

# Audit committee impact on the quality of financial reporting and disclosure

## Evidence from the Tehran Stock Exchange

Audit committee impact

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Mahdi Salehi

*Department of Economics and Administrative Sciences,  
Ferdowsi University of Mashhad, Mashhad, Iran, and*

Mohammadamin Shirazi

*Department of Accounting,  
Imamreza International University of Mashhad, Mashhad, Iran*

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### Abstract

**Purpose** – The purpose of this study is to shed further light on the characteristics of an audit committee (AC) and its probable relationship with the quality of financial reporting and disclosure. Based on the findings of extant research that there are different factors that may have implications for the AC' effectiveness, the authors posit an association between the aforementioned financial aspects and AC presence.

**Design/methodology/approach** – The authors test their hypotheses by performing panel data analysis on a sample of 100 companies listed on the Tehran Stock Exchange (TSE) during 2013-2014. The tests were conducted by using Eviews software.

**Findings** – Examining previously tested characteristics of an AC, the authors indicate that the number of AC meetings held during fiscal year is negatively associated with the quality of corporate disclosure, whereas AC expertise and size are positively associated with the quality firm's financial disclosure. Their findings are also indicative of a non-significant relationship between other AC attributes and financial reporting quality (FRQ) except for AC independence, which is positively associated with FRQ. Finally, they provide some evidence that the size of a firm positively affects the quality of its financial reporting and disclosure.

**Research limitations/implications** – Although the study has been thoroughly considered and cautiously planned, some limitations have yet arisen. Initially, this research was conducted in an Iranian setting where the formation of ACs is on the verge of regulation; therefore, the data utilized for the study only contains the two-year period of ACs' statutory activity. In addition, a lack of consensus on the precise measures of an AC's effectiveness could be considered as a restrictive factor.

**Originality/value** – The authors' study contributes to the AC literature by providing empirical evidence of an association between ACs' different attributes and financial aspects in a newly regulated environment like the TSE. The results provided in this paper could be fruitful for auditors, regulators, institutional investors and policymakers.

**Keywords** Audit committee, Financial reporting quality, Disclosure quality, Financial expertise

**Paper type** Research paper



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### 1. Introduction

In the wake of corporate collapses like Enron, WorldCom and HIH Insurance Group in Australia in the early 2000s and the subsequent implementation of the Sarbanes-Oxley

Act 2002 (SOX), management authority concerning auditors has been granted to independent audit committees (ACs) to enhance the quality of financial reporting. In other words, as a result of recent corporate failures and to address the subsequent concerns, the corporate governance reformers have considered AC as having a central role in preventing fraudulent financial reporting and restoring the users' confidence in financial statements. Moreover, the issues of auditor independence and objectivity have also been under much debate in accounting literature. *Anandarajan et al. (2012)*, for instance, attribute the impaired auditor independence, in part, to the payments in the form of audit fees and non-audit advisory services (NAS), primarily due to the creation of an economic bonding in client-auditor relationship. Furthermore, *Anandarajan et al.'s (2012)* comparative study demonstrates that NAS is still utilized as a surrogate for auditor independence even in the post-SOX era.

Financial reporting quality (FRQ) is generally characterized under two different approaches, namely, "users' demand" and "investor protection". The former considers the needs of the users of financial information and determines the quality of financial reporting according to the usefulness of financial reports from users' viewpoint. The latter focuses on providing further impetus for investment and primarily uses the completeness and fairness of disclosures for shareholders as proxies for FRQ. More specifically, the second approach puts emphasis on the transparency and completeness of financial disclosures, the degree of conservatism and estimates used in accounting information and the consistency and comparability of financial records as major FRQ proxies. There are some significant differences in the aforementioned approaches. The first approach primarily focuses on the provision of financial information for equity valuation and distribution decision purposes. In contrast, the second approach seeks to provide financial information of users with an assurance that the information is both sufficient and transparent. High FRQ is likely to mitigate information asymmetry between firms and their external financiers and also restricts managers' incentives to participate in activities of lower or negative values (*Chen et al., 2011*). Based on Financial Accounting Standards Board Statement of Financial Accounting Concepts No. 1 (1978), one primary goal of financial reporting is to provide equity investors with information about the firm's expected cash flows to make informed investment decisions. Accordingly, *Biddle et al. (2009)* describe FRQ as the level of precision used in preparing information about firm's expected cash flows.

To our knowledge, there is a remarkable gap in prior literature addressing the hitherto unexplored question of whether AC's different attributes affect the level of financial reporting and disclosure quality, particularly in emerging and transition markets. Indeed, the present study aims to delineate the role of an AC as an important component of a given firm's overall corporate governance structure, particularly with respect to audit quality and oversight of financial reporting, in promoting the FRQ as well as the quality of financial disclosure. Indeed, our expectation is built up based on the proposition that ACs could encourage or contribute to management to provide financial information of higher quality and on a timely basis. Over the past decades, many corporate governance codes and professional pronouncements have confirmed the function of ACs as an active monitoring mechanism exercised within the company's financial reporting process (*Song and Windram, 2004; Ika and Ghazali, 2012*).

The present study contributes to the growing body of AC literature in a number of ways. First, while most previous AC studies are focused on the relationship between

corporate governance and corporate disclosures, we examine the relationship between AC attributes and the quality of corporate disclosures, an aspect of financial reporting that is growing in importance. Second, to our knowledge, due to unregulated environment, the AC literature has been rare in Iran. In other words, recent regulation of the Tehran Stock Exchange (TSE) provided us with an incentive to conduct an empirical research and highlight the impact of ACs on FRQ and the quality of corporate disclosure for a sample of listed companies on the TSE. Therefore, this paper is the primary research examining the aforementioned relationship both in domestic and international context. Finally, the present study uses a unique proxy for the quality of corporate disclosure (the reliability and timeliness of corporate disclosure disclosed publicly by the TSE) which can be of interest for future studies.

Our findings have implications for several interested parties such as auditors, institutional investors, regulators and policymakers who are in charge of examining the effectiveness of corporate boards of directors in monitoring firm's financial reporting and disclosure processes. Based on our results, it can be argued that these interested parties would increase their external assessment of financial reporting quality and disclosure when recognizing corporate boards of directors' and ACs' failure to make voluntary improvements in their overall effectiveness and efficiency, particularly when both have the incentive and ability to do so.

