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David M. Mathuva, Josephat K. Mboya, James B. McFie,

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Achieving legitimacy through co-operative governance and social and environmental disclosure by credit unions in a developing country

David M. Mathuva
Strathmore University Business School, Strathmore University, Nairobi, Kenya
Josephat K. Mboya
School of Management and Commerce, Strathmore University, Nairobi, Kenya, and
James B. McFie
School of Accountancy, Strathmore University, Nairobi, Kenya

Abstract
Purpose – The purpose of this paper is to utilize legitimacy theory to test the association between the governance of credit unions and their social and environmental disclosure in a developing country, Kenya. A further examination of institutional pressures due to regulatory forces on the association between co-operative governance and credit union social and environmental disclosure (CSED) is performed.
Design/methodology/approach – Using a sample comprising of 1,272 credit union observations over the period 2008-2013, panel OLS regressions are performed to establish the association between co-operative governance and CSED. A comparison of the pre- and post-regulatory influences on co-operative governance and CSED is also performed.
Findings – The findings, which are in support of both legitimacy and institutional theories, depict a positive and significant association between co-operative governance and CSED. The significance of the co-operative governance score improves from the pre-regulation period to the post-regulation period. Other significant variables influencing the volume of CSED by credit unions in Kenya include credit union size and financial performance as measured by the return on assets.
Research limitations/implications – The study examines CSED practices in a developing country and in organizations in a single sector. Further, CSED is measured using a self-constructed index with data being obtained from audited annual reports only.
Practical implications – The study highlights the need to develop CSED guidelines tailored for credit unions, and a focus on co-operative governance as a way of improving disclosure practices.
Originality/value – The study utilizes a sector-specific governance variable and a CSED index to examine the association between the two variables by credit unions in a developing country. The study also attempts to investigate the role of regulation on the association between co-operative governance and the volume of CSED.
Keywords Kenya, Legitimacy theory, Institutional pressures, Co-operative governance, Social and environmental disclosure
Paper type Research paper

1. Introduction
Social and environmental disclosures encompass disclosures regarding the organization and its physical and social environment; for example, disclosures focusing on human resources, community participation, energy and environmental conservation (Deegan, 2002). This study departs from mainstream research that focuses on investor-owned business and examines the influence of co-operative governance on credit union social and environmental disclosures (CSED) in member-owned businesses (MOBs)[1]. The study also examines the effect of regulatory reforms in Kenya's credit union sector (implemented in 2010) on the

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association between co-operative governance and CSED. Finally, the study attempts to examine whether credit unions engages in CSED as a way of legitimizing the co-operative organization or due to institutional pressures arising from regulation.

Although social and environmental disclosure and corporate governance are two extensively researched areas, relatively less attention has been placed on the association regarding the two aspects (Johnson and Greening, 1999; Jo and Harjoto, 2011; Omran and Abdelrazik, 2013; Khan *et al.*, 2013; Farooq *et al.*, 2015). Most studies have focused on the link between corporate governance and individual aspects of CSED such as environmental reporting (Sun *et al.*, 2010), employee disclosures (Kent and Zunker, 2013) and corporate social responsibility (CSR) (Farooq *et al.*, 2015; Lys *et al.*, 2015). Other studies on corporate governance and social and environmental disclosures have examined the influence of individual governance characteristics (e.g. independence, CEO duality, board size, board diversity and committee structures) (Haniffa and Cooke, 2005; Khan *et al.*, 2013). A few studies have tested the influence of a composite corporate governance score on social and environmental disclosure (Johnson and Greening, 1999; Kent and Zunker, 2013; Lys *et al.*, 2015).

The current study shifts the focus to credit unions and is motivated by the idiosyncratic nature of co-operative governance and CSED in credit unions as posited by Borgström (2013) and Mathuva (2016)[2]. The governance structures in co-operatives differ from those of companies and other forms of business organizations because co-operatives are MOBs (Chaves *et al.*, 2008). In co-operatives, board independence is a blurred phenomenon since board members are drawn from among the co-operative members. Borgström (2013) argues that co-operatives might exhibit a weaker form of governance due to the one-member, one-vote principle under the principle of equality, as opposed to equity as observed by Gompers *et al.* (2003). Owing to the unique characteristics inherent in co-operatives and co-operative governance, this study adopts the approach utilized by Johnson and Greening (1999) and Kent and Zunker (2013) in measuring co-operative governance with modification relevant to credit unions.

According to Chaves *et al.* (2008), co-operative governance has been one of the main challenges faced by credit unions globally. In Kenya, cases of fraud and mismanagement of funds in credit unions have been reported. These have raised concerns about the stewardship of credit union managers and the strength of governance mechanisms in credit unions (Olando *et al.*, 2013; Okewo, 2013). In this study, we hypothesize that owing to the corporate governance challenges faced, credit unions may engage in increased CSED to mitigate the adverse effects of weaknesses in governance.

A growing number of studies on social and environmental disclosures have been conducted in the last three decades (e.g. Cochran and Wood, 1984; Patten, 1992; Haniffa, 2002; Ghazali, 2007; Barako and Brown, 2008; Ibrahim and Hanefah, 2014; Guidara *et al.*, 2015; Lys *et al.*, 2015). However, there is scanty literature examining CSED in credit unions, especially in developing countries, despite the importance placed on sustainability in the global Sustainability Development Goals (Hicks *et al.*, 2007; McGrath, 2008; McGrath, 2010; Gaurwitsch and Nilsson, 2010). The existing studies on CSED in credit unions have been basic and theoretical in their inquiry (McGrath, 2008; McGrath, 2010) and did not examine the influence of co-operative governance on CSED. Other studies have focused on limited and isolated aspects of CSED by co-operatives (Hicks *et al.*, 2007; Gaurwitsch and Nilsson, 2010). Hyndman *et al.* (2004) observe that very little is known about the current extent of CSED by credit unions globally. Further, McGrath (2008) finds that credit union managers perceive that CSED would lead to a significant change in current reporting practices. Therefore, embracing CSED, in addition to financial disclosures, would contribute toward comprehensive disclosure by credit unions.

The World Council of Credit Union's (WOCCU) operating principles on social responsibility state that "credit unions seek to bring about human and social development" (World Council of Credit Union's (WOCCU), 2007, p. 4). This is in addition to the promotion of the education of credit union members, officers and employees on credit union principles (WOCCU, 2007). Based on WOCCU's guidelines and other studies on CSED, this study identifies five CSED themes relevant to credit unions (i.e. community involvement, environmental conservation, member welfare, products and services, and human resource welfare), whose association with co-operative governance is examined (Haniffa, 2002; Ryder, 2003; Maali *et al.*, 2006; WOCCU, 2007; McGrath, 2008; Day and Woodward, 2009; Gray *et al.*, 2009; Kent and Zunker, 2013; Lys *et al.*, 2015). To establish the influence of co-operative governance on CSED, we follow Johnson and Greening (1999) and Kent and Zunker (2013) by examining legitimacy using the voluntary adoption of corporate governance practices as a way of facilitating ex ante legitimacy with society. The effect of institutional pressures arising from credit union regulatory reforms of 2010 in Kenya on the association between co-operative governance and CSED is also examined.

According to Carpenter and Feroz (2001), institutional theory, which is used to explain disclosure and governance, posits that organizations embrace structures and management practices that are construed as legitimate by other organizations, irrespective of their importance. One way of transmitting legitimated structures is through coercion by acts such as regulation. According to ElKelish and Hassan (2015), management is compelled to comply with institutional pressures in order to ensure that the organization survives. A strategy that the management might adopt includes the disclosure of governance-related information in order to prove and legitimatize the co-operative's engagement in CSED. The link between institutional theory and legitimacy is intended to illustrate that organizations are adhering to the legal and social norms of the country (Branco and Rodrigues, 2008). Therefore, changes in regulations and institutional norms or values might impact organizational behavior, such as the level of CSED. According to Dong and Xu (2016), the engagement in social and environmental disclosure is one of the ways of responding to a changed institutional setting. The few studies on disclosure by credit unions have largely ignored institutional and legitimacy perspectives (Hyndman *et al.*, 2004; Hicks *et al.*, 2007; McGrath, 2008; Gaurwitsch and Nilsson, 2010). This study therefore fills this gap by considering the relevance of both legitimacy and institutional theories required to fill gaps in extant literature in a developing country context.

In light of these theoretical propositions, the results illustrate that CSED by credit unions are shaped by legitimacy and institutional forces. With regard to legitimacy theory, we find that the voluntary adoption of corporate governance practices is significantly associated with the level of CSED. This association seems to be significant in the post-regulation period compared to the pre-regulation one, thereby confirming the institutional hypothesis. A set of control variables such as gross loans, ROA, leverage, growth in membership, credit union age and licensing status are utilized to explain the volume of CSED by credit unions.

The rest of the paper proceeds as follows. Section 2 presents a brief background on the credit union sector and CSED in Kenya. Section 3 discusses prior literature and hypotheses, demonstrating the applicability of legitimacy and institutional theories on CSED practices. Section 4 discusses the methodology adopted in this study. Section 5 presents the results, while section 6 concludes the paper, while highlighting the study's limitations.

