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Empirical study on the effective factors of social responsibility disclosure of Iranian companies

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Abstract

Purpose – The purpose of this paper is twofold: first, to investigate the relationship between some characteristics of corporations including firm size, financial leverage, profitability, firm age and the type of industry with social responsibility disclosure of firms listed on Tehran Stock Exchange (TSE); and second, to study the association between the level of corporate social responsibility disclosure (CSRD) and some of the audit variables such as audit fees, audit tenure and audit firm' size.

Design/methodology/approach – The study population consists of 125 firms listed on the TSE during the years 2010–2015. Following Salehi *et al.* (2017), content analysis is used to measure the level of social responsibility disclosure, and hypotheses are performed using multiple regression analysis and R software.

Findings – The results represented that there is a positive significant relationship between a firm size and a firm age with the level of CSRD. However, there is a negative significant association between financial leverage and profitability with the level of CSRD. Given that CSRD is different among various industries and the type of industry can be an influential factor in CSRD, an industry type' variable in the fourth hypothesis is of a type of index variable and has eight levels, of which the first level is ranked as the base level. Our findings showed that the level of CSRD at industries of machinery and appliances, production of metal products, food and beverage products, and textiles is lower than the baseline level (pharmacy). Nevertheless, companies in the fifth industry (mineral products) have a higher level of CSRD in comparison with the pharmacy industry. Moreover, the authors find that there is a significant positive connection between audit fees and CSRD. This implies that Iranian managers in an inflationary economy probably manage earnings when they provide more CSRDs, which leads to increase in the audit risk and audit fees.

Practical implications – Needless to say, the findings of this paper will have practical implications for investors, auditors and other users of financial statements. First of all, this study will aware them of the fact that when a country faces economic sanctions and most of its companies are in financial strain investors should not consider the firms engaging in corporate social responsibility activities to behave morally and provide transparent financial reports. Second, the results will convince auditors to be conservative toward the firms that are financially distressed, for audit risk of them will be high. Thus, policymakers should be cautious concerning directors' opportunistic actions and increase monitoring to enforce social obedience.

Originality/value – The turning point of this research is related to the time period of research related to firms that have faced severe financial problems due to economic sanctions. In fact, the study revealed another aspect of CSRD that could have negative consequences when managers are in financial strain and take opportunistic actions.

Keywords CSR disclosure, Firm size, Audit fees, Financial leverage

Paper type Research paper

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1. Introduction

Despite the fact that corporate social responsibility (CSR) is a new term, the idea of informing its emergence in the business world has always been recognized from the earliest times. The concept that the business practices rely on moral principles and "controlled greed" was encouraged by famous western researchers like Cicero in the first century before Christ and eastern scholars like India's Kautilya in the fourth century before Christ (Blowfield and Frynas, 2005). The fact that economic groups which operated in a normative value giving environment are connected in an input–output link with other subsystems like church, family, government and school implies that the firms' accountability spreads beyond mere productive efficiency and the maximization of shareholders' wealth (Johnson, 1979). Nowadays, improved industrialization and increase in foreign investment have implications for corporate accountability, reporting on employee and ethical topics. This, in turn, has caused increase in demands for enhanced accountability and transparency in commercial practices (Belal and Owen, 2007). Apparently, organizations not only have a dynamic role in financial markets and cannot limit their attention only to economic goals, but also they must be focused on a more qualitative approach and pay attention to environmental responsibility practices through internal and external reports (Guthrie and Farneti, 2008). What is clear is that business units cannot escape from society and society cannot exist without business units; therefore, there is a two-way communication between business units and society. CSR toward the society is beneficial for both business units and society, and a better understanding of its potential benefits can lead to high returns on investment for the companies (Sandhu and Kapoor, 2010; Salehi *et al.*, 2017). Investors and other stakeholders use environmental information in making their decisions. Extensive evidence shows that social and environmental information is useful for investors and other stakeholders' decisions (Blacconiere and Patten, 1994; Richardson and Welker, 2001; Salehi *et al.*, 2017).

In recent years, theories have argued that business units will be able to create wealth, employment and innovation and improve their competitiveness in business if companies work together to maintain their community, and society will also provide the right platform for the development of business units (Sandhu and Kapoor, 2010). Increasing sales and customer loyalty is the example of CSR advantage; hence, a number of studies have suggested that a large and growing market has been created by companies with high social responsibility (Sandhu and Kapoor, 2010). Generally speaking, business units optionally can maximize their long-term returns through reducing its negative effects on society; therefore, nowadays a kind of belief among business units is increasing stating that their long-term success can happen through managing the company's operations, ensuring environmental protection and development of CSR (Samy *et al.*, 2010). Therefore, paying attention to social responsibility by organizations will ensure long-term interests even when the short-term costs of social responsibility are high.

Many studies of environmental disclosure in annual reports have focused on firms among developed markets such as the USA, the UK, Canada, Australia, New Zealand, Japan and the European Union (Kolk *et al.*, 2001). In the case of the Iranian market, a developing country, this is not known at all. Therefore, this paper investigates the narrative disclosures of environmental information in the annual reports of listed companies on the Tehran Stock Exchange (TSE) between the amount of environmental disclosure and various factors investigated in previous research. There are several main questions in the study: What is the extent and content of environmental information disclosure in Iranian corporate annual reports, and what are the factors influencing those environmental disclosures? Given the importance of social responsibility, this current study tries to investigate the association between some characteristics of corporations and some audit variables with the level of CSR disclosure in a developing country called Iran. The point is that since Iranian market has faced severe economic sanctions during the recent years, the vast majority of Iranian firms had financial problems. The key question is now whether the managers of these companies use the disclosure of social responsibility for their own opportunistic purposes when they have many financial problems. In this economic situation, we also want to know if the long-term presence of auditors is an impediment to companies that intend to satisfy shareholders desires with environmental disclosure so that they can easily engage in earnings management' actions to take a beautiful picture of their financial performance.

The rest of the aforementioned research is organized as follows: the next section describes the theoretical framework and explains the hypotheses development and literature. Section 3 presents the research design and outlines from where data are obtained and the sample selection procedure. Section 4 then presents the main results and implications drawn from statistical analyses. Finally, the last section presents the conclusion.