The results of the present paper may be of interest for policymakers who have the authority over the appointment of AC members to choose independent and expert individuals, for regulators to reconsider their rules and mandate with respect to corporations and their corporate governance structure and, finally, for auditors to adopt better strategies when communicating with ACs and assessing their effectiveness regarding the improvement of financial reporting quality and disclosure.

The reminder of this paper is organized as follows. Section 2 frames the study into the theoretical framework of ACs and their historical development. In section 3, we provide the literature review and hypotheses development process. Section 4 describes the methodology used to gather evidence to test research hypotheses. It also details the sample selection procedure. Section 5 discusses the empirical results and, finally, Section 6 concludes this research by highlighting its main implications and limitations.

## 2. Theoretical framework

### 2.1 Audit committee theories

2.1.1 *Agency theory.* Agency theory, which is regarded as a supposition explaining the relationship between principals and agents in a given business, is accompanied by some problems arising from the special nature of this relationship. These problems are generally categorized as:

- the conflict of interests between principal and agent as the two of them attempt to maximize their own utility and set different goals. In this case, the agent is unable to observe the agent's activities either due to its difficulty or economic feasibility; and
- the problems which arise from the different risk-taking tolerance of principal and agent.

Specifically, some special problems come up with different attitudes of two sides toward risk. While there are numerous instances of agency relationship, the classic agency

relationship of management and shareholder is of highest attention (Ross, 1973). In this relationship, the agent (management) is expected to act in the best interest of the principal (shareholder). To do so, the two sides of an agency relationship attempt to employ various control mechanisms to mitigate agency problems regarding information asymmetry (Jensen and Meckling, 1976; Fama and Jensen, 1983; Al-Lehaidan, 2006). These control mechanisms may involve external audits, the use of outside directors and ACs (Al-Lehaidan, 2006). ACs, as typical monitoring mechanisms, do not reflect an effective monitoring body, as prior studies have failed to examine the effectiveness of such committees (Sommer, 1991; Abbott *et al.*, 2002; Al-Lehaidan, 2006).

*2.1.2 Institutional theory.* The conformity and social accountability of organizational structure in legal environments is the subject of institutional theory (Meyer and Rowan, 1977; Al-Lehaidan, 2006). In other words, institutional theory distinguishes between what an organization actually performs and what its internal structure provides for outside environment (Fogarty, 1996; Al-Lehaidan, 2006). In this regard, preliminary research suggest that AC effectiveness is merely attributable to internal factors of an organization rather than external ones such as agency variables (Fogarty, 1996; Kalbers and Fogarty, 1998; Al-Lehaidan, 2006).

*2.1.3 Actor-network theory.* Initially developed by a group of French sociologists, actor-network theory primarily addresses the generation of power and authority between and within special networks which are indicative of society, organizations, agents, mechanisms and the social interaction as a whole (Spira, 1999; Al-Lehaidan, 2006). In this regard, as Spira (1999) suggests, the performance of AC meetings could be served as a network resource.

*2.1.4 Power theory.* Based on the concept of this theory, Kalbers and Fogarty (1993) suggest that six different types of power may influence ACs' effectiveness: "legitimate power" which emanates from corporate board of directors and its delegation of authority to the ACs; "Sanction power" which relates to the exercise of punishment or reward by ACs; "information power" which considers the decisions made by ACs to be dependent on the information provided by management, internal auditors and external auditors; "expert power" and "will power" that refers to personal attributes of AC members. The authors indicate that institutional powers (legitimate, sanction and information) are among the most important factors in determining AC effectiveness.

*2.1.5 Historical development of ACs.* In the wake of McKesson and Robbins debacle in the late 1930s, the idea of establishment of ACs attracted attentions in the USA. In this regard, the Securities and Exchange Commission (SEC) and New York Stock Exchange (NYSE) made a recommendation to publicly held companies, suggesting the establishment of a specific group, composed of non-executive directors, to take on some special functions such as the appointment and control of internal and external auditors (SEC, 1940). To mitigate the significant financial disclosure problems of some companies like Lockheed and Penn Central in the late 1970s, the US Congress proposed the Foreign Corrupt Practice Act of 1977 (Solomon, 1978). This Act required publicly owned companies to establish an independent AC and also maintain adequate internal control system (Solomon, 1978). While the NYSE officially required its listed companies to establish ACs in 1978, the American Stock Exchange just strongly recommended companies traded on its exchange to appoint AC members within their corporate governance structure in 1979 and did not mandate this process (Al-Lehaidan, 2006). Moreover, the Treadway Commission (1987) issued a report which provided initial

insight into the roles and structure of ACs. [Vanasco \(1994\)](#) noted that the release of the Treadway Report put ACs in a significant position within corporate financial governance.

Subsequent to corporate collapses like Enron in 2001, the US congress passed the SOX which introduced new regulations regarding ACs. Specifically, as a result of the implementation of the SOX, all publicly held companies were required to establish independent ACs. In addition, the SEC Release Nos 33-8220; 34-47654 entitled “Standards Relating to Listed Company ACs” required all the US national securities exchanges and associations such as the New York Stock Exchange (NYSE) and National Association of Securities Dealers Automated Quotations (NASDAQ) Stock Markets to exclude those public firms that are not compliant with the SOX requirements concerning ACs ([Al-Lehaidan, 2006](#); [SEC, 2003](#)).

In addition to historical development of ACs in the USA, there are some other remarkable instances of ACs’ regulation in several countries that merit mention. In the UK, for instance, the establishment of ACs is not mandated by law. However, the UK government adopted a more flexible approach through its Financial Reporting Council which requires all the UK listed companies to comply with the Combined Code on Corporate Governance ([Al-Lehaidan, 2006](#)). There are also minimal legal requirements regarding ACs in Canada. More specifically, all the ACs must be composed of at least three outside corporate directors. The bankruptcy of Atlantic Acceptance Corporation Limited in 1965 and the subsequent issuance of the Canadian Royal Commission Report initially attracted attentions toward the establishment of ACs in this country. Afterward, the Ontario Business Committees Corporation Act 1970 mandated the presence of an AC within the corporate structure of all Canadian public companies ([Al-Lehaidan, 2006](#)). Altogether, the legal framework for corporate governance and ACs has witnessed little change over the years in Canada. The Australian Stock Exchange is an environment in which there is not any kind of legal requirements regarding ACs. Consequently, the lack of such legal framework has led to the adoption of listing rules and codes of best practices and guidelines ([Al-Lehaidan, 2006](#)).