2. Institutional setting

2.1 Brief background on credit unions in Kenya

According to the World Economic Forum's Global Competitiveness Report (2014-2015), Kenya is classified as a developing country in East Africa and is ranked in the 90th position globally and 6th in Sub-Saharan Africa in terms of competitiveness (World Economic Forum, 2014). Kenya's economy is heavily reliant on agriculture, and co-operatives play an important role in supporting this sector. Globally, there were 57,480 credit unions in 2014 operating in 105 countries with 217,373,324 members (World Council of Credit Union's (WOCCU), 2014). Kenya had 4,965 credit unions in the same year with

5,103,231 members[3]. However, only 1,995 credit unions were active and filed annual returns with the regulators (SACCO Societies Regulatory Authority (SASRA), 2014). Out of the 1,995 active credit unions, 215 had been operating front-office service activities (FOSA) by the time the Savings and Credit Co-operative Societies Regulatory Authority (SASRA) began supervising credit unions in 2010. SASRA regulates only FOSA credit unions. Kenya's credit union sector has been ranked first in Africa in terms of savings mobilization and 43 percent of the country's gross domestic product is associated with the co-operative movement (Imungi, 2016).

As at December 31, 2013, 135 (out of the 215) credit unions had been licensed by SASRA to formally operate FOSA. The remaining 80 credit unions were granted a four year grace period to meet the regulatory requirements and be licensed on or before June 18, 2014 (SASRA, 2014). By the end of the grace period, an additional 49 credit unions had been licensed while the remaining 31 were required to cease operating FOSA business[4]. FOSA credit unions are subject to more stringent regulations compared to other regular credit unions which do not serve members of the public.

The focus of the current study is on the 215 FOSA credit unions operating in Kenya as of 31 December 2013. This is because their activities, products and services are comparable to commercial banks, they serve a wider membership and have more resources available compared to regular credit unions (SASRA, 2014; Mathuva, 2016). More specifically, the 215 credit unions control over 78 percent of the market in terms of assets and deposits and a further 82 percent of the total membership in the sector (SACCO Societies Regulatory Authority (SASRA), 2013). We also expect that the 215 credit unions will exhibit improved disclosure and compliance to co-operative governance requirements due to stringent regulations, close monitoring, expansion in operations and diversified clientele and products.

2.2 CSED framework in a credit union setting

The WOCCU recognizes that social engagement plays an important role in contributing to the long term success and performance of credit unions (World Council of Credit Unions (WOCCU), 2005). Some of the social goals stipulated by WOCCU are on-going education, co-operation among co-operatives and social responsibility. Regulators and WOCCU stress the importance of providing disclosures over and above mandatory financial disclosures by credit unions (WOCCU, 2005; SASRA, 2014). In the credit union sector, McGrath (2008) attempts to develop a social disclosure framework for credit unions which encompasses human resource, community engagement, environment and organizational performance. Hicks *et al.* (2007) find limited social disclosure on aspects such as education, training, links with other co-operatives, donations and concern for the community by Nova Scotia co-operatives. Similarly, Gaurwitsch and Nilsson (2010) study two CSED aspects: environmental issues and details about employees when examining members' readership of annual reports of supply co-operatives. The study finds that readers of Lantmännen credit union's annual report have a low desire on environmental issues (13 percent) and employee information (7 percent) compared to disclosure on strategy (30 percent) and profit forecasts (24 percent). The present study adopts the following CSED aspects based on previous studies, and WOCCU's credit union operating principles to assess the rationale for engagement in CSED by credit unions in Kenya:

(1) Community involvement and other social activities: this category entails social responsibility activities undertaken by the credit union. It involves a consideration of the needs of the broader community within which the credit union and its members reside (WOCCU, 2007). In adhering to the principle of co-operation with other co-operatives, credit unions are expected to actively co-operate with other credit unions.

(2) Environmental conservation: this category covers activities the credit union engages in with the aim of conserving the environment or supporting environmentally friendly initiatives (Gaurwitsch and Nilsson, 2010; Lys *et al.*, 2015).

(3) Member welfare: members are key stakeholders in a credit union. Service to members is one of the operating principles as per WOCCU's guidelines (WOCCU, 2007). According to the guidelines, "credit unions should actively promote the education of their members" (WOCCU, 2007, p. 2). For example, Ryder (2003) and Hicks *et al.* (2007) posit that credit unions should educate members on the type of products they provide.

(4) Products and services: this category encompasses information on the credit union products and services provided. WOCCU (2007) requires credit unions to provide full disclosure regarding credit union products in a form that members can easily understand.

(5) Human resource welfare: this category entails disclosure on the credit union's commitment toward hiring and retaining high-quality workforce. WOCCU's operating principles indicate that credit unions actively promote the education of their officers and employees (WOCCU, 2007).

In this study, we utilize CSED items as highlighted in WOCCU's operating principles for credit unions and prior studies. The Appendix provides a list of the expected CSEDs under each category.

3. Literature review and hypotheses development

Proponents of CSED believe that the adoption of best practice corporate governance practices is associated with the quantity of voluntary social and environmental disclosure (Kent and Zunker, 2013; Khan *et al.*, 2013). This is because managers attempt to manage legitimacy by conforming to existing institutional recommendations or rules such as corporate governance guidelines (Kent and Zunker, 2013). This implies that organizations will be inclined to voluntarily adopt corporate governance guidelines as a demonstration of honesty, transparency and way of legitimizing themselves through CSED. Lys *et al.* (2015, p. 58) observe that the engagement in social and environmental activities by organizations is viewed as "doing well by doing good." However, McGrath (2010) argues that this engagement consumes financial resources that may not be readily available in credit unions. A number of theories have been used to explain CSED practices such as legitimacy, stakeholder, institutional, signaling, agency, political cost as well as accountability theories (Deegan, 2002; O'Donovan, 2002; Deegan and Blomquist, 2006; Barako and Brown, 2008; Guidara *et al.*, 2015; Lys *et al.*, 2015; Omran and Ramdhony, 2015). This study is pegged on legitimacy and institutional theories to explain the engagement of credit unions in CSED and its association with co-operative governance.

Legitimacy theory, which is classified under social and political theories, is widely used to explain why organizations engage in social disclosure practices (Patten, 1991; Adams *et al.*, 1998; O'Donovan, 2002; Branco and Rodrigues, 2006; Deegan and Blomquist, 2006; Islam and Deegan, 2010; Kent and Zunker, 2013; Guidara *et al.*, 2015). Although other theories are used to explain social responsibility reporting, legitimacy theory has gained recognition among the majority of studies in this area (Deegan, 2002). Legitimacy theory assumes that an organization is bound by a "social contract" and is expected to match its values with societal values in order to access resources, and gain approval of its aims and place in society and be guaranteed of continued existence (Brown and Deegan, 1998; Magness, 2006; Omran and Ramdhony, 2015).

Lindblom (1994) explains that organizational legitimacy occurs when an entity's values are congruent with those of the larger social system. The need for the congruency between organizational actions and societies' value system is to ensure the organization survives in the market (Deegan, 2002). Organizational behavior is shaped by social, economic, political and environmental factors and disclosure on these aspects serve to legitimize organizational actions (Brown and Deegan, 1998; Neu *et al.*, 1998; Kent and Zunker, 2013; Guidara *et al.*, 2015).

Disclosure policies serve as a means of communication as well as a way of managing expectations about an organization's activities (Woodward *et al.*, 2001; Deegan *et al.*, 2002; Brammer and Pavelin, 2004). Kent and Zunker (2013) suggest that disclosure on the adoption of corporate governance practices is one way of depicting an organization as honest and transparent and this helps in gaining legitimacy. The adoption of corporate governance practices by credit unions is largely voluntary, unlike in the case of listed companies which are required to disclose the extent of compliance and justify any non-compliance. Mook *et al.* (2007) argue that credit unions provide social disclosures to legitimize the co-operative structure, encourage stakeholder dialogue, increase transparency, promote organizational learning and support the mission, vision and goals of the co-operative. Consistent with Kent and Zunker (2013), we anticipate that the disclosure of voluntary adoption of corporate governance recommendations is motivated by the desire to attain legitimacy. This is achieved by demonstrating that the organization is honest and transparent to its stakeholders and is committed toward upholding ethical values. This argument motivates the following hypothesis:

H1. Credit unions engage in higher CSED when they voluntarily adopt and report best co-operative governance practices (legitimacy hypothesis).

Prior studies in developed countries have shown that CSED in annual reports has increased over time in response to a number of factors (Haniffa and Cooke, 2005). These factors include: increases in legislation, firm risk, activities of pressure groups, ethical investors, specific events, awards, economic activities, media interest, societal awareness and politics. Regulation, oversight and funding relations have been described as the forces which push organizations toward homogeneity in terms of engagement in CSED. The advent of credit union regulations may affect the extent of CSED due to the pressure to adhere to mandatory disclosure regulations as opposed to voluntary disclosure (McGrath, 2010). These factors could present isomorphic forces that might shape CSED behavior. Hess (2007) argues that social reporting could be another form of new self-regulation by organizations in a bid to legitimize themselves.

