively on the firms' performance and their ability to grow and sustain in the future. On the other hand, audit quality is negatively and significantly associated with SGR at 10% significance level (t = −1.868, Sig. = 0.063). This result may be due to the focus of external audit on the short term financial operating performance, however non-financial assurance concentrates on long term financial and non-financial performance. Meanwhile, firm size *(FIRMSIZE)* (t = 0.459, Sig. = 0.646), firm age *(FIRMAGE)* (t = 0.701, Sig. = 0.484) and firm risk *(LEVERAGE)* (t = 0.038, Sig. = 0.970) are positively but insignificantly associated with SGR.

Table 7: Multiple regression results (Model 2)

Variables	VIF	Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
(Constant)		-2.595	0.931		-2.789	0.006
ACSIZE	1.144	-0.126	0.315	-0.022	-0.401	0.688
ACIND	1.044	1.257	0.368	0.177	3.412	0.001***
ACMEET	1.031	0.708	0.225	0.162	3.151	0.002***
AQUALITY	1.309	-0.271	0.145	-0.108	-1.868	0.063*
BLOCKOWN	1.238	0.587	0.323	0.103	1.820	0.070*
FIRMSIZE	1.312	0.018	0.040	0.027	0.459	0.646
FIRMAGE	1.075	0.083	0.118	0.037	0.701	0.484
LEVERAGE	1.054	0.002	0.040	0.002	0.038	0.970
R^2				0.074		
Adj. R^2				0.054		
Std. error				1.2133		
Durbin-Watson				2.001		
F value				3.620		
Sig. F				0.000***		
N				370		

SGR sustainable growth rate using Higgins' model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 otherwise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIRMAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

4.4 Sensitivity analyses

To ensure the robustness of the results, two sensitivity checks were conduct–ed. The first sensitivity analysis tests the impact of using alternative measures of AC characteristics on regression results. AC size (*ACSIZE*) is measured based on the number of AC members, AC independence (*ACIND*) is measured using the number of independent nonexecutive AC members and the number of AC meetings held every year is used to measure AC meetings (*ACMEET*) (Khlif & Samaha, 2016).

After running Model (2) using the alternative measures of AC characteristics, multiple regression results shown in table (8) indicate a decrease in the value of Adj. R^2 (from 0.054 to 0.026) in comparison with the results in table (7). Regarding AC size, it is clear from table (8) that AC size is negatively and significantly associated with SGR (t = –2.732, Sig. = 0.007). This result is consistent with prior literature (Alqatamin, 2018; Tai et al., 2018), showing that too large AC might be associated with different points of view and suffer from communication problem and might lose focus, which might have a negative impact on the AC quality and effectiveness. This result indicates that ACs in Egypt exceeding the minimum number of members required by the Corporate Governance Code (3 members) might have a negative impact on the firms' performance and likelihood to grow and sustain in the future because of different points of view and lack of communication. Again, this result doesn't support the first research hypothesis *(H1)* that predicts that AC size has a significant positive association with SGR.

Concerning the association between AC independence (*ACIND*) and SGR, the regression results confirmed the prior results shown in table (7) that indicate that AC independence has a positive and significant effect on SGR (t = 3.501, Sig. = 0.001), which suggests that independent AC members will be objective in monitoring the financial reporting process (Alqatamin, 2018) and reducing the chances of errors and manipulation (Klien, 2002) and this will be reflected on the firms' performance and their ability to grow and sustain in the future. This result again supports the second research hypothesis (*H2*). As for AC meetings (*ACMEET*), the regression results showed that AC meetings are positively but insignificantly associated with SGR (t = 0.548, Sig. = 0.584). This result is not consistent with the result shown in table (7) and this might be because a different measure of AC meetings (*ACMEET*) was used.