In the light of massive corporate scandals and malpractices in Iran in the late 1990s and early 2000s, the TSE passed the legislation entitled “Regulation on Corporate Governance Structure” on November 2007 to enhance the corporate governance structure of listed companies. This legislation specified the characteristics of corporate board of directors such as the number of its members, membership requirements or qualifications and ownership commitment. It also detailed the codes of best practices and codes of ethics for corporate directors and employees ([TSEO, 2007](#)). Afterward, on June 2008, the Tehran Securities and Exchange Organization (TSEO) issued the “Code of Conduct for Internal Auditing” in an attempt to enhance the performance and value of the TSEO. This legal paper specified the aim, definition, organizational status, authority and functions of internal auditing ([TSEO, 2008](#)). It also detailed the bilateral relationships between ACs and internal auditors.

Another significant contribution to AC development in Iran came with the release of “Guidelines on Internal Controls” by TSEO on May 2012 with the aim of protecting investor’s rights, preventing the occurrence of fraud and the development of the TSE. Under the article 10 of this guideline, the establishment of internal auditing under the supervision of the ACs coupled with the establishment of ACs under the supervision of the corporate board of directors was mandated for publicly held companies ([TSEO,](#)

2013). Furthermore, following the release of the aforementioned guideline, the TSEO issued the “Internal Audit Charter” as well as the “AC Charter” on February 2013 in an attempt to specify the objective, authorities, responsibilities and composition of ACs and internal audit function (TSEO, 2013). In this regard, the TSEO (2013) notes that the objective of the formation of an AC is to assist the corporate board of directors in fulfilling its supervision function and provide reasonable assurance concerning:

- the effectiveness of corporate governance procedures, risk management and internal controls;
- the quality of financial reporting;
- the effectiveness of internal auditing;
- the independence of external auditors as well as the effectiveness of external auditing; and
- the compliance with regulations and requirements.

Under the provisions of TSEO (2013) requirements, membership of ACs should range between three to five independent members, majority of whom are required to have financial expertise. Further, the chair of the AC must be an independent member of the corporate board of directors or a non-executive director, suggesting that the appointment of an executive manager as a member of AC is not allowed.

It is noteworthy that TSEO (2013) specifies the primary roles of ACs with regard to financial reporting as follows:

- oversee significant financial reporting issues including accounting judgments and estimates, significant accounting procedures and the disclosure of related party transactions;
- gain reasonable assurance regarding the reliability and timeliness of corporate financial reports;
- gain reasonable assurance that the corporate financial reports are in compliance with accounting standards and applicable regulations;
- gain reasonable assurance that all necessary information is provided for the corporate board of directors to make decisions in regard to financial reporting; and
- review draft financial statements prior to the approval of corporate board of directors as well as the adjustments proposed by the external auditors.

### *2.2 Institutional background*

The present study is remarkable and unique in that it focuses on a specific transition market (i.e. the TSE) where there are significant differences in socio-economic, political and cultural factors with those of Western or European developed markets. What follows is a succinct review of unique characteristics of the TSE and the Iranian immature audit market:

- The gradual implementation of the Iranian Government’s five-year privatization plans from the 2000s onward has brought about some substantial changes in the ownership structure of listed companies on the TSE. Specifically, the ownership structure of listed companies on the TSE has been transferred substantially from



government sector to private sector, which *per se* has caused some sort of information asymmetry between the agents and principals (Davani, 2003; Bagherpour *et al.*, 2014).

- The Iran Auditing Organization (IAO) had played a dominant role in auditing government-owned companies prior to the occurrence of privatization in the TSE, leading to a monopolistic market in the 1980s and 1990s. The establishment of the Iranian Association of Certified Public Accountants (IACPA) in 2001, however, put an end to this monopoly by the certification of a considerable number of private audit firms. Although the IACPA diversified the Iranian audit market, the dynamic market share of audit firms (newcomers, restructures and mergers) along with the Government's persistent involvement within the corporate governance structure of listed companies did not provide the prerequisites for the realization of the IACPA's primary goal, i.e. the formation of a competitive audit market like that of in developing countries.
- According to current legal requirements in Iran, there is no alleged civil action against the Iranian auditors except for some criminal charges prescribed by the Iran Trade Law. Accordingly, the concept of "litigation risk" and "insurance hypothesis" is not applicable to the audit market of Iran.
- The Iranian audit market is not significantly influenced by the auditor reputation effects in the absence of top-tier international audit firms in Iran (as a result of the Government's prohibition and political issues). In this regard, the IAO has always considered audit quality in Iran and attempted to be the best benchmark for other private audit firms.
- The current condition of Iran's legal system implies a code-law-based country, because it possesses some major characteristics of such system. To illustrate, the TSE is regarded as a weak equity market as compared to those markets in common-law countries. Further, the listed companies on the TSE prefer to meet their financing needs through banks or the Government and usually undermine the outsider's equity approach. The Government exerts a significant influence on setting accounting standards in line with the tax laws, and the financial reporting and disclosure are still of poor quality (Mashayekhi and Mashayekh, 2008).
- The lack of an official procedure or at least a consensual benchmark for auditors' remuneration, the presence of large religious foundations called Bonyad whose combined budgets represent more than 30 per cent of central government spending and the considerable involvement of petrochemical industry are also among other noteworthy features of the TSE setting.

### 3. Literature review and hypothesis development

There has been a significant growth in AC literature in recent years which can be attributable solely to the rising concerns about the corporate governance function and FRQ (DeZoort *et al.*, 2002; Al-Lehaidan, 2006). Accordingly, this area of research is regarded as being rather diverse since it encompasses a wide variety of issues relating to ACs. However, future research is still possible to be conducted in this area, as the literature is expansive (Al-Lehaidan, 2006). What follows is a succinct review of prior literature:

ACs have been positioned as the “keystones” of corporate financial governance since the occurrence of fraudulent financial reporting in recent years. In this regard, we conjecture higher financial reporting and disclosure quality for those listed companies whose ACs are composed of greater independent and non-executive directors. This is primarily due to higher independence in decision-making process by the ACs. [Abbott et al. \(2000\)](#), for instance, show that the presence of independent directors in ACs which meet at least twice a year is associated with less likelihood of fraudulent or misleading financial reporting. Furthermore, [Beasley and Salterio \(2001\)](#) indicate that the inclusion of outside directors on the board more than the mandated minimum for a sample of Canadian listed companies is accompanied by ACs composed of outside directors with a greater breadth of financial reporting and AC knowledge and experience. Examining AC independence relationship with economic factors for a sample of S&P 500 firms over 1991-1993, [Klein \(2002\)](#) suggests that AC independence is positively associated with the board size and the percentage of outsiders on the board. In contrast, he shows that firm’s growth opportunities as well as the disclosure of loss in financial reports impair AC independence.