According to Biggart (1991), institutional theorists argue that corporate governance mechanisms are at times adopted to attain legitimacy. Further, studies have established that the existence of an independent regulator provides an incentive for organizations to comply with corporate governance reforms (Abraham *et al.*, 2015). In a credit union setting, coercive isomorphism, which is viewed as adapting to external pressures from regulators or industry trends, may explain a credit union's decision to adopt new disclosure conventions or follow changes in industry practices if the demands are sufficient. For credit unions to compete in the financial services market, they should also be seen to be more transparent and accountable in comparison to other banking institutions. Izzo (2014) argues that CSR is driven by institutional isomorphism among other factors. In this study, we argue that the implementation of the credit union regulations in 2010 and the institution of a credit union regulator (SASRA) may have compelled credit unions to adopt best co-operative governance practices. The adoption of co-operative governance practices might have contributed to improved CSED among credit unions in Kenya. Based on this argument, we test the following hypothesis:

H2. The influence of co-operative governance on CSED became more pronounced after the release and adoption of credit union disclosure and governance regulations in 2010 (institutional hypothesis).

4. Methodology

4.1 Content analysis of audited annual reports

This study examines the contribution of credit union governance on the extent of CSED by 215 deposit-taking credit unions in Kenya for the period between 2008 and 2013. Consistent with prior studies (Deegan *et al.*, 2000; Maali *et al.*, 2006; Branco and Rodrigues, 2008; Menassa, 2010), the data were sourced from audited annual reports of credit unions provided by the regulators (i.e. SASRA and the Commissioner of Co-operatives). The audited annual report has been cited as a credible and central document that presents an overall depiction of an organization's affairs (Gray *et al.*, 2001). Compared to other means of corporate communication (e.g. the internet or company newsletters or publications), the annual report allows effective communication of CSED over extended periods which was a requirement given the design of this study. Content analysis, which has been widely used in various studies (e.g. Maali *et al.*, 2006; Menassa, 2010; Khan *et al.*, 2013; Guidara *et al.*, 2015; Lys *et al.*, 2015), is utilized to establish the level of CSED in the annual reports of credit unions.

Since to date there is no agreed upon approach of measuring the level of CSED, we replicate Brennan's (2001), Barako and Brown's (2008) and Ibrahim and Hanefah's (2014) two way 0 and 1 scoring approach where we assign 1 if the relevant CSED item is communicated in the annual report and 0 if it is not. Further, we follow Maali *et al.* (2006) by utilizing an unweighted disclosure index since the focus of the current study is not on the decision usefulness but on the level and drivers of CSED practices. To address validity and reliability, the items in the disclosure index were adopted from WOCCU guidelines and prior studies on social and environmental disclosures (e.g. Maali *et al.*, 2006; McGrath, 2008; Barako and Brown, 2008; Menassa, 2010; Guidara *et al.*, 2015; Lys *et al.*, 2015). Two coders, who had an accountancy background, were provided with the CSED index and trained on how to practically reflect social and environmental aspects into the index. The corresponding author closely coordinated the coding exercise and was also involved in confirming (on a sample basis) the coding performed on the annual reports at the end of each week. Financial data were collected during the coding exercise. The Appendix outlines the 28 items in the CSED index.

4.2 Model

To test the hypotheses developed in the previous section, we utilize correlational as well as causal fixed effects panel regression analyses to establish the direction of association between the level of CSED, the co-operative governance score and the identified credit union characteristics. The level of CSED is modeled as a function of co-operative governance score and other credit union-specific control variables as follows:

$$
\begin{aligned}
CSED_{it} = {} & \beta_0 + \delta_1 G\_SCORE_{it} + \beta_1 SIZE_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \beta_4 MEMGROW_{it} \\
& + \beta_5 AGE_{it} + \beta_6 LICENSED_{it} + \lambda_t + \rho_t + \mu_t
\end{aligned}
$$

where $CSED_{it}$ is the credit union social and environmental disclosure score of credit union i in time t, G_SCORE_{it} the co-operative governance score and $SIZE_{it}$, ROA_{it}, LEV_{it}, $MEMGROW_{it}$, AGE_{it} and $LICENSED_{it}$ the credit union-specific control variables. Variable λ_t is the credit union controls, ρ_t the firm-year controls and μ_t the error term. Table I shows the variable definitions for both dependent and independent variables in the model.

4.3 Measurement of test variable: co-operative governance

Prior studies have utilized a combined set of governance principles to examine the association of corporate governance and disclosure (Clarkson *et al.*, 2003; Collett and Hrasky, 2005; Johnson and Greening, 1999; O'Sullivan *et al.*, 2008; Kent and Zunker, 2013; Lys *et al.*, 2015). Kent and Zunker (2013) utilize nine corporate governance attributes and find that the adoption of voluntary corporate governance mechanisms is associated with the quantity of employee-related disclosures, which is an aspect of social disclosure. Similar findings are established by O'Sullivan *et al.* (2008) who find a correlation between an aggregate corporate governance score and the disclosure of prospective information in the annual reports of year 2000 but not in year 2002.

In this study, we extend Kent and Zunker's (2013) study by examining the contribution of 16 composite co-operative governance principles on CSED by transition-level credit unions in a developing country[5]. We particularly focus on the unique characteristics of credit union governance as posited by Borgström (2013), for example, cases where credit union board members are drawn from the existing membership. While we acknowledge the difficulty involved in measuring the quality of credit union governance, the co-operative governance score reflects materially most of the anticipated governance practices in a credit union setting.

We follow O'Sullivan *et al.*'s (2008) study by examining the contribution of co-operative governance on CSED in the pre- and post-regulation period[6]. Interestingly, the 2010 credit union regulations in Kenya incorporate WOCCU's guidelines on co-operative governance. Hyndman *et al.* (2004) observe that studying credit union governance mechanisms is useful in highlighting the contribution of co-operative governance in promoting effectiveness and efficiency in credit union operations. Table II presents the aspects used in constructing the co-operative governance index for credit unions.

Variable	Definition
$CSED_{it}$	Level of credit union social and environmental disclosure measured using the CSED index
G_SCORE_{it}	Co-operative governance score calculated using the governance index
$SIZE_i$	Natural logarithm of gross loan value at the end of the year
ROA_{it}	Net income after tax scaled by year-end total assets
LEV_{it}	Ratio of total debt (external borrowing) to total assets
$MEMGROW_{it}$	The year-on-year change in natural logarithm of credit union membership calculated as $[MEM_t - MEM_{t-1}]/ MEM_{t-1}$
AGE_{it}	Number of credit union years from date of registration to the end of 2013
$LICENSED_{it}$	Licensing dummy which takes the value of 1 if the credit union was licensed as of 31 December 2013 and 0 if not

Table I. Variable definitions

No	Description	Criteria	Score	Criteria	Score
1	Size of board of directors (management committee)	> 5	1	$\leqslant 5$	0
2	Size of supervisory committee	> 2	1	$\leqslant 2$	0
3	Number of board meetings in a year	> 10	1	$\leqslant 10$	0
4	Identity of external auditor	Big 4	1	Non-Big 4	0
5	Presence of social responsibility committee	Yes	1	No	0
6	Presence of audit committee	Yes	1	No	0
7	Presence of credit committee	Yes	1	No	0
8	Presence of education committee	Yes	1	No	0
9	Presence of committees other than above (nos 5-8)	Yes	1	No	0
10	Chairman's report to credit union members	Yes	1	No	0
11	Training of board members	Yes	1	No	0
12	Insider loan (related party lending) disclosure	Yes	1	No	0
13	Board election	Every year	1	More than 1 year	0
14	Gender diversity in the board (management committee)	$> 1/3$ of total	1	$\leqslant 1/3$ of total	0
15	Gender diversity in the supervisory committee	$> 1/3$ of total	1	$\leqslant 1/3$ of total	0
16	Board members fill in a fit and proper test as required by regulator	Yes	1	No	0

Table II. Aspects used in constructing the co-operative governance index

4.4 Sample and data

The final data were collected from 212 credit unions with a six-year continuous data over the period 2008-2013. Three credit unions were dropped in the final sample owing to lack of data for some of the years. The choice of the 212 credit unions was informed by the fact that the 212 credit unions are relatively larger and comparable to commercial banks. This is because they control over 78 percent of the assets and deposits and 82 percent of the total membership in Kenya's credit union sector. The choice of the six-year period was to facilitate an examination of the period before and after the implementation of credit union regulations of 2010.

5. Results

5.1 Univariate analysis: governance score over the period 2008-2013

Table III reports the governance scores in 2008, the pre-regulation period, the post-regulation period, 2013 and the overall period 2008-2013. The results show a fairly high level of mean overall governance score at 0.418 over the period 2008-2013. The results reveal a general improvement in the mean overall governance score from 2008 (0.349) to 2013 (0.460). According to the findings, the mean overall governance scores also improved from the pre-regulation period (0.376) to post-regulation period (0.460). This finding concurs with Abraham *et al.* (2015) who found that the suggested corporate governance disclosure improved from 91.17 percent for accounting periods starting in 2004 to 95.00 percent for accounting periods starting in 2006. In terms of governance information, board elections (1.000), supervisory committee size of more than two members (0.990), board size of nine members and above (0.973), at least ten board meetings in a year (0.926) and board training (0.921), are the most highly complied with governance practices.