2. The theoretical framework, hypotheses development and literature

During the recent years, research direction in relation to CSR has changed. The focus of several researchers has shifted from evaluating corporate social responsibility disclosure (CSRD) to discovering its determinants (Purushothaman *et al.*, 2000; Eng and Mak, 2003; Kotonen, 2009; Khlif and Souissi, 2010). These days, the commercial world is understanding the importance of CSRD and a wide range of firms is encouraged to take social responsibility action (Welford *et al.*, 2006; Salehi *et al.*, 2017). There is still ambiguity in academic communities about how CSR should be defined. In fact, this uncertainty is caused by a lack of clarity in relation to the underlying concepts and definitions of social responsibility (Mackey *et al.*, 2007; Salehi *et al.*, 2017). From Aguilera *et al.*'s (2007) and Salehi *et al.*'s (2017) point of view, researchers still disagree on fundamental topics of what establishes social responsibility. For example, CSR contains economics, law, ethics and philanthropic expectations of business units that extend to all beneficiaries (Salehi *et al.*, 2017). Beneficiaries could be defined as any individual or group that affects the decisions, strategies or the organization's purposes (Danko *et al.*, 2008). Heal (2005) believed that CSR is a participation in different activities that reduce the amount of externalized costs or avoid distributional conflicts. Besides, World Bank has defined CSR as the "commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life, in ways that are both good for business and good for development" (WBCSD, 1998).

As far as we know, CSR disclosure is a complex issue that cannot be clarified by a single theory (LalJoshi and Gao, 2009; Huang and Kung, 2010; Salehi *et al.*, 2017). There are several theories that explain the company's motivation for disclosing environmental and social information. In fact, these theories include stakeholder theory, legitimacy theory, organizational theory and the theory of political economy (Jenkins and Yakovleva, 2006; Salehi *et al.*, 2017). According to organizational theory, organizational activities are limited by a variety of external pressures. Based on the assumptions of this theory, organizations should be responsive to external demands and expectations of society in order to maintain their legitimacy (ISLAM, 2009). Political economy theory based on the literature on environmental and social accounting was extracted from the writings of Parker in the 1990s. This theory argues that accounting can play a pivotal role in the organizational structure and its surroundings (Guthrie and Parker, 1990). Furthermore, the company's environmental and social disclosure is used as a management tool for dealing with political and social pressures (Guidry and Patten, 2012). In order to maintain a firm's position in society, management may publish information related to environmental and social activities, and if it is determined that an organization has been involved in undesirable social activities, this leads to its destruction. According to Gray *et al.* (1996), legitimacy theory and stakeholder theory are both derived from political economy theory. Legitimacy theory focuses on the assumption that an organization must preserve its social role by responding to the needs of society. Based on this theory, the survival of an organization is sustainable by market pressures and society expectations (ISLAM, 2009). Legitimacy theory is based on the fact that there is a social contract between business units and society (Deegan *et al.*, 2000). On the basis of the social contract, the company will have a social contract with society to perform certain duties in the field of justice. Legitimacy theory has forced the company to respond to the demands of different stakeholders through legitimizing their activities (Haniffa and Cooke, 2005). Another important point is that legitimacy theory and stakeholder theory are often used to complement each other (Deegan, 2002). The stakeholder theory is one of the relatively new theories in the field of management, and the philosophy of its existence lies in corporate responsibility. Systematically, the stakeholder theory seeks to identify groups of stakeholders that deserve the most attention from managers (ISLAM, 2009). Hence, Azizul Islam and Deegan (2008) evaluated the functions of environmental reports and concluded that corporate disclosure was changed due to stakeholder's expectations. While making decisions, activities and their operations, firms should consider the interests of all stakeholders. Actually, stakeholders are all those who are affected by the consequences of the company's decisions and actions. Internal stakeholders are employees and shareholders who are directly influenced by the company's decisions and operations, whereas external stakeholders are citizens, customers, suppliers, competitors, government and societal institutions. There is no getting away from the fact that corporations should respect the interests of the stakeholders and society and should be responsible for all of them (Clarkson, 1995; Salehi *et al.*, 2017). The following six cases contain detailed information about CSR toward the environment, products, human resources, customers and society:

(1) CSR toward the environment: providing information to show that the operation is clean and in compliance with pollution laws and regulations, providing information on reducing pollution from operations, pollution control – air, water, land – prevention or damage reconstruction created in the environment in the operation process, conserving natural resources and preventing or treating the waste and reusing waste materials such as glass, plastic, etc., and supporting the activities of environmental groups and membership in environmental agencies or organizations, environmental strategies and policies are all examples of environmental disclosures (Kansal *et al.*, 2014; Haniffa and Cooke, 2005).

(2) CSR toward the products and providing services: these include providing information about developments related to the company's products, including its packaging and manufacture of reusable containers, research and development of products and their advantages, receiving the award on product quality and increasing their value, disclosing improved methods and health services in the preparation of the products and providing information about the product's safety and health (Kansal *et al.*, 2014; Muttakin and Khan, 2014).

(3) CSR toward human resources: corporate responsibility for human resources includes disclosure of the percentage or number of employees working at different levels, collecting information about the financial ability of staff, communicating with employees to improve job satisfaction and motivation, loans and other payable benefits, nondiscrimination in employment, educational programs to develop the employees' skills and quality level, measures regarding the staff's safety and physical and mental health, providing sports facilities and welfare and including staff welfare fund (Kansal *et al.*, 2014; Haniffa and Cooke, 2005). People enter organizations with needs, skills and expectations and want to work in an environment where they can use their abilities to satisfy their needs. If organizations create such opportunities for their employees, levels of organizational commitment will increase (Vakola and Nikolaou, 2005).

(4) CSR toward customers: includes attention to client rights to increase sales and customer loyalty. A number of studies point out a large and growing market for

products and services created through companies with high social responsibility (Sandhu and Kapoor, 2010). According to Chunfang (2009), "in the literature of social responsibility, organizations involved with this phenomenon can obtain customers' positive comment on the brand evaluation and selection and offer it to others and gain a good attitude and image concerning the organization and even earn additional pay satisfaction." The client rights considered in this study can be: meet the needs of customers, customer safety, customer satisfaction and providing after-sales service facilities.