[Pucheta-Martinez and De Fuentez \(2007\)](#), in an empirical study conducted in the Spanish context, argue that the size of AC and the percentage of independent members significantly influence the receipt of audit reports containing non-compliance or error qualifications. In addition, their research is indicative of a non-significant association between the size of AC and the issuance of non-compliance or error qualified reports. The Indonesian evidence provided by [Ika and Ghazali \(2012\)](#) indicates that the AC effectiveness significantly affects the timeliness of financial reporting in the Indonesian stock emerging market. More specifically, the authors conclude that the effectiveness of AC may reduce the timeliness of financial reporting, as their findings suggest a negative association between the independent and dependent variables. [Kamarudin et al. \(2012\)](#) relate the independence of an AC to higher earnings quality. Specifically, the authors find a significant relationship between an independent AC and the quality of financial statements and posit that an independent AC performs more effective monitoring function. Using 100 UK listed companies, [Li et al. \(2012\)](#) attempted to find the association between ACs’ characteristics and intellectual capital (human capital, structural capital and relational capital). They found that the size of ACs and the frequency of their meetings are positively associated with intellectual capital disclosure. Unlike previously mentioned research, their results did not find any significant relationship between AC independence and financial expertise and intellectual capital disclosure. [Yu-Hsun Wu et al. \(2015\)](#) also examine the association between audit firm characteristics and going concerns report prior to failure of UK firms. The authors demonstrate that the relationship between auditor going-concern modification and the percentages of non-executive directors and financial expertise on the ACs for UK failed firms is significantly positive, suggesting the mediating effect of the independence and financial expertise of ACs on auditor reporting quality and non-audit services (NAS) as well. Employing meta-analysis approach on a sample of listed companies on the TSE, [Bazrafshan et al. \(2015\)](#) indicate that AC independence is not significantly associated with earnings management and financial quality score, whereas it is significantly associated with the quality of accruals, abnormal return, financial restatements and the occurrence of fraud. Based on the preceding discussions, we posit two hypotheses as follows:



- H1. There is a significant and positive relationship between AC independence and financial disclosure quality.
- H2. There is a significant and positive relationship between AC independence and financial reporting quality.

To our knowledge, prior literature shows that AC members' financial expertise and audit knowledge assist the committees in dealing with probable auditor–corporate management conflict situations. This also provides better and more precise supervision of internal audit function. Indeed, the financial expertise and audit knowledge of ACs increase the likelihood of higher financial reporting and disclosure quality. In this regard, [DeZoort and Salterio \(2001\)](#) conducted an investigation to examine whether more knowledgeable and experienced AC members are associated with any support for the auditor in an auditor–management dispute. The results suggested that the financial expertise and audit-reporting knowledge of ACs positively affect the committee members' judgments. However, there was not any association between financial-reporting knowledge and AC member support for the auditor. Examining 136 voluntary appointment of directors to the ACs of NASDAQ small firms during 1990–2001, [Davidson et al. \(2004\)](#) indicate that stock price positively reacts to the financial expertise of AC members. In a more recent research, [Albernathy et al. \(2013\)](#) show that the presence of an accounting financial expert on the AC is significantly associated with more accurate or less dispersed analyst earnings forecasts. In contrast, they find that the association between non-accounting financial expertise and analyst earnings forecasts is not significant. Furthermore, under a narrow definition of accounting financial expertise, [Abernathy et al. \(2014\)](#) suggest that accounting financial expertise gained from public accounting experience is significantly associated with timelier accounting information as well as timelier financial reporting. However, this association is not significant for chief financial officer (CFO)-sourced accounting financial expertise. [Badolato et al. \(2014\)](#) highlighted the importance of the interaction of ACs status and financial expertise in deterring management from committing irregularities, particularly the earnings management. Their results were indicative of the significant impact of the relative AC status coupled with financial expertise on earnings management. Further, they suggest that the combination of both factors is necessary for regulators to limit management irregularities. A recent survey of chief internal auditors conducted by [Alzeban and Sawan \(2015\)](#) on a sample of UK-listed companies suggests that the presence of independent and expert members on the ACs as well as the frequency of meetings significantly affects the perceptions of implementing internal audit recommendations. They also argue that the independency of AC members is among the most contributory factors in implementing internal audit function recommendations. [Kusnadi et al. \(2015\)](#) also examined the association between ACs' mixed financial expertise and FRQ in an Asian context and found that the accounting expertise of AC members was positively and significantly associated with FRQ, whereas the presence finance or supervisory experts on the ACs did not show any significant relationship with FRQ. Overall, based on the aforementioned literature, we formally present two more hypotheses in an alternative format as follows:

- H3. There is a significant and positive relationship between AC financial expertise and financial disclosure quality.

*H4.* There is a significant and positive relationship between AC financial expertise and financial reporting quality.

Based on the previously conducted studies, the present paper assumes that an active AC could provide more accurate and better supervision for internal and external audit function as well as the firm's performance. Indeed, it is hypothesized that the greater the number of AC meetings held during the fiscal year, the more opportunity for dealing with firm's potential problems (Abbott *et al.*, 2000; Li *et al.*, 2012). Accordingly, we express two more hypotheses as follows:

*H5.* There is a significant and positive relationship between AC meetings held during the fiscal year and financial disclosure quality.

*H6.* There is a significant and positive relationship between AC meetings held during the fiscal year and financial reporting quality.