Contrary to the findings of Kent and Zunker (2013) on companies, credit unions do not seem to have special committees charged with the responsibility of identifying social responsibility and environmental activities to engage in. Further, the results show that few credit unions (1.5 percent, $n = 19$) utilize Big 4 auditors to audit their financial statements. The requirement by SASRA for credit union board members to submit a fit and proper test upon their election seems to have gained dominance in the post-regulation period (1.000) compared to the pre-regulation period (0.333). This provides prima facie evidence of possible regulatory influences on governance practices by credit unions in Kenya. We further examine this conjecture in the following sections by examining whether the regulatory reforms improved the significance of co-operative governance on CSED by credit unions, or not.

5.2 Trends in CSED over the period 2008-2013

Table IV illustrates the prevalence of the various categories of CSED in the annual reports of Kenyan credit unions over the period 2008-2013. The results reveal a relatively lower mean CSED at 0.294 (median = 0.286) compared to 0.300 for Jordanian listed companies (Ibrahim and Hanefah, 2014). The CSED level by Kenyan credit unions is however higher than the 0.133 for Islamic banks (Maali *et al.*, 2006) and the 0.150 for Kenyan banks (Barako and Brown, 2008). Interestingly, the level of CSED tends to improve over the period 2008 (0.241) to 2013 (0.302). According to the results, the level of CSED also improves from the pre-regulation period (0.274) to the post-regulation period (0.313). Human resource disclosure is surprisingly the most frequently disclosed category of CSED (0.419), followed by member disclosures (0.393) and product disclosure (0.323). Disclosures relating to community engagement and environmental conservation rank lowest at an average of 0.211 and 0.004, respectively.

The results mirror studies by Menassa (2010) who finds that banks attribute greater importance to human resource and product and customer disclosures than environmental issues. Moreover, the findings support Mook *et al.*'s (2007) proposition that credit unions

Table III. Governance scores in the periods 2008, pre-regulation, post-regulation, 2013 and all years (2008-2013)

Governance aspect	2008		Pre-regulation period (2008-2010)		Post-regulation period (2011-2013)		2013		All years (2008 -2013)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Size of board of directors (management committee)	0.981	0.136	0.973	0.161	0.973	0.161	0.976	0.152	0.973	0.161
Size of supervisory committee	0.991	0.097	0.991	0.097	0.989	0.104	0.995	0.069	0.990	0.101
Number of board meetings in a year	0.953	0.213	0.942	0.234	0.910	0.286	0.882	0.323	0.926	0.262
Identity of external auditor	0.009	0.097	0.009	0.097	0.020	0.142	0.024	0.152	0.015	0.121
Presence of social responsibility committee	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Presence of audit committee	0.066	0.249	0.079	0.269	0.124	0.330	0.123	0.329	0.101	0.302
Presence of credit committee	0.042	0.202	0.052	0.222	0.075	0.264	0.066	0.249	0.064	0.244
Presence of education committee	0.052	0.222	0.061	0.240	0.093	0.290	0.080	0.272	0.077	0.267
Presence of other committees	0.028	0.166	0.039	0.194	0.086	0.281	0.094	0.293	0.063	0.243
Chairman's report to credit union members	0.057	0.232	0.088	0.284	0.352	0.478	0.368	0.483	0.220	0.414
Training of board members	0.858	0.349	0.888	0.315	0.954	0.209	0.948	0.222	0.921	0.269
Insider loan disclosure	0.118	0.323	0.145	0.352	0.208	0.406	0.217	0.413	0.176	0.381
Board election	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Gender diversity in the board (management committee)	0.090	0.286	0.090	0.286	0.135	0.342	0.118	0.323	0.112	0.316
Gender diversity in the supervisory committee	0.335	0.473	0.327	0.470	0.434	0.496	0.472	0.500	0.381	0.486
Board members fill in a fit and proper test as required by regulator	0.000	0.000	0.333	0.472	1.000	0.000	1.000	0.000	0.667	0.472
Overall	0.349	0.072	0.376	0.084	0.460	0.093	0.460	0.087	0.418	0.098

Disclosure category	Variable	2008	Pre-regulation period (2008-2010)	Post-regulation period (2011-2013)	2013	All years (2008-2013)
Community	Mean	0.178	0.194	0.229	0.212	0.211
	Median	0.000	0.000	0.250	0.250	0.250
	SD	0.232	0.238	0.242	0.238	0.241
Environment	Mean	0.004	0.004	0.004	0.004	0.004
	Median	0.000	0.000	0.000	0.000	0.000
	SD	0.027	0.028	0.029	0.027	0.029
Members	Mean	0.273	0.364	0.421	0.391	0.393
	Median	0.200	0.400	0.400	0.400	0.400
	SD	0.203	0.208	0.192	0.196	0.202
Products	Mean	0.294	0.304	0.342	0.329	0.323
	Median	0.400	0.400	0.400	0.400	0.400
	SD	0.133	0.134	0.129	0.130	0.133
Human resource	Mean	0.353	0.392	0.446	0.442	0.419
	Median	0.333	0.444	0.444	0.444	0.444
	SD	0.105	0.103	0.096	0.099	0.103
CSED (Overall)	Mean	0.241	0.274	0.313	0.302	0.294
	Median	0.214	0.286	0.321	0.321	0.286
	SD	0.074	0.078	0.072	0.072	0.078
	Sample significance tests (pre- and post-adoption periods)					
t-test for equality of means	−9.436*** (p-value < 0.000)					
Levene's test for equality of variances	10.601*** (p-value < 0.001)					

Note: ***Significant at 1 percent level

Table IV.
CSED in the periods 2008, pre-regulation, post-regulation, 2013 and all years (2008-2013)

provide social disclosures to promote organizational learning and support the mission, vision and goals of the credit union. The greater focus by credit unions on human resource, members and products could be explained by the growth and transformation experienced in Kenya's credit union sector. Over time, credit unions globally have expanded operations and focus has shifted toward profitability, competitiveness and efficiency in operations (Mathuva and Kiweu, 2016). This trend explains the increased focus toward building human capital, attracting members and offering diversified products, as argued by Greening and Turban (2000).

5.3 Descriptive statistics

According to Table V and as discussed earlier, CSED averages 0.294 while the governance score averages 0.418 over the period 2008-2013. Table V shows that credit unions in the sample have a relatively large mean gross loan value (KShs. 663 million or US$ 6.5 million) compared to regional credit unions in Tanzania and Uganda[7]. The results show that the financial performance of credit unions in Kenya is relatively low at an average ROA of 1.4 percent. Further, the results reveal that credit unions borrow to finance their loan portfolios and other investments (11.3 percent). The results show that an average credit union has 10,425 members with the lowest number of members being 98 and the highest membership being 158,035. According to the findings, the average (median) growth in membership is 1.6 percent (0.7 percent). Table V shows that the youngest credit union in the sample is one year old while the oldest is 48 years of age with an average credit union age of 25.057 years. Finally, 34.8 percent of the credit unions in the sample were licensed by SASRA as of 2013 to formally operate FOSA. The descriptive statistics show that the 212 credit unions in the sample have diverse characteristics, and this provides a rich setting to examine the contribution of governance on the level of CSED.

Variable	Observations	Mean	SD	Median	Minimum	Maximum
$CSED_{it}$	1,272	0.294	0.078	0.286	0.036	0.524
G_SCORE_{it}	1,272	0.418	0.098	0.375	0.188	0.875
$SIZE_{it}$	1,272	18.847	1.849	18.800	11.878	23.770
ROA_{it}	1,272	0.014	0.032	0.010	−0.303	0.192
LEV_{it}	1,272	0.113	0.167	0.059	0.000	2.307
$MEMGROW_{it}$	1,272	0.016	0.040	0.007	−0.152	0.399
AGE_{it}	1,272	25.057	11.460	24.000	1.000	48.000
$LICENSED_{it}$	1,272	0.348	0.477	0.000	0.000	1.000
Credit union age in years	1,272	25.057	11.460	24.000	1.000	48.000
Credit union membership	1,272	10,425	19,863	3,227	98	158,035
Gross loans (KShs. million)	1,272	663	1,686	146	0.140	21,043

Notes: Table V presents the descriptive statistics for key variables in this study. The values for credit union age, membership and gross loans have been provided for information purposes only. At the time of writing this paper, the prevailing exchange rate was 1US$ = 102 Kenya shillings (KShs.). All variable definitions are provided in Table I

Table V. Descriptive statistics for the full sample over the period 2008-2013

5.4 Bivariate analysis

Table VI presents the correlation coefficients for the key variables in this study. The correlation results in Table VI depict a positive correlation between CSED and governance score, size, age and licensing status ($p < 0.01$). This finding is a priori confirmation of the first *H1* with regard to a possible positive association between co-operative governance and CSED. However, Table VI shows a negative correlation between CSED, ROA and the growth in membership ($p < 0.05$). The highest correlation is between credit union age and credit union size, with a coefficient of 0.594. Additional analyses of the variance inflation factors produced factors below 5, which suggest that multicollinearity among the independent variables does not threaten the computational accuracy of the results. To establish the causal relationship between CSED and governance, panel OLS regressions are performed.