(5) CSR toward society: issues related to participation in social activities include social investments such as providing internship opportunities for students and transferring experiences and knowledge to them and giving scholarships to talented students in need, supporting or helping communities with grants, awarding grants to charities and rehabilitation institutions, supporting local industries, corporate partnerships in charitable donations and encouraging employees to participate in them, awarding grants to the research centers and financing projects related to public health, as social objectives, policies and missions of the enterprise (Kansal *et al.*, 2014; Haniffa and Cooke, 2005).

(6) CSR toward energy: efficient use of energy or energy-saving information, research in order to promote energy efficiency, receiving rewards or penalties in relation to energy consumption, policies regarding efficient use and reducing energy consumption and the use of new sources are all instances of energy-related disclosures (Kansal *et al.*, 2014).

This criticism is always raised by some researchers that the level of CSR disclosures among developing countries is not as adequate as developed countries (Belal and Cooper, 2011; Idemudia, 2011). Precisely because of this reason, many researchers such as Dobers and Halme (2009) and Visser (2008) believed that CSR research should be more focused on emerging markets than developed markets. Dobers and Halme (2009) investigated the CSR among developing countries and realized that the different norms and institutional environment are influential in creating different results in those countries. They also found that these countries disclose the CSR information in the form of descriptive and on a voluntary basis, whereas a study by Gjølberg (2009) in developed countries documented that firms' CSR practices are very important and vital. Obviously, the performance of CSR disclosure among developing countries is not as strong as developed countries like America. Developing countries are facing extreme challenges to cope with high inflation, economic sanctions, education, equal social justice and much more. Especially, Iran has experienced many economic problems such as high inflation and economic sanctions during recent years (Salehi, Tarighi and Sahebkar, 2018). Undoubtedly, in such a bad economy, many companies are likely to manage profits to better demonstrate financial performance. Now, one has to ask the fundamental question of whether a long-term working relationship between the auditor and the client affects the level of CSR disclosure. Is it possible that corporate managers have a bad intention to disclose environmental information under a particular economic situation? It seems that our research will have an appropriate answer to these questions.

2.1 The relationship between CSR disclosure and firm size

Large companies are of particular interest to different groups in society, and they also are under more pressure to disclose CSR in order to legitimize their activities; hence, there is a significant positive relationship between CSR disclosure and firm size (Muttakin and Khan, 2014). For example, Maranjoori and Alikhani (2014) showed that there is a significant positive relationship between firm size and the level of social and environmental disclosure.

In other words, the disclosure of environmental and social information by Iranian larger companies is more than that of smaller firms. In fact, bigger firms suffer from greater social pressures and need to legitimize their activities in the community; in addition, the larger companies often use tools such as the disclosure of environmental and social information in order to reduce political costs (Gray *et al.*, 2001; Haniffa and Cooke, 2005). The findings of Haro-de-Rosario *et al.* (2017) also showed that the largest, most money-making oil and gas firms are interested in publishing the most complete CSR reports. Based on documentation in a developing country called Romania, Badulescu *et al.* (2018) concluded that there is a positive connection between firm size and CSR disclosure. In other words, the younger a firm is, the less likely it is that it gets involved in CSR. Furthermore, in an interesting study, Salehi *et al.* (2017) found that the structure of the board of directors and company ownership does not affect CSR disclosure in Iranian market. Some previous studies have shown that on the condition that firms are larger, the level of CSR disclosure will increase (Adams *et al.*, 1995; Belkaoui and Karpik, 1989; Cullen and Christopher, 2002; Cormier and Magnan, 2003; MohdGhazali, 2007; Naser *et al.*, 2006; Brammer and Pavelin, 2008; Reverte, 2009; Chih *et al.*, 2010; Suttipun and Stanton, 2011; Bouten *et al.*, 2011; Setyorini and Ishak, 2012; Al-Gamrh and AL-Dhamari, 2016; Syed and Butt, 2017; Issa, 2017; Wuttichindanon, 2017), whereas Roberts (1992), Barako *et al.* (2006) and Smith *et al.* (2007) did not find such an association. It is understood that bigger companies disclose more social responsibility as the public sector is paying more attention to larger companies. Therefore, these firms not only are under more pressure for providing social responsibility, but also have many stakeholders who care about corporate social programs (Cowen *et al.*, 1987). Given the foregoing, we expect the first hypothesis to be as follows:

H1. There is a significant relationship between the level of CSR disclosure and the size of the company.

2.2 The relationship between CSR disclosure and financial leverage

Financial leverage is one of the things that can affect CSR disclosure. Generally speaking, companies with greater financial leverage seek to legitimize their actions against creditors and shareholders (Haniffa and Cooke, 2005). Andrikopoulos *et al.* (2014) examined the role of CSR reporting among financial institutions and concluded that financial institutions pay attention to the CSR. Their research on listed companies on the New York Stock Exchange shows that large corporations with high financial leverage have a high level of CSR disclosure. In Polish market, Dyduch and Krasodomska (2017) found a relationship between company turnover, the duration of the stock exchange listing, inclusion in the Respect Index portfolio and foreign capital share, and the level of CSR disclosures. Similarly, Hibbit (2003) and Orij (2007) saw a positive association between CSR disclosure and financial leverage. The studies of Christopher and Filipovic (2008) and Ma and Zhao (2009) also showed that firms with high financial leverage are very likely to disclose more the CSR information. However, Veronica Siregar and Bachtiar (2010) and Issa (2017) did not experience any linkage between financial leverage and CSRD index; additionally, Belkaoui and Karpik (1989) discovered a negative association between financial leverage and the level of CSR disclosure:

H2. There is a significant relationship between the level of CSR disclosure and financial leverage.