Consistent with the prior results shown in table (7), audit quality (*AQUALITY*) (t = –1.882, Sig. = 0.061) is negatively and significantly associated with SGR, and firm size (*FIRMSIZE*) (t = 0.389, Sig. = 0.698), firm age (*FIRMAGE*) (t = 0.610, Sig. = 0.542) and firm risk (*LEVERAGE*) (t = 0.176, Sig. = 0.860) are

positively but insignificantly associated with SGR. As for the ownership concen-tration, it is shown that although ownership concentration ($BLOCKOWN$) is positively associated with SGR, the association is not significant (t = 1.510, Sig. = 0.132). Overall, the results confirmed that AC independence contributes towards improving the corporate sustainable growth of non-financial firms listed on Egyptian Stock Exchange, however AC size doesn't have a positive effect on the level of corporate sustainable growth of those firms.

Table 8: Multiple Regression Results (1st sensitivity analysis)

		Model 2 (using alternative measures of AC characteristics)				
		Unstandardized coefficients		Standardized coefficients		
Variables	VIF	B	Std. error	Beta	t	Sig.
(Constant)		-0.798	0.873		-0.910	0.363
ACSIZE	3.398	-0.405	0.148	-0.259	-2.732	0.007***
ACIND	3.333	0.420	0.120	0.328	3.501	0.001***
ACMEET	1.044	0.009	0.017	0.029	0.548	0.584
AQUALITY	1.307	-0.277	0.147	-0.111	-1.882	0.061*
BLOCKOWN	1.218	0.491	0.325	0.086	1.510	0.132
FIRMSIZE	1.319	0.016	0.041	0.023	0.389	0.698
FIRMAGE	1.074	0.073	0.120	0.032	0.610	0.542
LEVERAGE	1.054	0.007	0.041	0.009	0.176	0.860
R^2				0.047		
Adj. R^2				0.026		
Std. error				1.2312		
Durbin-Watson				2.033		
F value				2.218		
Sig. F				0.026**		
N				370		

SGR sustainable growth rate using Higgins' model, *ACSIZE* number of AC members, *ACIND* number of independent nonexecutive AC members, *ACMEET* number of AC meetings held during the year, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 otherwise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockhold-ers who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIRMAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets.

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

The second sensitivity analysis tests the impact of using another measure of SGR, which is proposed by Ross, Westerfield & Jordan (2003).

SGR = [ROE*b] / [1–(ROE*b)]

Where:

ROE = Net income divided by the book value of equity

b = retention ratio = (Profit after tax – current year dividend) / profit after tax

After running Model (2) using the alternative measure of SGR (Ross et al.'s model), the regression results shown in table (9) confirmed the results in table (7) and revealed that AC size (*ACSIZE*) is negatively (t = –0.492, Sig. 0.623) but in-significantly associated with SGR, and AC independence (*ACIND*) has a signifi-cant positive association with SGR (t = 3.201, Sig. = 0.001) and AC meetings (*ACMEET*) is positively and significantly associated with SGR (t = 3.011, Sig. = 0.003). Also audit quality (*AQUALITY*) is negatively and significantly associated with SGR (t = –1.782, Sig. = 0.076) and ownership concentration (*BLOCKOWN*) is positively and significantly associated with SGR (t = 1.818, Sig. = 0.070). The corporate measures, firm size (*FIRMSIZE*) (t = 0.327, Sig. = 0.744), firm age (*FIRMAGE*) (t = 0.565, Sig. = 0.572) and firm risk (*LEVER–AGE*) (t = 0.084, Sig. = 0.933) are positively but insignificantly associated with SGR. This result showed that AC size has no significant effect on SGR, howev-er AC independence and AC meetings are positively associated with SGR, whether this rate is measured using Higgins' model that considers the retention ratio, asset turnover rate, profitability and leverage ratios to calculate this rate or Ross et al.'s model that considers profitability and retention ratios only.

Table 9: Multiple regression results (2nd sensitivity analysis)

Variables	VIF	Model 2 (using Ross et al.'s model to measure SGR)				
		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
(Constant)		-2.315	0.935		-2.477	0.014
ACSIZE	1.144	-0.156	0.316	-0.027	-0.492	0.623
ACIND	1.044	1.184	0.370	0.166	3.201	0.001***