5.5 Multivariate analysis

In Table VII, we investigate the influence of co-operative governance on CSED practices by credit unions in Kenya over the period 2008-2013. To achieve this, we study the association between co-operative governance and CSED in the pre-regulation period, post-regulation period and for the full period to test the influence of regulatory reforms in 2010. The models in Table VII are significant, with an adjusted R^2 of 17.5 percent for the pre-regulation period ($p < 0.01$), 10.3 percent for the post-regulation period ($p < 0.01$) and 19.9 percent for the full period ($p < 0.01$). Overall, the results in Model 3 depict a positive and significant association

Variable	$CSED_{it}$	G_SCORE_{it}	$SIZE_{it}$	ROA_{it}	LEV_{it}	$MEMGROW_{it}$	AGE_{it}
G_SCORE_{it}	0.220***						
$SIZE_{it}$	0.296***	0.259***					
ROA_{it}	−0.069**	0.038	0.137***				
LEV_{it}	0.019	−0.031	−0.086***	−0.238***			
$MEMGROW_{it}$	−0.064**	0.067**	−0.030	0.060**	0.047*		
AGE_{it}	0.233***	0.176***	0.594***	0.031	−0.016	−0.070**	
$LICENSED_{it}$	0.258***	0.398***	0.441***	0.078***	−0.074***	0.026	0.225***

Notes: Table VI presents the correlation coefficients for key variables in this study. All variable definitions are provided in Table I. *,**,***Significant at 1, 5 and 10 percent, respectively

Table VI. Correlation coefficients

Model	Dependent variable = Co-operative Social and Environmental Disclosure ($CSED_{it}$) (1)		(2)		(3)	
Sample period	Pre-regulation period (2008-2010)		Post-regulation period (2011-2013)		Full period (2008-2013)	
Variable	Coefficient	SE	Coefficient	SE	Coefficient	SE
Intercept	0.029 (0.38)	0.077	0.088 (0.94)	0.094	0.024 (0.40)	0.059
G_SCORE_{it}	0.026 (0.69)	0.038	0.064** (2.36)	0.027	0.049** (2.15)	0.023
$SIZE_{it}$	0.011*** (5.09)	0.002	0.006** (2.41)	0.002	0.009*** (5.64)	0.002
ROA_{it}	−0.223 (−2.74)***	0.081	−0.253*** (−2.54)	0.099	−0.225*** (−3.60)	0.063
LEV_{it}	0.010 (0.60)	0.017	0.005 (0.40)	0.012	0.009 (0.90)	0.010
$MEMGROW_{it}$	−0.004 (−1.34)	0.003	−0.010** (−2.14)	0.005	−0.006** (−2.28)	0.003
AGE_{it}	0.255e-03 (0.16)	0.002	0.002 (1.31)	0.002	0.001 (1.05)	0.001
$LICENSED_{it}$	0.016 (1.58)	0.010	0.013* (1.82)	0.007	0.011** (1.94)	0.005
Cross-sectional controls	Yes		Yes		Yes	
Firm-year controls	Yes		Yes		Yes	
Adjusted R^2	0.175		0.103		0.199	
SE of regression	0.071		0.068		0.069	
F-statistic	14.495***		8.288***		25.236***	
Prob. (*F*-statistic)	0.000		0.000		0.000	
Observations	636		636		1,272	

Notes: Table VII reports the estimation results on the association between co-operative governance and CSED in both the pre- and post-regulation periods and for the full sample of 212 credit unions in Kenya over the period 2008-2013. All estimations incorporate cross-section fixed and period fixed dummy variables. The values in parentheses are *t*-values. In all estimations, panel-corrected standard errors are calculated and reported alongside *t*-values. All variable definitions are provided in Table I. It is worthwhile to mention that in all estimations, the firm-year controls were highly significant at the 1 percent levels. *,**,***Significant at the 1, 5 and 10 percent levels, respectively

Table VII.
The influence of corporate governance on CSED

between co-operative governance and CSED (coefficient = 0.049, *t*-value = 2.15, $p < 0.05$). This result is in support of *H1* indicating that credit unions voluntarily reporting and adopting best practice co-operative governance practices are more likely to report increased quantity of CSED. This finding is consistent with Chen (2004), Johnson and Greening (1999), Kent and Zunker (2013) and Lys *et al.* (2015). The finding seems to suggest that credit unions in Kenya have adopted credit union governance practices as stipulated by WOCCU and the OECD as a way of attaining and maintaining legitimacy.

According to Models 1 and 2, the significance of the co-operative governance score improves from the pre-regulation period (coefficient = 0.026, *t*-value = 0.69, not significant) to the post-regulation period (coefficient = 0.064, *t*-value = 2.36, $p < 0.05$). This finding seems to be in support of *H2* illustrating that institutional pressures resulting from the regulatory reforms of 2010 in Kenya's credit union sector may have put pressure on credit unions to improve their governance practices. Consequently, this behavior seems to have contributed significantly in terms of improving the volume of CSED. The finding supports the argument of a possible link between institutional hypothesis and organizational legitimacy as posited by Biggart (1991), Carpenter and Feroz (2001) and Dong and Xu (2016).

The findings on the control variables illustrate a significant and positive contribution of credit union size on the volume of CSED across the three estimation models. This adds onto a growing strand of studies that have argued that larger organizations with more resources and lower disclosure costs are likely to engage in higher CSED (Adams *et al.*, 1998; Choi, 1999; Branco and Rodrigues, 2006; Secchi, 2006; Branco and Rodrigues, 2008; Menassa, 2010; Kent and Zunker, 2013). Interestingly, there seems to exist a negative association between ROA and CSED ($p < 0.01$) across the three estimation models which mirrors findings by Neu *et al.* (1998) and Freedman and Jaggi (2004) who suggest that CSED rises when profits decline. In such a case, management may use CSED to deflect attention from poor performance to avert potential agency conflicts. The finding seems to imply that poorly performing credit unions engage in increased CSED.

5.6 Robustness checks

In Table VIII, we report the results of the yearly regressions on co-operative governance and CSED over the period 2008-2013. The results depict that the significance of the co-operative governance variable (*G_SCORE*) seems to be experienced from 2010 (coefficient = 0.134, t-value = 1.99, $p < 0.05$). The significance of *G_SCORE* becomes subdued in 2011 and gradually re-emerges in 2012 (coefficient = 0.082, t-value = 1.85, $p < 0.10$) and then improves in 2013 (coefficient = 0.111, t-value = 2.19, $p < 0.05$). The subdued significance of *G_SCORE* in 2011 may have been due to the "adjustment effect" as credit unions attempted to adjust their governance structures to comply with the new regulations of 2010. In addition, when the new regulator (SASRA) was instituted in 2010, new governance reforms for FOSA credit unions such as the introduction of the "fit and proper test" were introduced. This meant that credit unions had to ensure that all board members filled in the fit and proper test form indicating full disclosures regarding themselves.[8] The findings suggest that around 2011, credit unions seem to have been attempting to conform to the new guidelines, which were not required prior to 2010. To date, SASRA is actively involved in holding governance workshops for credit union managers and those charged with governance to enable them understand the regulations much better. The sign of the control variables seems to be consistent with the previous findings in Section 5.5. All the yearly estimation models, with the exception of 2013, are significant at the 1 percent level.

Table IX shows the results of a robustness test performed to assess whether the positive association between co-operative governance and CSED is influenced by the licensing status of credit unions. This robustness check is informed by the positive influence of licensing status on CSED according to earlier results reported in Table VII. Compared to unlicensed credit unions, results in Table IX illustrate that licensed credit unions in the sample exhibit weak positive association between co-operative governance and CSED (coefficient = 0.050, t-value = 1.77, $p < 0.10$). This illustrates the differential influence of co-operative governance on CSED by credit unions that are formally licensed by SASRA to operate FOSAs as of 2013, and those that were not yet licensed. Although the association between co-operative governance and CSED appears weak, the test provides some limited support of the institutional hypothesis that regulatory forces have some influence on co-operative governance and the extent of CSED.