2.3 The relationship between CSR disclosure and profitability

Profitable companies try to show their contribution to the welfare of society through the disclosure of social responsibility (Muttakin and Khan, 2014). There must be a kind of correlation between profits and other social goals, and the fair recognition of a social issue may have a positive effect on the short-term and long-term functions of the organization. Roberts (1992) and Chan and Kent (2003) supposed that social and environmental disclosures are positively related to corporate performance. Khojastehpour and Johns (2014) examined the impact of environmental CSR (climate responsibility and natural resource utilization) on corporate/brand reputation and corporate profitability. The results of their studies proved that environmental CSR positively is connected with the corporate/brand reputation and business profitability. In the context of Bangladesh, Bhuyan *et al.* (2017) found that long-term disclosure plays a key role in improving firm profitability. In addition, Platonova *et al.* (2018) suggested that there is a significant positive association between CSR disclosure and the financial performance of Islamic banks in the Gulf Cooperation Council countries. In short, many studies have shown that corporate financial performance is positively connected with the level of CSR disclosure (Cormier and Magnan, 1999; Tagesson *et al.*, 2009; Issa, 2017), whereas some scholars have expressed another point about the impact of CSR. For example, Cox *et al.* (2004), McWilliams and Siegel (2001), Smith *et al.* (2007) and bin Abd. Rahman *et al.* (2009) argued that CSR cannot have any effect on corporate performance. Given that the research results are different in relation to the company's profitability and CSR, we will find out if there is a meaningful relationship between the company's profitability and CSR:

H3. There is a meaningful relationship between the level of CSR disclosure and profitability.

2.4 The relationship between CSR disclosure and type of industry

The type of industry is one of the cases that can be effective in exposing CSR, for instance, the pressure of international buyers on the export market is an important factor as regards CSR disclosure. Hence, companies disclose CSR to illustrate their desirable international image, and failure to comply with it may result in the loss of their contracts (Belal and Owen, 2007; Azizul Islam and Deegan, 2008). Some empirical studies have shown a strong connection between corporate industry and CSR (Deegan and Gordon, 1996; Adams *et al.*, 1998; Cormier and Magnan, 2003; Cormier *et al.*, 2005; Brammer and Pavelin, 2008; Reverte, 2009; Hou and Reber, 2011; Bouten *et al.*, 2011). Haniffa and Cooke (2005) claimed that companies disclose information more about the work of their hard-working employees in the manufacturing industry; besides, consumer-oriented industries are more exposed to social disclosure for a better image of themselves among consumers. Reverte (2009) in his research showed that the manufacturing industries that are more environmentally friendly are very likely to disclose environmental information more than companies in other industries. The reason is that the manufacturing processes of other industries are likely to have a negative impact on the environment. Kansal *et al.* (2014) examined determinants of CSR disclosures in the Indian market. Their results indicate that the size of the company and the type of industry are significantly related to corporate social disclosure. Muttakin and Khan (2014) indicated that companies in the consumer industries are less likely to disclose CSR, whereas other companies that belong to other industries disclose more CSR information. Although Syed and Butt (2017) witnessed a positive association between industry type and CSR disclosure among firms listed on Karachi Stock Exchange, Al-Gamrh and AL-Dhamari (2016) did not find any significant connection between them among firms listed on Saudi Stock Exchange. In this research, we examine the relationship between social responsibilities of TSE manufacturing companies in different industry groups. In fact, the question arises whether there is a relationship between the disclosure of social responsibility and the type of industry:

H4. There is a significant association between the level of CSR disclosure and the type of industry.

2.5 The relationship between CSR disclosure and company's age

The age of a company can be an important factor in determining the disclosure of CSR. Alsaeed (2006) tested for the first time the company's age variable as one of the potentially influential factors on the level of disclosure. The rationale for choosing this variable is based on the fact that older companies have expanded their financial reporting procedures over the years (Camffermanand Cooke, 2002). Regarding the probable positive impact of company's age on CSR disclosure, Owusu-Ansah (1998) argued that younger companies may, because of competitive considerations, prefer not to disclose information such as R&D expenditures, capital expenditures and product development expenses. The costs and problems of collecting, processing and disseminating information for younger companies are heavier, too. Hence, companies with a greater lifespan disclose more social responsibility (Roberts, 1992). Chunfang (2009) investigated the impact of the effective factors on the level of CSR disclosure in China. He showed that the factors such as the scale of enterprises, years of operation, novation capacity, export intensity, management skills, financial performance, product competitiveness, government intervention and legal environment have a strong influence on improving the CSR disclosure. Waluyo (2017) showed that firm size and firm age are positively linked to CSRD. Cormier *et al.* (2005) and Al-Gamrh and AL-Dhamari (2016) proved that there is a positive relationship between the corporate age and the level of CSR disclosure, whereas Rahman (2011) did not find this connection between them. Given the above, we expect the fifth hypothesis to be as follows:

H5. There is a significant association between the level of CSR disclosure and the firm' age.

2.6 The relationship between CSR disclosure and audit fee

Effective factors on audit fees are divided into two general categories. The first group is the characteristics of an audit firm, and the second group is relative to the client that invites audit firm to perform the company's audit work (Griffin *et al.*, 2010). In less developed countries, audit fees are determined by the level of activity and characteristics of auditors, and the determinants of audit fees in most of these countries include the size of companies, the complexity and scope of operations, and the type of auditor who audits the financial statements of the company (Karim, 2010). Based on the agency theory, there is a conflict of interest between managers and owners which results in creating agency costs (Salehi *et al.*, 2017). What is worth mentioning is that using CSR optional disclosure, corporate managers are apt to show they are really interested in taking steps into the interests of shareholders (Salehi *et al.*, 2017). Additionally, the disclosure of such information contributes to align the executives and minority interests (Ghazali and Weetman, 2006). Taking together, we are of the opinion that the complexity of financial statements and even the financial conditions of companies might affect audit costs. This means that the firms that have decent CSR disclosure and also have unfavorable financial conditions are likely to abuse public confidence and attempt to manipulate financial statements to mask their poor financial performance. In this regard, Muttakin *et al.* (2015) indicated that managers in an emerging economy manage earnings when they provide more CSR disclosures. Another reason is that since these firms have a wide range of corporate governance, they will need more audit' efforts. For instance, Kim and Kim (2013) showed a positive and significant relationship between corporate audit fees, CSR's non-financial information and corporate governance practices. Companies that have disclosure of good social responsibility and a wide range of governance pay higher audit fees because they have larger financial standards that require more auditors' efforts to audit accurately. As formerly mentioned, since Iran faced economic sanctions during the time period of this study, the majority of Iranian firms had many financial problems. In such an economic atmosphere, they would be required to manipulate accounting figures so as to show better their financial performances. Thus, these firms even with a high level of CSR disclosure are expected to have a high audit risk. Generally speaking, given the high audit risk of Iranian companies as well as the wider range of financial standards of companies with good CSR disclosure, it is very likely to exist a positive link between the level of CSR disclosure and audit fees in Iranian market. Thus, the purpose of the present research is to determine whether there is a meaningful relationship between the disclosure of CSR and audit fees:

H6. There is a significant relationship between the level of CSR disclosure and audit fees.