Finally, we conjecture that firms attempt to establish ACs with mixed expertise and knowledge (DeZoort and Salterio, 2001; Abernathy *et al.*, 2013, 2014; Badolato *et al.*, 2014; Kusnadi *et al.*, 2015). Therefore, an increase in AC members would lead to a mixture of different experts. Recent evidence provided by Nelson and Shukeri (2011) for a sample of Malaysian listed companies from Bursa Malaysia suggests that AC size, auditor type, audit opinion and profitability are significantly and negatively associated with audit report timeliness. However, their findings do not provide supporting evidence for the conjecture that board independence, AC meetings, AC members' qualifications and audit report timeliness are associated with audit report timeliness. The authors came to the conclusion that the negative relationship between AC size and audit report lag will provide the external auditors with more time and space to hold meetings with AC members who are more diligent to provide resources to the companies. Overall, the last hypotheses are presented as follows:

*H7.* There is a significant relationship between the size of AC and financial disclosure quality.

*H8.* There is a significant relationship between the size of AC and financial reporting quality.

#### 4. Research design and sample selection procedure

##### 4.1 Sample and data

The following restrictions are considered to choose our final research sample:

- to observe the comparability, sample firms' fiscal year should be ended on March 20th;
- the sample firms should not establish an AC during fiscal year 2013;
- the sample firms should establish an AC during fiscal year 2014;
- the information should be accessible within our sample window;
- the TSEO should disclose the scores of financial disclosure at fiscal year-end; and
- the sample firms should operate uninterruptedly and trade their stock publicly in the TSE within our sample window.

Due to above-mentioned restrictions and considering the significance level of 5 per cent and the minimum explanatory power of linear regression models (80 per cent), we were compelled to exclude a large number of firms and finally chose 100 firms which have been present and suitably qualified in the TSE library during 2013-2014. We collected the required data manually from the hardcopy financial statements and board of directors' annual reports held in the TSE library. We also analyzed our data using multiple linear regression analysis.

#### 4.2 Research methodology

To investigate the effect of explanatory variables on the quality of financial reporting and disclosure, we conduct the following regression models using Eviews econometric software:

$$\begin{aligned} \text{SCORE}_{it} = & B_0 + B_1\text{ACINDP}_{it} + B_2\text{ACEXPERTISE}_{it} + B_3\text{ACMEETINGS}_{it} \\ & + B_4\text{ACSIZE}_{it} + B_5\text{COMPSIZE}_{it} + B_6\text{ACTIVITY}_{it} + B_7\text{ACPERIOD}_{it} \\ & + \text{GROUP}_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{DA}_{it} = & B_0 + B_1\text{ACINDP}_{it} + B_2\text{ACEXPERTISE}_{it} + B_3\text{ACMEETINGS}_{it} \\ & + B_4\text{ACSIZE}_{it} + B_5\text{COMPSIZE}_{it} + B_6\text{ACTIVITY}_{it} + B_7\text{ACPERIOD}_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

Where:

- SCORE = financial disclosure quality measured as disclosure scores disclosed by TSE;
- DA = FRQ, measured by modified Jones model (Dechow *et al.*, 1995) discretionary accruals;
- ACINDP = independence of AC members;
- ACEXPERTISE = AC financial expertise;
- ACMEETINGS = the number of AC meetings held during fiscal year;
- ACSIZE = the number of AC members;
- COMPSIZE = the size of the firm, measured as the natural logarithm of net sales at year end;
- ACTIVITY = industry type;
- ACPERIOD = the duration of AC activity; and
- GROUP = dummy variable equal to 1 if it is the time period before the establishment of AC and 0 otherwise.

The dependent variables of present study are financial disclosure quality (SCORE) and FRQ (DA). We utilized the data on disclosure scores disclosed publicly by TSE on an annual or quarterly basis to calculate the financial disclosure quality of TSE listed companies. This score is calculated as the sum of reliability and timeliness scores of financial disclosures. According to the findings of Nikoumaram *et al.* (2009) research, regression-based models of discretionary accruals have more explanatory power than those of Healy (1985), DeAngelo (1988) and the modified DeAngelo model (DeAngelo *et al.*, 1994). Among these regression-based accrual models, Jones (1991) model have the least explanatory power to detect earnings management (Nikoumaram *et al.*, 2009). It is also noteworthy that subsequent modified versions of Jones model, namely the modified Jones model (Dechow *et al.*, 1995), Dechow simple and comprehensive models as well as

the inflation-adjusted versions had a satisfactory explanatory power to detect earnings management. The present study employs the following modified Jones model (Dechow et al., 1995) to calculate discretionary accruals as a proxy for FRQ:

$$NDA_{it} = a_1 \left( \frac{1}{A_{it} - 1} \right) + a_2 \{ (\Delta REV - \Delta REC) / A_{it} - 1 \} + a_3 (PPE_{it} / A_{it} - 1)$$

$$DA_{it} = (TA_{it} / A_{it} - 1 - NDA_{it})$$

Where:

- $NDA_{it}$  = non-discretionary accruals for firm i in year t;
- $A_{it} - 1$  = Lagged total assets;
- $\Delta REV$  = changes in revenue during t and t-1;
- $\Delta REC$  = changes in account receivables during t and t-1;
- $PPE_{it}$  = total plant, property and equipment for firm i in year t;
- $DA_{it}$  = discretionary accruals for firm i in year t; and
- $TA_{it}$  = total accruals for firm I in year t.

Higher levels of discretionary accruals is often considered to be associated with earnings management. Since discretionary accruals can be both positive signed (when the firm inflate its net income) and negative signed (when managers manipulate their earnings during profitable fiscal years), we use the unsigned value of discretionary accruals for our analysis. Based on the article 6 of AC Charter (TSEO, 2013), the composition and attributes of AC members are as follows:

- the number of AC members must range from 3 to 5 independent and financial expert members by the appointment of board of directors; and
- the chair of AC must be an independent or non-executive director.

According to preceding terms, the composition of AC is presented in Table I.

Based on our analysis, there are only 3 out of 100 sample firms with ACs composed of five members. The remaining sample firms have ACs composed of three members. As it is evident in the above table, there are two outside members within the ACs composed of three members, implying that the third member independence (chair of AC) is the determinant of an AC independence (an independent or non-executive director). Further, there are three independent members within the ACs composed of five members or more. In this case, the remaining members as well as the chair of the committee must be a non-executive director to meet the AC independence criterion. The independence of AC would impair in the violation of aforementioned criteria. We use an indicator value of 1 if the criterion for AC independence is met and 0 otherwise.