ACMEET	1.031	0.680	0.226	0.155	3.011	0.003***
AQUALITY	1.309	-0.260	0.146	-0.104	-1.782	0.076*
BLOCKOWN	1.238	0.589	0.324	0.103	1.818	0.070*
FIRMSIZE	1.312	0.013	0.040	0.019	0.327	0.744
FIRMAGE	1.075	0.067	0.119	0.030	0.565	0.572
LEVERAGE	1.054	0.003	0.040	0.004	0.084	0.933
R^2				0.067		
Adj. R^2				0.046		
Std. error				1.2186		
Durbin-Watson				1.998		
F value				3.232		
Sig. F				0.001***		
N				370		

SGR sustainable growth rate using Ross et al.'s model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 otherwise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIRMAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

4.5 Additional analyses

The sample used in the study is partitioned according to the nature of operations into service (87 firm-year observations) and non-service firms (283 firm-year observations). Model (2) was run separately on service and non-service firms in the sample. The regression results shown in tables (10) and (11) revealed how results differ as a result of different nature of operation.

For service firms, it is clear from table (10) that none of the AC characteristics is significantly associated with SGR. The AC size (*ACSIZE*) (t = 1.642, Sig. = 0.105) and AC meetings (*ACMEET*) (t = 1.597, Sig. = 0.114) have a positive but insignificant impact on SGR, while AC independence (*ACIND*) has a negative and insignificant impact on SGR (t = –0.187, Sig. = 0.852). The only variable that has a significant effect on SGR is audit quality (A*QUALITY*) which has a significant positive association with SGR (t = 2.763, Sig. = 0.007). This result indicates that the monitoring and governance role of external auditors in the SGR of service firms in Egypt is more obvious than that of ACs in those firms.

On the other side, ownership concentration (*BLOCKOWN*) (t = 0.380, Sig. = 0.705), firm age (*FIRMAGE*) (t = 1.298, Sig. = 0.198) and firm risk (*LEVER–AGE*) (t = 1.153, Sig. = 0.253) are positively but insignificantly associated with SGR and firm size (*FIRMSIZE*) (t = –0.951, Sig. = 0.345) is negatively but insig–nificantly associated with SGR.

Table 10: Multiple regression results (Service Firms)

		Model 2 (service firms)				
		Unstandardized coefficients		Standardized coefficients		
Variables	**VIF**	**B**	**Std. error**	**Beta**	**t**	**Sig.**
(Constant)		-0.159	0.219		-0.726	0.470
ACSIZE	1.256	0.129	0.079	0.185	1.642	0.105
ACIND	1.166	-0.013	0.070	-0.020	-0.187	0.852
ACMEET	1.064	0.072	0.045	0.166	1.597	0.114
AQUALITY	1.419	0.092	0.033	0.331	2.763	0.007***
BLOCKOWN	1.481	0.027	0.072	0.047	0.380	0.705
FIRMSIZE	1.592	-0.008	0.008	-0.121	-0.951	0.345
FIRMAGE	1.190	0.038	0.029	0.143	1.298	0.198
LEVERAGE	1.146	0.007	0.006	0.124	1.153	0.253
R^2				0.210		
Adj. R^2				0.129		
Std. error				1.300		
Durbin-Watson				1.865		
F value				2.590		
Sig. F				0.015**		
N				87		

SGR sustainable growth rate using Higgins' model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 other–wise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIR-MAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

For non–service firms, the results shown in table (11) confirmed that reported in table (7) and provide evidence that AC independence (*ACIND*) (t = 3.780, Sig. = 0.000) and AC meetings (*ACMEET*) (t = 3.132, Sig. = 0.002) have a sig–nificant positive effect on SGR, however AC size (*ACSIZE*) is negatively but

insignificantly associated with SGR (t = –0.752, Sig. = 0.453). Again, audit quali-
ty ($AQUALITY$) is negatively and significantly associated with SGR at 10% sig-
nificance level (t = –1.960, Sig. = 0.051) and ownership concentration
($BLOCKOWN$) is positively and significantly associated with SGR at 10% sig-
nificance level (t = 1.925, Sig. = 0.055). Regarding the corporate characteristics,
firm size ($FIRMSIZE$) (t = 0.767, Sig. = 0.444) and firm age ($FIRMAGE$) (t =
0.845, Sig. = 0.399) are positively but insignificantly associated with SGR, and
firm risk ($LEVERAGE$) is negatively but insignificantly associated with SGR (t =
–0.601, Sig. = 0.549). This result indicates that the role that AC characteristics
play in SGR differs between service and non–service firms in Egypt.