2.7 The relationship between CSR disclosure and audit firm's tenure

In Iran, according to the instructions of the Supreme Council of the TSE, which was passed on October 27, 2007, audit firms are not allowed to re-accept the independent auditors' position or legal inspector of the same company after four years. Advocates of the change of auditor believe that in the case of compulsory change, auditors will be able to resist the pressure and desires of managers and make a more neutral judgment. The long-term presence of auditors with a client creates an incentive to maintain the views of the client's management, a situation that undermines their independence and impartiality. If we look at the economic conditions of Iran between 2010 and 2015, we will realize that Iranian companies suffered from financial distress due to severe economic sanctions (Salehi *et al.*, 2017). In this situation, clients probably expect auditors with high tenure to endorse the management view of disclosing CSR. On the other hand, opponents of the change of auditor have a different opinion. They believe there are other factors that force auditors to maintain their independence, for example, the auditors "efforts to maintain credibility and reputation and fear of the possibility of litigation against them are mechanisms that prevent auditors" inappropriate behaviors. In this regard, Chen *et al.* (2008) stated that auditors gain a better understanding of the client's activities and also gain more experience over time. Hence, it is argued that the long-term presence of auditors is an impediment to companies that intend to keep shareholders happy with environmental disclosure so that they can easily engage in earnings management activities to show a beautiful image of their own corporate financial performance. Logically, according to the views of both groups, one can expect a significant relationship between audit tenure and the level of CSR disclosure in the Iranian context:

H7. There is a significant connection between the level of CSR disclosure and audit tenure.

2.8 The relationship between CSR disclosure and audit firm's size

In order to understand the relationship between the size of an audit firm and the level of CSR disclosure, we have to take into account a few very important points. First of all, exactly contrary to the agency theory, stewardship theory declares that the main purpose of corporate directors is to maximize shareholder' wealth (Salehi *et al.*, 2017). According to the economic climate of Iranian firms between 2010 and 2015, it can be envisaged that managers improve their corporate financial situation using the publication of social and ecological information. Another interesting point is that big auditors are more conservative compared to small ones, and they often refuse to accept the poor financially firms (Salehi, Tarighi and Sahebkar, 2018). In fact, it is anticipatable that famous and bigger firms are usually audited by big audit firms because they have better financial resources and less engage in earnings management. In other words, most popular firms tend to disclose their social responsibilities so as to attract more attention from investors and other users of financial statements because local and international investors consider social and environmental information very important in investment decisions (Yekini, 2008; Salehi *et al.*, 2017). In this regard, Wuttichindanon (2017) believed that a firm that uses a Big 4 audit firm is more likely to participate in CSR disclosure. In Nigeria, Uwuigbe and Egbide (2012) also concluded that there is a positive association between the size of the audit firm and the level of CSR disclosure, although some studies such as Al-Gamrh and AL-Dhamari (2016) have shown no significant influence of audit firm size on CSR disclosure. In short, it is conceivable that there is a causal relationship between the level of CSRD and the size of the audit firm. Therefore, the last hypothesis is expected to be as follows:

H8. There is a significant connection between the level of CSR disclosure and audit firm size.

3. Research methodology

This paper is considered correlational in terms of exploring the association between variables. After collecting the required data from reliable and available resources, they were evaluated using the R software. Just like the study of Salehi *et al.* (2017), "F-Limer test" was first used to determine the use of panel data model or ordinary regression model (OLS) to analyze the data. The Hausman test was then used to check random effects model vs fixed effects model. The presence or absence of serial correlation between the disturbing elements (model error), which are in fact the postulate underlying panel data model, is examined using "Breusch–Godfrey test." Finally, the fitting results of the final model are done by using the exploratory method.

3.1 Population and statistical samples

The target population included all companies listed on the TSE, during the period 2010–2015. Common features of the companies to determine the population are as follows:

(1) the type of company activity is productive; thus, investment companies, leasing, credit and financial institutions and banks are not included in the sample due to their different natures;

(2) based on the research time period (2010–2015), the company is listed on the TSE before the year 2010, and its name is not removed from the companies mentioned by the end of 2015;

(3) the activities of selected companies have not stopped, and their financial period has not changed during 2010–2015; and

(4) the financial statements required should be available so as to extract the required data.

Regarding the above conditions, a sample size of 125 firms from firms listed on the TSE has been selected. Owing to the limited population size and the fact that the statistical method chosen easily analyzes the information from these companies, there was no need to choose the sample and then the research had no sampling methods (Table I).

Industry name	No.	Firm-year observation	% of the sample
Pharmacy	1	72	9.6
Automotive and the manufacture of automotive parts	2	102	13.6
Machinery and appliances	3	48	6.4
Chemical products	4	96	12.8
Mineral products	5	234	31.2
Production of metal products	6	66	8.8
Food and beverage products except for sugar	7	108	14.4
Textiles	8	24	3.2
Total	8	750	100

Table I. Firm-year observations distributed across the industry sectors

Looking at the details, as regards sample industry distribution, textiles have the lowest and mineral products have the highest number of observation in our statistical sample.