Finally, Table X presents the results of a robustness test performed to assess whether the positive association between co-operative governance and CSED is size-dependent. The analysis follows earlier findings on a positive influence of credit union size on the extent of CSED. We categorize credit unions into three asset bands according to SASRA's (2013) and Mathuva's (2016) criteria. The three bands represent small credit unions whose asset base is less than KShs. 1 billion (US$ 9.8 million), medium credit unions with asset base between KShs. 1 billion and 4 billion and large credit unions with asset base of at least KShs. 4 billion (US$ 39.2 million). According to the results, small credit unions exhibit a significant and positive association between co-operative governance and CSED (coefficient = 0.058, t-value = 2.01, $p < 0.05$). A similar finding is established for medium-sized credit unions (coefficient = 0.086, t-value = 1.97, $p < 0.05$). Interestingly, large credit unions do not seem to exhibit the significant and positive association between co-operative governance and CSED. Although the finding is inconsistent with previous studies that have consistently established that large organizations tend to engage in higher social and environmental disclosure (Secchi, 2006; Branco and Rodrigues, 2008; Kent and Zunker, 2013), it could be due to the small number of observations utilized ($n = 55$). Nevertheless, the finding does not negate the overall significant and positive association between credit union size and CSED established earlier.

Table VIII. Robustness – yearly regressions on the influence of co-operative governance on CSED

Variable	Dependent variable = Co-operative Social and Environmental Disclosure ($CSED_{it}$) 2008 Coefficient	2009 Coefficient	2010 Coefficient	2011 Coefficient	2012 Coefficient	2013 Coefficient
Intercept	0.011 (0.08)	0.037 (0.33)	0.159 (1.06)	0.094 (0.58)	0.037 (0.24)	0.065 (0.36)
G_SCORE_{it}	−0.036 (−0.49)	−0.048 (−0.70)	0.128* (1.90)	0.022 (0.48)	0.072* (1.65)	0.110** (2.17)
$SIZE_{it}$	0.013*** (3.36)	0.011*** (3.30)	0.008** (2.13)	0.008** (2.10)	0.011*** (2.56)	0.003 (0.69)
ROA_{it}	−0.203** (−2.05)	−0.150 (−1.07)	−0.293 (−1.42)	−0.141 (−0.74)	−0.469*** (−2.74)	−0.136 (−0.63)
LEV_{it}	−0.003 (−0.09)	0.026 (1.13)	−0.002 (−0.06)	0.009 (0.38)	0.006 (0.38)	0.003 (0.14)
$MEMGROW_{it}$	0.048e-03 (−0.03)	0.002 (0.25)	−0.013** (−2.23)	−0.011*** (−2.56)	−0.009** (−2.20)	−0.015 (−1.22)
AGE_{it}	0.197e-03 (0.07)	0.001 (0.64)	−0.001 (−0.64)	0.002 (0.53)	0.003 (1.04)	0.003 (0.84)
$LICENSED_{it}$	na	na	0.016 (1.28)	0.012 (1.03)	0.023* (1.93)	0.005 (0.35)
Adjusted R^2	0.058	0.084	0.122	0.075	0.130	0.031
SE of regression	0.072	0.063	0.077	0.066	0.069	0.071
F-statistic	2.846	3.778	4.667	3.143	4.928	1.854
Prob. (F-statistic)	0.007	0.001	0.000	0.002	0.000	0.069
Observations	212	212	212	212	212	212

Notes: Table VIII reports the yearly estimation results on the association between co-operative governance and CSED for the full sample of 212 credit unions in Kenya in each of the periods 2008-2013. The number of observations in each year is 212. In all estimations, panel-corrected standard errors (not reported) are calculated. *t*-values are in parentheses. All variable definitions are provided in Table I. *,**,***Significant at 1, 5 and 10 percent levels, respectively

Variable	Dependent variable = Co-operative Social and Environmental Disclosure ($CSED_{it}$) Licensed credit unions Coefficient	SE	Unlicensed credit unions Coefficient	SE
Intercept	−0.186** (−1.99)	0.093	0.139* (1.92)	0.072
G_SCORE_{it}	0.050* (1.77)	0.028	0.049 (1.34)	0.036
$SIZE_{it}$	0.009*** (3.15)	0.003	0.008*** (4.48)	0.002
ROA_{it}	−0.397*** (−2.63)	0.151	−0.167** (−2.37)	0.070
LEV_{it}	0.007 (0.29)	0.023	0.010 (0.97)	0.011
$MEMGROW_{it}$	−0.003 (−0.40)	0.008	−0.006** (−2.01)	0.003
AGE_{it}	0.007*** (4.05)	0.002	−0.001 (−0.90)	0.002
Cross-sectional controls	Yes		Yes	
Firm-year controls	Yes		Yes	
Adjusted R^2	0.119		0.159	
SE of regression	0.066		0.071	
F-statistic	6.942		14.034	
Prob. (F-statistic)	0.000		0.000	
Observations	443		829	

Notes: Table IX reports the estimation results on the association between co-operative governance and CSED for both licensed and unlicensed credit unions over the period 2008-2013. In all estimations, panel-corrected standard errors (not reported) are calculated. t-values are in parentheses. All variable definitions are provided in Table I. *,**,***Significant at 1, 5 and 10 percent levels, respectively

Table IX. Robustness – effect of licensing status on the influence of co-operative governance and CSED

Asset band	Dependent variable = Co-operative Social and Environmental Disclosure ($CSED_{it}$) Small credit unions ⩽Kshs. 1 billion		Medium credit unions Between Kshs. 1 and 4 billion		Large credit unions ⩾Kshs. 4 billion	
Variable	Coefficient	SE	Coefficient	SE	Coefficient	SE
Intercept	0.012 (0.18)	0.069	0.331* (1.64)	0.204	−1.996*** (−4.44)	0.450
G_SCORE_{it}	0.058** (2.01)	0.028	0.086** (1.97)	0.044	−0.114 (−0.73)	0.157
$SIZE_{it}$	0.007*** (3.68)	0.002	−0.002 (−0.28)	0.008	0.077*** (4.95)	0.015
ROA_{it}	−0.179*** (−2.61)	0.068	−0.444*** (−3.09)	0.144	−0.818 (−1.37)	0.598
LEV_{it}	0.013 (1.31)	0.010	0.011 (0.25)	0.045	−0.130 (−0.68)	0.190
$MEMGROW_{it}$	−0.007** (−2.34)	0.003	0.013 (0.67)	0.019	0.020 (0.38)	0.053
AGE_{it}	0.002 (1.58)	0.001	−0.001 (−0.46)	0.003	0.014* (1.83)	0.008
$LICENSED_{it}$	0.011* (1.86)	0.006	0.015 (1.04)	0.015	−0.097 (−1.56)	0.062
Cross-sectional controls	Yes		Yes		Yes	
Firm-year controls	Yes		Yes		Yes	
Adjusted R^2	0.173		0.128		0.297	
SE of regression	0.069		0.070		0.068	
F-statistic	16.762		3.651		2.752	
Prob. (F-statistic)	0.000		0.000		0.007	
Observations	982		235		55	

Notes: Table X reports the estimation results on the association between co-operative governance and CSED under three asset bands depicting small, medium and large credit unions over the period 2008-2013. In all estimations, panel-corrected standard errors (not reported) are calculated. t-values are in parentheses. All variable definitions are provided in Table I. *,**,***Significant at 1, 5 and 10 percent levels, respectively

Table X. Robustness – effect of credit union size on the influence of co-operative governance and CSED

6. Conclusion

In this study, we utilize legitimacy theory to test the association between co-operative governance and CSED practices by credit unions in Kenya. Few studies have examined the contribution of a composite governance score on CSED. Further, the role of regulatory forces on the association between co-operative governance and CSED remains largely under-researched. This study attempts to address these gaps by developing a co-operative governance index based on WOCCU and OECD guidelines, and utilizes this index to examine its association with CSED practices. Further, the study examines whether the significance of the association between co-operative governance and CSED improved following the credit union regulations of 2010 in Kenya.

Consistent with prior studies such as Johnson and Greening (1999) and Kent and Zunker (2013), the findings depict that credit unions voluntarily adopting and reporting best practice co-operative governance practices are more likely to report increased quantity of CSED. Further, the results illustrate that institutional pressures resulting from regulatory reforms of 2010 in Kenya's credit union sector seem to have put pressure on credit unions to improve their governance practices. This behavior seems to have contributed significantly in terms of the volume of CSED practices. The finding supports the existence of a possible nexus between institutional theory and organizational legitimacy. This implies that credit unions adopting co-operative governance practices (as a way of legitimizing the co-operative organization) seem to experience higher CSED after the implementation of credit union regulations of 2010, which present an institutional force.

Finally, the results exhibit a positive contribution of credit union size on the volume of CSED and a negative contribution of credit union financial performance on the volume of CSED. This finding points to a possible utilization of CSED to deflect attention from poor performance to avert possible agency conflicts. The findings imply that given the governance challenges faced by credit unions in Kenya, the adoption of best practice co-operative governance practices would assist in achieving higher levels of social and environmental accountability. Secondly, the findings are useful to credit union regulators in terms of informing the enforcement of compliance with best co-operative governance practices.

This study suffered from a number of limitations. First, the CSED index was self-constructed and may contain subjective aspects. Secondly, binary coding, with its limitations, was adopted in coding the CSED index. Third, the study is based on credit unions in one developing country and care should be taken when generalizing the results. Finally, data on CSED and co-operative governance were largely obtained from audited annual reports of credit unions in the sample. Future research could examine other avenues of CSED and governance disclosures such as the use of the internet, credit union newsletters and other publications. In this study, the focus was placed on larger credit unions that control a significant proportion of the sector's assets, deposits and membership. Future research could study CSED practices in other types of co-operative organizations that do not necessarily mobilize deposits or offer loans.