**Table I.**

The composition of AC members

AC size	The chair of AC	Other non-executive directors	Outside, independent financial experts
5 members	1 member	1 member	3 members
3 members	1 member	-	2 members

The financial expertise (ACEXPERTISE) refers to an academic or professional degree, whether domestic or international, in a business-related field (such as accounting, auditing, finance, economics and other management fields with a branch of finance or economics) coupled with an ability to analyze financial statements and their underlying internal controls (TSEO, 2013). The present study measures the financial expertise as the ratio of AC financial members to its total members. We collect the data related to ACEXPERTISE, ACMEETINGS and ACSIZE variables from the reports of board of directors and AC issued to TSEO at year end (March 20th). The present study also includes several control variables as follows: COMPSIZE, measured as the natural logarithm of net sales at year end; ACTIVITY to control for industry fix effects. This dummy variable is categorized into seven categories ranged 1 through 7 as follows:

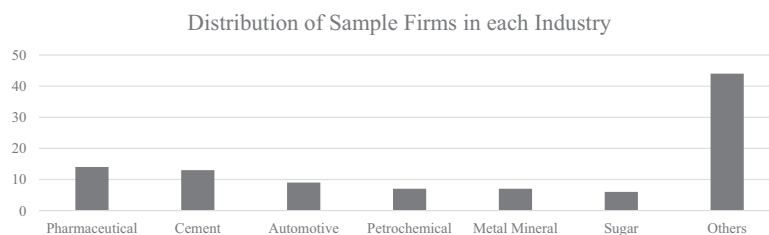
- (1) pharmaceutical;
- (2) cement;
- (3) automotive;
- (4) petrochemical;
- (5) metal minerals;
- (6) sugar; and
- (7) others.

For each firm, the firm industry variable carried a value of 1 with the other seven groupings carrying a 0 value. Finally, we used the control variable ACPERIOD to measure the time period during which an AC has had an ongoing activity. In other words, this variable is a proxy for the age of an AC. Furthermore, we calculated this variable on a daily basis. The following Figure 1 exhibits the number of sample firms comprising each industry.

## 5. Empirical results and discussion

### 5.1 Descriptive statistics

Table II presents descriptive statistics for the variables used in the models. Several items are worth noting. First, DA had a mean of 0.146 with a standard deviation of 0.155. The figures also indicate that the average of ACMEETINGS is 3.11, suggesting that the AC meetings are held approximately three times during fiscal year. Second, in probability theory and statistics, skewness is a measure of the asymmetry of the probability distribution of a real-valued random variable about its mean. The skewness



**Figure 1.**  
Distribution of  
sample firms in each  
industry

value can be positive or negative, or even undefined. According to descriptive statistics shown in the table below, ACINDP skew value of 6.953 implies that the tail on the right side of the probability density function is longer or fatter than the left side. Furthermore, the kurtosis is a descriptor of the shape of a probability distribution. As it is evident, all variables have shown a positive kurtosis value. Therefore, the shape of our sample distribution is higher than that of the normal distribution and consequently its variance is lower than the normal distribution.

Table III reports the descriptive statistics for disclosure scores of firms with ACs and firms without ACs.

It is also noteworthy that the details of financial disclosure scores for each firm in the sample profile have been appended to this paper (see the Appendix).

### 5.2 Correlation tests

Table IV exhibits the results of Spearman and Pearson correlation tests. As it is obvious, AC independence (ACINDP) and expertise (ACEXPERTISE) variables are positively and significantly correlated with the quality of financial disclosure.

### 5.3 Panel unit root test

The seminal work of Levin and Lin (1993) formed the foundation of panel unit root tests, and a few tests have been proposed subsequently. In this regard, the most common tests in practice are Levin *et al.* (2002), Im *et al.* (2003) and Augmented Dickey–Fuller test. The present study employs the IPS test to examine whether the parameters such as mean and variance remained stationary over time and also whether the covariance of variables is constant during different years. The results of IPS test are shown in Table V. According to the results shown in Table V, the obtained probability value is less than the significance level of 5 per cent for all the variables, suggesting that the

**Table II.**  
Descriptive statistics  
and the results of  
Jarque–Bera  
normality test

Variable	Mean	Median	SD	Skewness	Kurtosis	Jarque–Bera
DA	0.146	0.105	0.155	1.303	0.0002	10.128
ACINDP	0.006	-0.022	0.379	1.13	6.953	241.93
ACEXPERTISE	0.888	1	0.182	-0.469	3.687	15.798
ACMEETINGS	4.25	5	1.904	6.882	52.586	30896.5
ACSIZE	3.11	3	0.447	5.554	37.019	14941.55
COMPSIZE	12.052	11.999	0.625	2.516	9.231	748.6
ACPERIOD	244.51	297	119.056	-3.553	13.624	1906

**Table III.**  
Descriptive statistics  
for disclosure scores

F-statistic	Disclosure score (Firms with ACs)		Disclosure score (Firms without ACs)	
	Timeliness	Reliability	Timeliness	Reliability
Mean	0.088	-0.008	0.788	5.595
Median	0.078	0.003	1	6
SD	0.129	0.074	0.406	0.554
Skewness	0.491	0.187	1	6
Kurtosis	-0.291	-0.293	0	4
Jarque–Bera	302.23	21.365	1.326	5.236



Variable	Score of disclosure quality		Discretionary accruals	
	Pearson	Spearman	Pearson	Spearman
ACINDP	0.242**	0.235**	0.002	0.015
ACEXPERTISE	0.105**	0.081**	0.02**	0.001*
ACMEETINGS	-0.016	-0.012	0.025	0.011
ACSIZE	-0.076	-0.063	-0.136	-0.306
COMPSIZE	0.017	0.002	-0.117	-0.422
ACPERIOD	-0.327**	-0.318**	-0.006	-0.208
	0.000	0.000	0.000	0.000

**Table IV.**  
The results of correlation tests (Pearson and Spearman tests)

**Note:** \*\*\*, \*\* and \* statistical significance at 1, 5 and 10%, respectively

Variable	<i>t</i> -statistic	<i>p</i> -value
DA	-12.856	<0.001
SCORE	-15.559	<0.001
ACINDP	-12.636	<0.001
ACEXPERTISE	-14.659	<0.001
ACMEETINGS	-8.036	<0.001
ACSIZE	-12.805	<0.001
COMPSIZE	-14.798	<0.001
ACPERIOD	-11.024	<0.001

**Table V.**  
The results of IPS test

mean and variance as well as the covariance of variables are stationary over the sample time period.