3.2 Research hypotheses test model

In the research model, using the coefficient of β_1–β_5, we investigate some features of corporations including firm size, financial leverage, profitability, firm age and industry type with the level of CSRD in Iranian market. Following this, the purpose of our study is to evaluate the impact of some audit variables (β_6–β_8) on the level of CSR disclosure:

$$\begin{aligned} \text{CSR} = \alpha + \beta_1 \text{Firm size} + \beta_2 \text{Financial leverage} + \beta_3 \text{Profitability} + \beta_4 \text{Industry} \\ + \beta_5 \text{Firm age} + \beta_6 \text{Audit fee} + \beta_7 \text{Audit tenure} + \beta_8 \text{Audit size} + £. \end{aligned}$$

3.3 The definition of variables

The dependent variable. Following Salehi *et al.* (2017), this study employs the content analysis method in order to analyze the CSR information disclosure level. Content analysis is a way of encoding text into different groups according to pre-defined criteria that are widely used in the research related to social and environmental disclosure since this method provides a systematic approach for researchers to analyze large unstructured data (Azizul Islam and Deegan, 2008). The coding method contains reading annual reports and determining any information related to environmental and social subjects and their classification to appropriate section and subsection. To measure the levels of environmental and social disclosure in the current research, after an extensive review of the relevant literature, the final checklist was adopted from Muttakin and Khan (2014), Kansal *et al.* (2014), Maranjoori and Alikhani (2014) and Salehi *et al.* (2017). After developing the checklist, coding rules were determined so that each disclosure subsection is defined clearly and operationally. Should the company disclose each of the indices above in financial reports and annual reports to the board of directors in the General Assembly, the dummy variable is 1, otherwise 0. The total score for each section is divided by the total relevant questions and thereby each company's social responsibility disclosure level is measured.

Independent variables

- Firm size: total assets or total sales can be used as a basis for calculating the size of a company. In this study, the total assets of a company are used so as to measure the size of a company.
- Financial leverage: this variable is calculated through long-term debt scaled by total assets.
- Corporate profitability: in this paper, profit after deduction of tax (Pat) is considered as the corporate profitability index.
- Firm age: the length of time that a company has existed.
- Industry type: the present study examines the level of CSR disclosure in the eight manufacturing industries. These industries are comprised of Industry 1 (pharmacy), Industry 2 (automotive and the manufacture of automotive parts), Industry 3 (machinery and appliances), Industry 4 (chemical products), Industry 5 (mineral products), Industry 6 (production of metal products), Industry 7 (food and beverage products except for sugar) and Industry 8 (textiles).
- Audit fee: this variable is the natural logarithm of the total audit fee of the external auditor.

- Audit firm's tenure: this variable is defined as the length of the auditor–client relationship. Drawing on the instructions of the Supreme Council of the TSE in 2007, audit firms are not allowed to re-accept the independent auditors' position or legal inspector of the same company after four years. Consequently, in this study, the tenure period is defined to be between one and four years.
- Audit firm size: this indicator variable equals 1 if the auditor is a member of the auditing organization in Iran and 0 otherwise.

4. Results

4.1 Descriptive statistics

In order to evaluate the data, the descriptive statistics containing minimum, maximum, mean and standard deviation were first calculated and are presented in Table II. The average CSRD index is equal to 23 percent. It implies that the sample firms are reluctant to disclose their social responsibility and the disclosure level in selected firms is close to the ground. In addition, the results show that the minimum lifespan of companies is seven years, whereas the maximum lifetime of firms is 64 years, which is relevant to a company in Industry 7 (food and beverage products except for sugar).

Table III presents the descriptive statistics of qualitative variables. The variables of audit firm size and audit firm's tenure are of the type of indicator variables, in which frequency of each class is specified. The outcomes of the table show that approximately 60 percent of Iranian companies are audited by big auditors. Almost one-third of Iranian audit firms have a four-year relationship with their own clients, too.

4.2 Variance inflation factor (VIF)

In econometrics, multicollinearity problem occurs when two or more explanatory variables (independent) in a multiple regression are highly correlated with each other. The correlation here is a linear relationship between independent variables. Depending on the intensity of the correlation between the independent variables, the degree and the type of collinearity will differentiate. In statistics, the VIF measures the severity of multicollinearity in an OLS

Variable	Measurement unit	Min.	Max.	Mean	SD
Social responsibility disclosure	Checklist provided	0.051	64.102	23.696	11.651
Firm size	The natural logarithm of total assets	9.802	18.775	13.295	1.453
Financial leverage	Long-term debt/Total assets	0.012	4.059	0.661	0.379
Profitability	Profit after deduction of tax	−2,411.96	15,760.51	335.88	1,360.58
Firm age	Number of years of the firm's activity	7	64	39.152	14.402
Audit fee	The natural logarithm of the total audit fee	2.944	10.391	6.332	0.978

Table II. Descriptive indices of the quantitative variables

Audit firm's tenure		Audit firm size	
Percentage of frequency	Period	Percentage of Frequency	Index number
170 (22.7)	1	292 (38.9)	0
186 (24.8)	2	453 (60.4)	1
142 (18.9)	3		
248 (33.1)	4		

Table III. Descriptive indices of the qualitative variables regression analysis. It provides an index that measures how much the variance of an estimated regression coefficient is increased due to collinearity (Salehi, Tarighi and Safdari, 2018) (Table IV).

As for the VIF value, in case the VIF of the estimated model coefficients is less than 10 there would be no linearity problem. As a result, this value is less than 10, which means that there is no linearity in relation to the research variables.

4.3 The results of the research model

In this paper, we are going to observe if there is a relationship between some characteristics of firms comprising firm size, financial leverage, profitability, firm age and the type of industry with social responsibility disclosure of firms listed on TSE. Moreover, the second objective of this study is surveying the connotation between the level of CSRD and some of the audit variables such as audit fees, audit tenure and audit firm' size. Hence, the results of all the hypotheses of this research are presented in Table V.