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Notes

1. Credit unions (also referred to as savings and credit co-operatives) are a form of member-owned co-operatives that accept deposits and issue loans to members. Some specific examples of credit union governance and social reporting aspects can be found in WOCCU's (2007) *Operating Principles Manual*. In Kenya, credit unions are commonly referred to as savings and credit co-operative societies (SACCOs). Elsewhere, they are referred to as financial co-operatives, Co-operativa de Ahorro y Crédito, Banque Populaire or Co-opérative d'Epargne et de Crédit.
2. In this study, we attempt to distinguish "corporate governance" from "co-operative governance" owing to the unique governance characteristics inherent in credit unions.
3. According to data obtained by the corresponding author from the Ministry in charge of co-operatives in Kenya, there were 6,738 registered credit unions in Kenya as of 2013. The total number of co-operatives in Kenya as of 2013 was 13,890.
4. Membership in front-office service activity (FOSA) credit unions is diversified in that they can draw members from a certain region, organization, social group as well as the general public. In Kenya, FOSA credit unions operate like commercial banks and are regulated by SASRA.
5. We acknowledge the suggestion by one of the anonymous reviewers that we utilize a composite governance score to measure the quality of governance in a credit union setting. To do this, we adopt the governance score approach utilized by Kent and Zunker (2013), with modifications to suit credit union setting.
6. The Kenyan credit union regulations stipulate that credit union boards shall comprise of elected non-executive directors on an annual basis, ensure that the management maintains proper and accurate records and avail them to the annual meeting on a timely basis, establish an adequate and effective system of internal controls, establish appropriate policies, meet no more than 12 times in a year, have an audit and credit committee, attend board meetings regularly and comply with a code of conduct (Government of Kenya, 2010).
7. According to WOCCU (2014), the average loans per credit union in Kenya (US$ 863,684) is higher than Tanzania (US$ 98,039) and Uganda (US$ 62,095).
8. A sample fit and proper test form and other licensing requirements for FOSA credit unions can be found at: www.sasra.go.ke/index.php/resources/licensing-forms#.V1mxPLt97IU
9. Ushirika day (ushirika is a Swahili word for "co-operation") is a forum organized for credit unions in Kenya to meet and discuss issues affecting them. During this forum, winning credit unions receive awards under various categories such as best managed credit union, credit union with the highest mobilization of savings, most innovative credit union, and champion of governance among other categories.

References

Abraham, S., Marston, C. and Jones, E. (2015), "Disclosure by Indian companies following corporate governance reform", *Journal of Applied Accounting Research*, Vol. 16 No. 1, pp. 114-137.

Adams, C.A., Hill, W. and Roberts, C.B. (1998), "Corporate social reporting practices in Western Europe: legitimating corporate behavior", *British Accounting Review*, Vol. 30 No. 1, pp. 1-21.

Barako, D.G. and Brown, A.M. (2008), "Corporate social reporting and board representation: evidence from the Kenyan banking sector", *Journal of Management and Governance*, Vol. 12 No. 4, pp. 309-324.

Biggart, N.W. (1991), "Explaining Asian economic organization: toward a Weberian institutional perspective", *Theory and Society*, Vol. 20 No. 2, pp. 199-232.

Borgström, M. (2013), "Effective co-operative governance: A practitioner's perspective", *Journal of Co-operative Organization and Management*, Vol. 1 No. 1, pp. 49-50.

Brammer, S. and Pavelin, S. (2004), "Building a good reputation", *European Management Journal*, Vol. 22 No. 6, pp. 704-713.

Branco, M.C. and Rodrigues, L.L. (2006), "Communication of corporate social responsibility by Portuguese banks: a legitimacy theory perspective", *Corporate Communications: An International Journal*, Vol. 11 No. 3, pp. 232-248.

Branco, M.C. and Rodrigues, L.L. (2008), "Social responsibility disclosure: a study of proxies for the public visibility of Portuguese banks", *The British Accounting Review*, Vol. 40 No. 2, pp. 161-181.

Brennan, N. (2001), "Reporting intellectual capital in annual reports: evidence from Ireland", *Accounting, Auditing & Accountability Journal*, Vol. 14 No. 4, pp. 423-436.

Brown, N. and Deegan, C.M. (1998), "The public disclosure of environmental performance information – a dual test of media agenda setting theory and legitimacy theory", *Accounting and Business Research*, Vol. 19 No. 1, pp. 21-41.

Carpenter, V.L. and Feroz, E.H. (2001), "Institutional theory and accounting rule choice: an analysis of four US state governments' decisions to adopt GAAP", *Accounting, Organizations and Society*, Vol. 26 Nos 7-8, pp. 565-596.

Chaves, R., Soler, F. and Sajardo, A. (2008), "Co-operative governance: the case of Spanish credit co-operatives", *Journal of Co-operative Studies*, Vol. 41 No. 2, pp. 30-37.

Chen, H.J. (2004), "The relationship between corporate governance and risk – taking behavior in Taiwanese banking industry", *Journal of Risk Management*, Vol. 5 No. 3, pp. 363-391.

Choi, J. (1999), "An investigation of the initial voluntary environment disclosure make in Korean semi-annual financial reports", *Pacific Accounting Review*, Vol. 11 No. 1, pp. 73-102.

Clarkson, P.M., Ferguson, C. and Hall, J. (2003), "Auditor conservatism and voluntary disclosure: evidence from the year 2000 systems issue", *Accounting and Finance*, Vol. 43 No. 1, pp. 21-40.

Cochran, P.L. and Wood, R.A. (1984), "Corporate social responsibility and financial performance", *The Academy of Management Journal*, Vol. 27 No. 1, pp. 42-56.

Collett, P. and Hrasky, S. (2005), "Voluntary disclosure of corporate governance practices by listed Australian companies", *Corporate Governance: an International Review*, Vol. 13 No. 2, pp. 188-196.

Day, R. and Woodward, T. (2009), "CSR reporting and the UK financial services sector", *Journal of Applied Accounting Research*, Vol. 10 No. 3, pp. 159-175.

Deegan, C. (2002), "Introduction: the legitimizing effect of social and environmental disclosures – a theoretical foundation", *Accounting, Auditing & Accountability Journal*, Vol. 15 No. 3, pp. 282-311.

Deegan, C. and Blomquist, C. (2006), "Stakeholder influence on corporate reporting: an exploration of the interaction between WWF-Australia and the Australian minerals industry", *Accounting, Organizations and Society*, Vol. 31 Nos 4-5, pp. 343-372.

Deegan, C., Rankin, M. and Tobin, J. (2002), "An examination of the corporate social and environmental disclosures BHP from 1983-1997: a test of legitimacy theory", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp. 312-343.

Deegan, C., Rankin, M. and Vought, P. (2000), "Firms' disclosure reactions to major social incidents: Australian evidence", *Accounting Forum*, Vol. 24 No. 1, pp. 101-130.

Dong, S. and Xu, L. (2016), "The impact of explicit CSR regulation: evidence from China's mining firms", *Journal of Applied Accounting Research*, Vol. 17 No. 2, pp. 237-258.

ElKelish, W.W. and Hassan, M.K. (2015), "Corporate governance disclosure and share price accuracy", *Journal of Applied Accounting Research*, Vol. 16 No. 2, pp. 265-286.

Farooq, S.U., Ullah, S. and Kimani, D. (2015), "The relationship between corporate governance and corporate social responsibility (CSR) disclosure: evidence from the USA", *Abasyn Journal of Social Sciences*, Vol. 8 No. 2, pp. 197-212.

Freedman, M. and Jaggi, B. (2004), "Carbon dioxide emissions and disclosures by electric utilities", *Advances in Public Interest Accounting*, Vol. 10 No. 1, pp. 105-129.

Gaurwitsch, S. and Nilsson, J. (2010), "Members' readership of annual reports – a cross-national comparison of supply co-operatives", *Journal of Co-operative Studies*, Vol. 43 No. 1, pp. 5-13.

Ghazali, N.A.M. (2007), "Ownership structure and corporate social responsibility disclosure: some Malaysian evidence", *Corporate Governance*, Vol. 7 No. 3, pp. 251-266.

Gompers, P.A., Ishii, J.L. and Metrick, A. (2003), "Corporate governance and equity prices", *Quarterly Journal of Economics*, Vol. 118 No. 1, pp. 107-155.

Government of Kenya (2010), "Sacco society regulations", available at: www.sasra.go.ke/index.php/regulation/regulatory-framework#.VHbNyYuUcrI (accessed April 2, 2013).

Gray, R., Owen, D. and Adams, C. (2009), "Some theories for social accounting?: a review essay and a tentative pedagogic categorisation of theorisations around social accounting", in Jaggi, B. and Martin, F. (Eds), *Advances in Environmental Accounting & Management*, Emerald Group Publishing Limited, Bingley, pp. 1-54.