#### 5.4 Specification tests (diagnostics) in panel data models

We conducted the [Chow \(1960\)](#) test specification test using Eviews econometric software to specify the appropriate model between panel data model and pooled OLS (Ordinary Least Square) model. The null hypothesis of this test is the preference of pooled OLS model. As shown in [Table VI](#), the obtained probability value (<0.001 and 0.001) for both models (i.e. the discretionary accruals model and the disclosure score model) is less than the significance level of 0.10, suggesting the preference of panel data model.

Model	Null hypothesis	<i>F</i> -statistic value	<i>p</i> -value	Test result
1	Pooled OLS model is appropriate	1.846	<0.001	Preference of panel data model
2	Pooled OLS model is appropriate	2.023	0.001	Preference of panel data model

**Table VI.**  
The results of chow test

Next, we employed Hausman specification test to choose the appropriate model between fixed effects model and random effects model. This test is a statistical hypothesis test in econometrics named after Hausman (1978). The test evaluates the consistency of an estimator when compared to an alternative, less efficient, estimator which is already known to be consistent. It helps one evaluate if a statistical model corresponds to the data. The results of this test are shown in Table VII. Again, the obtained  $p$ -value implies the appropriateness of random effects model for both models because it is more than the margin error of 0.10.

Based on the results obtained from specification tests, the panel of fixed effects and Generalized Least Squares (GLS) is considered as the most appropriate model to be fitted as final model. The next section presents the estimation results of each model.

### 5.5 Estimation results of disclosure quality model

The results of regression estimate using GLS for the disclosure quality model is reported in Table VIII. As it is evident, the probability value of F statistic is less than the significance level of 0.10, suggesting a linear relationship between explanatory variables and the dependent variable. In other words, there is a significant relationship between the variables of the model and/or the first model is significant. Furthermore, according to the obtained value of adjusted  $R$  square (0.607), 60 per cent of dependent variable variation (SCORE) is explained by the independent and control variables. The value of Durbin–Watson statistic ( $1.50 < 2.035 < 2.50$ ) also suggests that idiosyncratic errors (residuals) are not significantly correlated. Based on the probability value (0.032) and the  $t$ -statistic value ( $-2.146$ ) of ACMEETINGS, there is a significant and negative relationship between the number of AC meetings held during fiscal year and the quality of firm's financial disclosure.

**Table VII.**  
The results of  
Hausman test

Model	Null hypothesis	Chi square statistic	$p$ -value	Test result
1	Random effects model is appropriate	187.469	<0.001	Preference of fixed effects model
2	Random effects model is appropriate	13.002	<0.001	Preference of fixed effects model

**Table VIII.**  
Estimation results of  
disclosure quality  
model using GLS

Variable	Coefficient	Standard error	$t$ -statistic	$p$ -value
INTERCEPT	0.019	0.003	6.425	<0.001
SCORE	0.421	0.307	1.367	0.172
ACINDP	0.438	2.463	0.177	0.858
ACEXPERTISE	0.098	0.056	-1.174	0.08*
ACMEETINGS	-0.075	0.035	-2.146	0.032**
ACSIZE	0.064	0.039	1.613	0.087*
COMPsize	1.046	0.564	2.189	0.004***
ACPERIOD	-0.144	0.46	-0.314	0.753
$F$ -statistic	71.562		Adjusted $R^2$	0.607
$p$ -value of $F$ -statistic	<0.001		Durbin-Watson statistic	2.035
$R^2$	0.615			

**Note:** \*\*\*, \*\* and \* statistical significance at 1, 5 and 10%, respectively

Accordingly, our results support the *H3* (C: 0.098; P:  $0.08 < 0.10$ ) and *H7* (C: 0.064; P:  $0.087 < 0.010$ ). In contrast, our findings do not provide any support for *H1* (C: 0.438; P: 0.858) and *H5* (C:  $-0.075$ ;  $0.032 < 0.05$ ). Furthermore, the size of the firm is positively and significantly associated with the quality of financial disclosure.

Table IX reports the estimation results of discretionary accruals model (second model) using GLS. As it is evident, the probability value of F statistic is less than the significance level of 0.10, suggesting a linear relationship between explanatory variables and the dependent variable. In other words, there is a significant relationship between variables of the model and/or the first model is significant. Moreover, according to the obtained value of adjusted R square (0.703), 70 per cent of dependent variable variation (DA) is explained by the independent and control variables. The value of Durbin–Watson statistic ( $1.50 < 2.225 < 2.50$ ) also suggests that idiosyncratic errors (residuals) are not significantly correlated.

Based on the positive *t*-statistic value (2.983) and the probability value ( $0.013 < 0.05$ ) of ACINDP, there is a significant and positive relationship between the AC independence and the quality of financial reporting. Accordingly, our results support *H2*. In contrast, our findings do not provide any support for *H4*, *H6* and *H8*. Again, the size of the firm is positively and significantly associated with the quality of financial disclosure.

## 6. Conclusions and limitations

In the wake of recent corporate failures, the necessity of establishing an independent AC to enhance the quality of FRQ and disclosure has been accentuated. Preventing fraudulent financial reporting and restoring the users' confidence in financial statements, an AC plays a central role within the corporate governance structure. Following the issuance of "AC Charter" on February 2013, the formation of ACs officially regulated in Iran. Accordingly, the aim of this paper is to examine the quality of financial reporting and disclosure for firms that formed high-quality ACs in a newly regulated environment.