Table 11: Multiple regression results (Non-Service Firms)

Variables	VIF	Model 2 (non-service firms)				
		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
(Constant)		-4.036	1.227		-3.289	0.001
ACSIZE	1.193	-0.308	0.410	-0.047	-0.752	0.453
ACIND	1.034	1.957	0.518	0.219	3.780	0.000[***]
ACMEET	1.042	0.948	0.303	0.182	3.132	0.002[***]
AQUALITY	1.315	-0.366	0.187	-0.128	-1.960	0.051[*]
BLOCKOWN	1.214	0.812	0.422	0.121	1.925	0.055[*]
FIRMSIZE	1.278	0.041	0.053	0.049	0.767	0.444
FIRMAGE	1.150	0.134	0.159	0.052	0.845	0.399
LEVERAGE	1.064	-0.041	0.068	-0.035	-0.601	0.549
R^2				0.109		
Adj. R^2				0.083		
Std. error				1.3629		
Durbin-Watson				1.986		
F value				4.210		
Sig. F				0.000[***]		
N				283		

SGR sustainable growth rate using Higgins' model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 other-wise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIR-MAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

Because profitability is a very important indicator for corporate sustainable growth, and profitable firms are more likely to sustain and grow in the future without relying on external funds, the study examined the association between AC characteristics and SGR of firms that experience profits only. After running Model (2) on profitable firms only, multiple regression results in table (12) confirmed the results in table (7) and indicate that AC size (*ACSIZE*) is negatively but insignificantly associated with SGR (t = –0.904, Sig. = 0.367) and AC independence (*ACIND*) (t = 3.335, Sig. = 0.001) and AC meetings (*ACMEET*) (t = 3.007, Sig. = 0.003) are positively and significantly associated with SGR.

For the two monitoring variables, audit quality (*AQUALITY*) is negatively and significantly associated with SGR at 10% significance level (t = –1.709, Sig. = 0.089) and ownership concentration (*BLOCKOWN*) is positively and significantly associated with SGR (t = 2.017, Sig. = 0.045). Regarding the corporate variables, the regression results indicate that firm size (*FIRMSIZE*) (t = 0.542, Sig. = 0.588), firm age (*FIRMAGE*) (t = 1.220, Sig. = 0.223) and firm risk (*LEVERAGE*) (t = 0.030, Sig. = 0.976) are positively but insignificantly associated with SGR. This result confirmed the regression results of Model (2) shown in table (7) and provided evidence that out of the three AC characteristics, AC independence and AC meetings are positively and significantly associated with SGR, audit quality has a negative effect on SGR and blockholders will help the Egyptian listed firms to sustain and grow in the future. This result suggests that ACs in profitable non–financial firms in Egypt are playing a very important governance role in monitoring the financial reporting process and this is reflected on the firms' performance and their sustainable growth rate.

Table 12: Multiple regression results (Profitable Firms)

Variables	VIF	Model 2 (profitable firms)				
		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
(Constant)		-3.212	1.151		-2.789	0.006
ACSIZE	1.208	-0.332	0.367	-0.056	-0.904	0.367
ACIND	1.053	1.404	0.421	0.192	3.335	0.001[***]
ACMEET	1.024	0.810	0.269	0.171	3.007	0.003[***]

AQUALITY	1.301	-0.299	0.175	-0.110	-1.709	0.089[*]
BLOCKOWN	1.158	0.829	0.411	0.122	2.017	0.045[**]
FIRMSIZE	1.293	0.026	0.048	0.035	0.542	0.588
FIRMAGE	1.102	0.189	0.155	0.072	1.220	0.223
LEVERAGE	1.062	0.002	0.051	0.002	0.030	0.976
R^2				0.087		
Adj. R^2				0.062		
Std. error				1.3193		
Durbin-Watson				2.004		
F value				3.460		
Sig. F				0.001[***]		
N				298		