Variables	Variance inflation factor (VIF)
Firm size	4.001
Financial leverage	1.087
Profitability	1.001
Firm age	1.329
Audit fee	3.214
Audit firm size	3.007

Table IV.
The linearity test of model variables

Variable	Coefficient	Standard error	t-statistics	p-value
Firm size	2.819	0.356	9.411	< 0.001
Financial leverage	−2.537	1.045	−2.251	0.014
Profitability	−0.008	−0.002	−2.341	0.002
Firm age	0.131	0.034	−3.571	< 0.001
Industry 2	0.133	1.495	0.179	0.694
Industry 3	−4.375	1.828	−2.535	0.028
Industry 4	1.618	1.008	1.129	0.443
Industry 5	2.835	1.375	2.044	0.039
Industry 6	−3.438	1.712	−2.035	0.041
Industry 7	−8.092	1.557	5.196	< 0.001
Industry 8	−9.859	2.719	3.819	< 0.001
Audit fee	3.442	0.933	5.419	< 0.001
Audit tenure 2	−0.367	1.228	−0.301	0.895
Audit tenure 3	−0.049	1.316	−0.042	0.846
Audit tenure 4	−2.324	1.215	−2.234	0.019
Audit firm size	0.194	0.881	0.527	0.938
		Summary model		
F-statistic		4,839.13		
Prob. F-statistic		0.000		
Durbin–Watson state		2.16		
R^2		0.49		
Adjusted R^2		0.47		
Prob. F-limer test		0.005		
Prob. Hausman test		0.18		
Prob. Breusch–Godfrey test		0.034		

Table V.
Results of the model hypotheses

What stands out from Table V is that since the p-value calculated for F-statistic is less than 0.05, the significance of the whole model can be confirmed at the 5 percent error level. The results also show that since the value of R^2 is high, it can be concluded that the model will fit better our data. In addition, because the amount of Durbin–Watson state is 2.16 (between 1.5 and 2.5), this provides strong evidence of the lack of serial autocorrelation (first lag) in the residuals. It should be noted that the F-Limer test in this paper is used to determine whether to use the panel data model or the normal regression (OLS). The outcomes proved that we must apply the panel method because the amount of the p-value is less than 5 percent. After that, the Hausman test is used to investigate the random effects model vs a fixed effects model. Given that the p-value is equal to 0.18 and greater than 5 percent, the panel model with random effects is accepted. Finally, the "Breusch–Godfrey test" is used to check the serial autocorrelation. Since the p-value is 0.034 and less than 0.05, the final research model is the panel model with random effects.

Regarding the features of firms, it can be seen that the value of p-value for the company size variable is less than 0.05 percent, so the coefficient of this variable has a significant relationship with the dependent variable (CSRD). As a result, there is a significant relationship between company size and CSR, and the first hypothesis is accepted. Moreover, the coefficient of the financial leverage variable is 2.537 and its p-value is less than 5 percent; therefore, there is a meaningful and negative correlation with the CSR disclosure. Considering the significant level of corporate profitability, the third hypothesis with a p-value of 0.003 is not rejected. This means that there is a meaningful relationship between corporate profitability and the disclosure of CSR. In other words, the change in the company's profit causes a change in the level of CSR disclosure. Due to the negative coefficient of the profitability variable, there is an inverse relationship between the two variables. What is more, the significance level of the company's lifetime variable shows that this hypothesis is confirmed by a coefficient of 0.131 and a p-value less than the error level of 5 percent. To put it another way, the age of the company affects CSR disclosure. The coefficient of company age variable is 0.10, which means there is a positive and direct relationship between the level of CSR disclosure and corporate age. In fact, it can be said that companies with longer lifespans disclose more social responsibility.

The variable in the fourth hypothesis is of the type of index variables and has eight levels; hence, the first level (Industry 1 – pharmacy) is considered as the base level. According to the results obtained at Level 3 with a p-value of 0.028, the Level 6 with a p-value of 0.041, the Level 7 with a p-value of 0.001 and the Level 8 with a p-value of 0.001, when compared to the first level (base level), a significant effect on CSR disclosure is observed. Since the variable coefficient in these four industries is negative, it means that the level of CSR disclosure in Industries 3, 6, 7 and 8 is lower than the basic industry (pharmacy). It can be interpreted that the Iranian companies that operate in the field of the machinery and appliances, production of metal products, food and beverage products and textiles industries disclose less CSR than the basic industry (pharmaceutical industry). Given the p-value for the fifth industry, it can be concluded that companies that operate in the mineral industry disclose more CSR than those that are in pharmaceutical industry, whereas there does not exist any significant association between the base level (pharmacy) with Industry 2 (automotive and the manufacture of automotive parts) and Industry 4 (chemical products).

With respect to the audit variables of the research, our evidence demonstrated that the p-value of audit fees' variable is less than 5 percent and therefore has a significant relationship with the dependent variable (CSR); consequently, the sixth hypothesis is accepted. This means that there is a positive and significant relationship between audit fees and the level of CSR disclosure. In addition, the variable of the audit firm tenure, which is one of the index variables, is investigated according to its relationship with CSR at various levels. The p-values of the auditor's tenure at the Levels 2 and 3 are 0.895 and 0.846, respectively, which are more than 0.05 and therefore do not show a meaningful relationship with the dependent variable (CSR). In contrast, in the fourth level, the p-value is 0.019 and less than 0.05. Therefore, it shows a significant relationship toward the first level (base level). Since the coefficient of the audit tenure (4) is negative, it means that the level of CSR disclosure is less than the first level (base level). The results indicate that there is no significant relationship between the size of the audit firm and the level of CSR disclosure, for a p-value of audit firm size is 0.938 and is more than 0.05.

5. Conclusion

In the first stage of this research, we examined the relationship between some features of Iranian corporations and the level of CSR disclosure on the TSE. Research hypotheses were tested using information about 125 companies on TSE during the years 2010–2015. The results of the first hypothesis show that there is a significant positive relationship between the CSR disclosure and the size of the company. In fact, Iranian larger companies disclose environmental and social information more than smaller companies. Probably the reason is that large corporations offer more benefits to employees in order to raise their morale and motivation and they also pay more attention to their public responsibilities toward clients and the community. Not only are they seek to spread reputation because of services and products at fair prices, but they also seek to stabilize themselves as an ideal company. This finding is consistent with studies of Brammer and Pavelin (2008), Reverte (2009), Chih *et al.* (2010), Suttipun and Stanton (2011), Bouten *et al.* (2011), Setyorini and Ishak(2012), Muttakin and Khan (2014), Maranjoori and Alikhani (2014), Al-Gamrh and AL-Dhamari (2016), Syed and Butt (2017), Issa (2017), Wuttichindanon (2017), Haro-de-Rosario *et al.* (2017) and Badulescu *et al.* (2018), whereas is inconsistent with Roberts (1992), Barako *et al.* (2006) and Smith *et al.* (2007).