Using a sample of 100 companies listed on the TSE during 2013-2014, we find no evidence that AC independence enhances financial disclosure. However, consistent with Abbott *et al.* (2000), Beasley and Salterio (2001), Pucheta-Martínez and De Fuentes

Variable	Coefficient	Standard error	<i>t</i> -statistic	<i>p</i> -value
INTERCEPT	0.019	0.003	6.425	0.000
DA	-0.144	0.46	-0.304	0.253
ACINDP	0.434	0.145	2.983	0.013**
ACEXPRTISE	-0.013	0.15	-0.83	0.406
ACMEETINGS	0.141	0.604	0.234	0.814
ACSIZE	-0.158	0.205	-0.769	0.441
COMPSize	0.042	0.056	0.749	0.002***
<i>F</i> -statistic	36.562		Adjusted <i>R</i> <sup>2</sup>	0.703
<i>p</i> -value of <i>F</i> -statistic	<0.001		Durbin-Watson statistic	2.225
<i>R</i> <sup>2</sup>	0.511			

**Table IX.**  
Estimation results of  
discretionary  
accruals model using  
GLS

**Note:** \*\*\*, \*\* and \* statistical significance at 1, 5 and 10%, respectively

(2007) and Kamarudin *et al.* (2012), our results suggest that AC independence significantly improves the FRQ. This finding is also in contradiction to the evidence provided by Bazrafshan *et al.* (2015). Therefore, it can be inferred that an independent AC may perform its oversight function within the corporate governance structure of a firm more effectively and consequently improves the quality of its financial reporting. Furthermore, our findings are indicative of a positive and significant relationship between AC financial expertise and the quality of financial disclosure. This finding is consistent with those of Badolato *et al.* (2014), Kusnadi *et al.* (2015) and Alzeban and Sawan (2015). Contrary to the results of Abbott *et al.* (2000), suggesting the positive and significant relationship between the number of AC meetings (at least twice a year) and FRQ, the present study finds no evidence regarding the significance of this relationship. However, we show that the number of AC meetings could negatively affect the quality of financial disclosure. Finally, consistent with Pucheta-Martinez and De Fuentez (2007), our results do not provide any support for the significant relationship between the size of AC and FRQ. Taken together, our findings do not provide supporting evidence for our research question as only four of eight hypotheses have been supported. In other words, ACs' different attributes do not significantly affect the level of financial reporting and disclosure quality of listed companies on the TSE. In this regard, we offer two explanations for our contribution. First, it can be concluded that, unlike the Anglo-Saxon countries, the regulations and corporate codes in Iran are not aimed at improving corporate governance generally. Indeed, the newly established guidelines and regulations on corporate governance and ACs are not sufficient for firms to use AC quality or effectiveness as a proxy for the firm's overall corporate governance strength. Second, there is some likelihood that the legal status of ACs has not been defined or properly highlighted in the Iranian Regulation on Corporate Governance Structure. As a result, ACs are not under significant pressure to improve their performance.

Like all other studies, this study is constrained by several limitations. As the study is conducted in a newly regulated market like the TSE, the sample time period is limited to two-year period of ACs' statutory activity. Accordingly, the generalizability of the results could be influenced. In addition, a lack of consensus on the precise measures of an AC effectiveness besides not considering other AC attributes such as the reputation of AC members are among the primary limitations in this paper.

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### Further reading

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## Appendix

1660

Firm no.	Timeliness	Reliability	Disclosure score
1	65	66	65
2	84	85	83
3	41	0	61
4	68	69	68
5	39	6	56
6	97	92	100
7	86	85	86
8	80	71	85
9	81	73	86
10	29	0	44
11	83	84	82
12	49	0	73
13	92	98	89
14	72	54	82
15	62	0	94
16	48	34	54
17	79	54	91
18	85	95	79
19	81	47	98
20	53	55	52
21	77	37	97
22	89	99	84
23	37	7	51
24	83	82	83
25	88	74	95
26	72	53	81
27	71	67	73
28	96	92	98
29	89	95	86
30	95	87	99
31	66	69	64
32	73	56	82
33	89	73	97
34	66	0	99
35	66	72	63
36	42	0	63
37	39	15	51
38	67	0	100
39	39	0	58
40	91	80	97
41	90	92	89
42	92	91	93
43	67	24	88
44	83	86	81
45	82	66	90

Table AI.

(continued)

Audit  
committee  
impact

**1661**

Firm no.	Timeliness	Reliability	Disclosure score
46	78	73	81
47	68	52	76
48	92	85	95
49	85	84	86
50	86	66	96
51	41	31	45
52	86	66	96
53	92	96	90
54	80	88	77
55	79	64	86
56	61	49	67
57	76	34	97
58	74	32	95
59	92	82	97
60	89	93	87
61	86	86	86
62	80	46	97
63	62	0	92
64	68	60	72
65	41	0	62
66	76	49	90
67	83	69	91
68	85	75	90
69	32	0	48
70	85	80	87
71	81	54	95
72	67	39	81
73	89	70	98
74	78	39	97
75	79	84	76
76	66	32	82
77	62	0	93
78	88	75	95
79	72	26	95
80	21	0	32
81	51	25	64
82	93	92	93
83	73	47	85
84	99	97	100
85	65	0	98
86	94	83	99
87	65	64	66
88	65	0	98
89	62	61	63

(continued)

Table AI.

MRR 39,12	Firm no.	Timeliness	Reliability	Disclosure score
<b>1662</b>	90	80	42	99
	91	91	97	88
	92	65	0	97
	93	98	95	100
	94	80	42	100
	95	92	79	99
	96	87	69	96
	97	47	0	70
	98	85	77	89
	99	50	0	75
100	84	57	97	

**Notes:** The information shown in Table I indicates the scores of financial quality disclosure for each firm in the sample profile. We collect the required data on financial disclosure scores from the figures disclosed publicly and on an annual and quarterly basis in the TSE library (available at: [www.codal.ir](http://www.codal.ir) and [www.rdis.ir](http://www.rdis.ir))

**Table AI.**

#### About the authors

Dr Mahdi Salehi is an Associate Professor of Accounting Department at the Ferdowsi University of Mashhad, Iran. His research interest focuses on auditing, accounting and finance. So far, he published papers in referred journals including *Management Decision*, *Money and Economy*, *Banks and Bank Systems*, *Investment Management and Financial Innovations*, *International Journal of Law and Management*, *International Journal of Economics and Business Research*, *Zagreb International Review of Economics & Business*, *Journal of Asia Business Studies*, *Industrial and Commercial Training*, *Problems and Perspectives in Management*, *Humanomics* and *International Journal of Accounting, Auditing and Performance Evaluation*. Mahdi Salehi is the corresponding author and can be contacted at: [mehdi.salehi@um.ac.ir](mailto:mehdi.salehi@um.ac.ir)

Mohammadamin Shirazi is a master's degree holder in auditing. His research interest focuses on accounting and auditing.

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