SGR sustainable growth rate using Higgins' model, *ACSIZE* natural logarithm of the number of AC members, *ACIND* percentage of independent nonexecutive AC members, *ACMEET* dummy variable that takes the value 1 if the number of meetings held during the year is 4 or more and 0 otherwise, *AQUALITY* dummy variable that takes the value 1 if the external auditor is one of the big 4 or the ASA and 0 otherwise, *BLOCKOWN* cumulative percentage of outstanding common shares held by blockholders who are holding at least 5% of the firm's shares, *FIRMSIZE* natural logarithm of the book value of assets, *FIRMAGE* natural logarithm of the number of years since the firm is established, *LEVERAGE* ratio of total liabilities to book value of assets

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

5. Conclusions and Implications

The purpose of this study is to examine the association between AC effectiveness, measured by its characteristics; AC size, AC independence and AC meetings and corporate sustainable growth (SGR) in the Egyptian setting. It also explores how results might differ between service and non-service firms and whether the main results persist when only profitable firms are being examined. The study controls for a number of variables that can affect SGR.

Based on a sample of 370 firm-year observations from non-financial firms listed on EGX during the period spanning from 2015 to 2019, the study provided evidence that AC independence and AC meetings are positively and significantly associated with SGR. On the other side, AC size is not significantly associated with SGR. Concerning the two monitoring control variables, ownership concentration has a significant positive association with SGR, while audit quality is negatively and significantly associated with SGR. The results indicate that AC effectiveness is associated with SGR of non-financial firms in Egypt. AC members, who are independent are objective in monitoring the financial reporting

process (Alqatamin, 2018) and fulfilling their governance role. They can discuss different issues and problems clearly without any pressure from the management side. Also, AC members, who meet frequently will have enough time to uncover accounting problems and discuss them with management and external auditors to take corrective actions (Khlif & Samaha, 2016). This will help in reducing agency problems (Alqatamin, 2018), preparing reliable financial statements in accordance with the Egyptian accounting standards and will contribute towards the sustainable growth of those firms.

The study conducted two sensitivity checks. The first sensitivity analysis involves alternative measures of AC characteristics. Results of this sensitivity analysis remain unchanged concerning the impact of AC independence on SGR, however the association between AC size and SGR turned to be negative and significant and the association between AC meetings and SGR became insignificant. The second sensitivity analysis involves measuring SGR based on Ross et al.'s model and results remain unchanged. Additional analyses were conducted to examine the impact of different nature of operation (between service and non-service firms) and profitability on the study results. Results suggest that the association between AC characteristics and SGR differs with different nature of operations. AC independence and meetings have a positive significant impact on SGR for non-service firms. On the other hand, only audit quality was found to be positively and significantly associated with SGR in service firms. Same results were found when only profitable firms are examined.

The results of this study may have implications for Egyptian standards-setters, regulators, accounting professionals, corporate board members and different stakeholders in Egypt. Also, the results may have implications for international investors who are interested in the effectiveness of ACs in the Egyptian setting, as they are important especially after the collapse of different firms all over the world and the concern of stakeholders in general, and investors in particular, towards the governance role of ACs and the going concern of business firms. Based on these results, the study emphasized the role that ACs play in the sustainable growth of non-financial firms in the Egyptian setting. However, the study rec-

ommends more emphasis to be placed by regulators on one of the important component of AC effectiveness; AC size and the right number of members that can contribute towards increasing the corporate sustainable growth of listed firms. In addition, more emphasis should be placed on the role of ACs, as a monitoring and governance mechanism, in service firms.

The results of the study are subject to several limitations. The study focuses on the association between AC effectiveness, measured by specific AC characteristics; size, independence and meetings and SGR based on a sample of non-financial firms listed on EGX. Accordingly, future research directions include the association between other AC characteristics, such as AC tenure, compensation, financial expertise, multiple directorship, judgements and shareholdings and the sustainable growth of Egyptian listed firms. Also future research may examine the association between AC effectiveness and the sustainable growth of firms in the financial sector, taking into consideration their special nature and regulations. Finally, there is a need to broaden the evidence base by including other developing countries that are different from Egypt in the institutional setting, but where ACs play an important monitoring and governance role.

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