The results of the second hypothesis witnessed a significant relationship between CSR disclosure and financial leverage. Given the negative coefficient of the independent variable, it can be stated that companies with more financial leverage disclose less social responsibility. Although our finding is in contrast to Hibbit (2003), Haniffa and Cooke (2005), Orij (2007), Christopher and Filipovic (2008), Ma and Zhao (2009) and Andrikopoulos *et al.* (2014), Issa (2017), it is consistent with Belkaoui and Karpik (1989). Our third hypothesis examined the relationship between the level of CSR disclosure and corporate profitability. Our research showed that there is a significant negative relationship between disclosure of CSR and profitability of companies listed on TSE, probably because organizations and institutions do not comply with effective rules in achieving environmental and social goals. The test result of this hypothesis is inconsistent with the findings of Chan and Kent (2003), Tagesson *et al.* (2009), Khojastehpour and Johns (2014), Bhuyan *et al.* (2017), Issa (2017) and Platonova *et al.* (2018).

Our outcomes also indicated that the impact of the industry type on CSR disclosure is different. According to the statistical method, the first level (pharmaceutical industry) has been considered as the baseline level, and other levels have been compared to the first level. Our results indicate that the disclosure of CSR varies from industry to industry, and type of industry can be a factor affecting CSRD. Belal and Owen (2007), Azizul Islam and Deegan (2008) and Syed and Butt (2017) suggested that industry type is an important factor in environmental disclosure, which is in line with our research. Besides, our results suggest that companies with longer lifespan disclose social responsibility more than companies with a smaller lifetime. Therefore, it is a fact that the importance of companies to social responsibility affects their customers' satisfaction, which is one of the success factors of organizations that can lead to more popularity and continuity of their activities in the long term. Roberts (1992), Cormier *et al.* (2005), Cormier *et al.* (2005), Al-Gamrh and

AL-Dhamari (2016) and Waluyo *et al.* (2017) agreed with our findings, whereas we do not see eye to eye with Rahman (2011).

In the second phase of this paper, the relationship between the level of CSR disclosure and some of the audit variables of companies listed on the TSE was investigated. The results of the sixth hypothesis showed that audit fees have a positive impact on CSR. Our research results are consistent with Kim and Kim's (2013) research, which showed a positive and significant relationship between the audit fees, CSR information and corporate governance practices. One interpretation of this result is that since Iranian context has faced economic sanctions during the time period of this study, the majority of Iranian firms had many financial problems. In such an economic climate, these firms are likely to manipulate accounting figures to show their better financial performances. In other words, managers in an inflationary economy manage earnings when they provide more CSR disclosures, which leads to increase audit risk and audit fees.

The seventh hypothesis examined the impact of the auditor's tenure on CSR. According to the statistical method, this variable is a component of the index variables and places the first level as the base level and the rest of the levels fit into the first level. The results proved that if the duration of the audit firm's cooperation with the client reaches four years, it will have a negative significant impact on CSRD compared to the first level; however, the level of CSR disclosure does not increase compared to the first level. The increasing level of lack of CSR disclosure following the increase in the auditor's tenure can be justified as follows: The audit firms focus more on basic financial statements, whereas most Iranian companies provide their CSR information in the board's report to the shareholders' association in a qualitative manner. Therefore, it can be said that until the same procedures of CSR disclosure do not exist, the role of auditors in CSR is dimly seen. It can be also said that the long-term presence of auditors (four years) has a deterrent effect on companies with the intention of engaging in earnings management' activities to better show their corporate financial performance. Finally, the last hypothesis describes the relationship between the size of the audit firm and social responsibility, which has not been verified. This means that the size of the audit firm cannot affect the level of CSR disclosure significantly. Our finding is similar to the studies of Al-Gamrh and AL-Dhamari (2016), as opposed to Uwuigbe and Egbide (2012) and Wuttichindanon (2017) who found that larger audit firms are connected with the level of CSR disclosure.

It seems that the findings of this paper will have practical implications for investors, auditors and other users of financial statements. In fact, first of all, this study will aware them from the fact that when a country faces economic sanctions and most of its companies are in financial strain, investors should not think that the firms engaging in CSR activities behave ethically and provide transparent financial reports. What is more, the results will persuade auditors to be conservative toward the firms that are financially distressed, for the audit risk of them will be high. Thus, policymakers need to be cautious about managers' opportunistic behavior and enhance monitoring to enforce social compliance.

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Appendix

Index	Sub-index (subset)
Environmental issues	1. Pollution and pollutants control (greenhouse gases)
	2. Prevention of environmental damage
	3. Prevention or treatment of waste material/wastewater/waste
	4. Conservation and optimal use of farmland
	5. Research and development in environmental affairs
	6. Compliance with environmental policies (ISO14000)
	7. Investing in environmental projects
	8. Other environmental issues
Products and services	9. Product development/market share
	10. Product quality/ISO14000
	11. Product safety and health
	12. Stop production or services for a negative effect on public health
	13. Other products and services
Human resources	14. Number of employees (jobs)
	15. Monthly salary/cash bonus and benefits
	16. Shares owned by employees
	17. Employees' retirement and end-of-service benefits
	18. Health and safety in the workplace
	19. Training and development of staff
	20. Sports and recreation
	21. Loans or staff insurance
	22. Employees' morale and communications (support for marriage, housing, etc.)
	23. Other human resources
Clientele	24. Clients' health
	25. Resolve complaints and customer satisfaction
	26. The policy of late payments and installments for specific customers
	27. Provision of facilities and after-sales service
	28. Meet the needs of customers
	29. Other clients
Social responsibility	30. Social investment (development of science and technology, etc.)
	31. Support for social activities
	32. Support for charities and rehabilitation centers
	33. Legal proceedings/litigation
	34. Cultural activities (conferences, seminars, etc.)
	35. Other social responsibilities
Energy	36. Energy protection and saving
	37. Development and exploration of new resources
	38. Use of alternative and new sources
	39. Other energies

Table AI.
Social responsibility disclosure checklist

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