Gray, R., Javad, M., Power, D.M. and Sinclair, C.D. (2001), "Social and environmental disclosure and corporate characteristics: a research note and extension", *Journal of Business Finance & Accounting*, Vol. 28 Nos 3-4, pp. 327-356.

Greening, D. and Turban, D. (2000), "Corporate social performance as a competitive advantage in attracting a quality workforce", *Business and Society*, Vol. 39 No. 3, pp. 254-280.

Guidara, A., Khlif, H. and Souissi, H. (2015), "Corporate social and environmental disclosure and corporate performance: evidence from South Africa and Morocco", *Journal of Accounting in Emerging Economies*, Vol. 5 No. 1, pp. 51-69.

Haniffa, R. (2002), "Social Reporting disclosure: an Islamic perspective", *Indonesian Management & Accounting Research*, Vol. 1 No. 2, pp. 128-146.

Haniffa, R.M. and Cooke, T.E. (2005), "The impact of culture and governance on corporate social reporting", *Journal of Accounting and Public Policy*, Vol. 24 No. 5, pp. 391-430.

Hess, D. (2007), "Social Reporting and new governance regulation: the prospects of achieving corporate accountability through transparency", *Business Ethics Quarterly*, Vol. 17 No. 3, pp. 453-476.

Hicks, E., Maddocks, J., Robb, A. and Webb, T. (2007), "Co-operative accountability and identity: an examination of reporting practices of nova scotia co-operatives", *Journal of Co-Operative Studies*, Vol. 40 No. 2, pp. 4-16.

Hyndman, N., McKillop, D., Ferguson, C. and Tony, W. (2004), "The financial accountability of Irish credit unions: an initial empirical study", *Financial Accountability and Management*, Vol. 20 No. 3, pp. 253-279.

Ibrahim, A.H. and Hanefah, M.M. (2014), "Board diversity and corporates social and responsibility in Jordan", *3rd International Conference on Management, Economics and Finance (ICMEF) Proceeding*, *Kuala Terengganu*.

Imungi, J.K. (2016), "Synergy between the co-operative sector and academia in promoting research and innovation to enhance industrial and socio-economic development in East Africa", *First East African Co-operative Conference*, *Nairobi*, *March 1*.

Islam, M.A. and Deegan, C. (2010), "Media pressures and corporate disclosure of social responsibility performance: a case study of two global clothing and sports retail companies", *Accounting and Business Research*, Vol. 40 No. 2, pp. 131-148.

Izzo, M.F. (2014), "Bringing theory to practice: how to extract value from corporate social responsibility", *Journal of Global Responsibility*, Vol. 5 No. 1, pp. 22-44.

Jo, H. and Harjoto, M.A. (2011), "Corporate governance and firm value: the impact of corporate social responsibility", *Journal of Business Ethics*, Vol. 103 No. 3, pp. 351-383.

Johnson, R. and Greening, D. (1999), "The effects of corporate governance and institutional ownership types on corporate social performance", *Academy of Management Journal*, Vol. 42 No. 5, pp. 564-576.

Kent, P. and Zunker, T. (2013), "Attaining legitimacy by employee information in annual reports", *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 7, pp. 1072-1106.

Khan, A., Muttakin, M.B. and Siddiqui, J. (2013), "Corporate governance and corporate social responsibility disclosures: evidence from an emerging economy", *Journal of Business Ethics*, Vol. 114 No. 2, pp. 207-223.

Lindblom, C.K. (1994), "The implications of organizational legitimacy for corporate social performance and disclosure", *Critical Perspectives on Accounting Conference. University of St Andrews, New York, NY*.

Lys, T., Naughton, J.P. and Wang, C. (2015), "Signaling through corporate accountability reporting", *Journal of Accounting and Economics*, Vol. 60 No. 1, pp. 56-72.

McGrath, D. (2008), *Social Accounting in the Credit Union Sector: GRI Readiness*, Charles Sturt University, Melbourne.

McGrath, D. (2010), *An Exploratory Study of Inhibitors to CSR Reporting in the Credit Union Sector*, Charles Sturt University, Melbourne.

Maali, B., Casson, P. and Napier, C. (2006), "Social reporting by Islamic banks", *Abacus*, Vol. 42 No. 2, pp. 266-289.

Magness, V. (2006), "Strategic posture, financial performance and environmental disclosure: an empirical test of legitimacy theory", *Accounting, Auditing and Accountability Journal*, Vol. 19 No. 4, pp. 540-563.

Mathuva, D. (2016), "Revenue diversification and financial performance of savings and credit co-operatives in Kenya", *Journal of Co-operative Organization and Management*, Vol. 4 No. 1, pp. 1-12.

Mathuva, D.M. and Kiweu, J.M. (2016), "Cooperative social and environmental disclosure and financial performance of savings and credit cooperatives in Kenya", *Advances in Accounting, Incorporating Advances in International Accounting*, Vol. 35 No. 1, pp. 197-206.

Menassa, E. (2010), "Corporate social responsibility: an exploratory study of the quality and extent of social disclosures by Lebanese commercial banks", *Journal of Applied Accounting Research*, Vol. 11 No. 1, pp. 4-23.

Mook, L., Quarter, J. and Richmond, B.J. (2007), *What Counts: Social Accounting for Nonprofits and Co-operatives*, 2nd ed., Sigel Press, London.

Neu, D., Warsame, H. and Pedwell, K. (1998), "Managing public impressions: environmental disclosures in annual reports", *Accounting, Organizations and Society*, Vol. 23 No. 3, pp. 265-282.

O'Donovan, G. (2002), "Environmental disclosures in the annual report: extending the applicability and predictive power of legitimacy theory", *Accounting, Auditing & Accountability Journal*, Vol. 15 No. 3, pp. 344-371.

O'Sullivan, M., Percy, M. and Stewart, J. (2008), "Australian evidence on corporate governance attributes and their association with forward-looking information in the annual report", *Journal of Management and Governance*, Vol. 12 No. 1, pp. 5-35.

Okewo, E. (2013), *Teachers Clash With Sacco officials Over Low Dividends*, Business Daily, Nairobi.

Olando, C.O., Jagongo, A. and Mbewa, M.O. (2013), "The contribution of SACCO financial stewardship to growth of SACCOs in Kenya", *International Journal of Humanities and Social Science*, Vol. 3 No. 17, pp. 112-137.

Omran, M. and Abdelrazik, M. (2013), "The association between corporate governance and corporate disclosure: a critical review", *Journal of Public Administration and Governance*, Vol. 3 No. 3, pp. 94-107.

Omran, M.A. and Ramdhony, D. (2015), "Theoretical perspectives on corporate social responsibility disclosure: a critical review", *International Journal of Accounting and Financial Reporting*, Vol. 5 No. 2, pp. 38-55.

Patten, D.M. (1991), "Exposure, legitimacy, and social disclosure", *Journal of Accounting & Public Policy*, Vol. 10 No. 4, pp. 297-308.

Patten, D.M. (1992), "Intra-industry environmental disclosures in response to the Alaskan oil spill: a note on legitimacy theory", *Accounting, Organizations and Society*, Vol. 17 No. 5, pp. 471-475.

Ryder, N. (2003), "The financial services authority and credit unions – a new era in regulation?", *Journal of Financial Regulation and Compliance*, Vol. 11 No. 3, pp. 241-249.

SACCO Societies Regulatory Authority (SASRA) (2013), *SACCO Supervision Annual Report, (Deposit-taking SACCOs)*, SASRA, Nairobi.

SACCO Societies Regulatory Authority (SASRA) (2014), *SACCO Supervision Annual Report, (Deposit-taking SACCOs)*, SASRA, Nairobi.

Secchi, D. (2006), "The Italian experience in social reporting: an empirical analysis", *Corporate Social Responsibility and Environmental Management*, Vol. 13 No. 3, pp. 135-149.

Sun, N., Salama, A., Hussainey, K. and Habbash, M. (2010), "Corporate environmental disclosure, corporate governance and earnings management", *Managerial Auditing Journal*, Vol. 25 No. 7, pp. 679-700.

Woodward, D., Edwards, P. and Birkin, F. (2001), "Some evidence on executives' views of corporate social responsibility", *British Accounting Review*, Vol. 33 No. 3, pp. 357-397.

World Council of Credit Unions (WOCCU) (2005), *Credit Union Governance*, World Council of Credit Unions, Madison, WI.

World Council of Credit Unions (WOCCU) (2007), *Operating Principles*, World Council of Credit Unions, Madison, WI.

World Council of Credit Unions (WOCCU) (2014), *2014 Statistical Report*, World Council of Credit Unions, Madison, WI.

World Economic Forum (2014), *Global Competitiveness Report 2014-2015*, World Economic Forum, Geneva.

Appendix. Items in the CSED disclosure index

Social disclosure category/item

Community involvement and other social activities (four items):

(1) Nature of charitable and social responsibility activities sponsored.

(2) Amount spent on charitable and social activities.

(3) Contribution to and participation in Ushirika day[9].

(4) Source of funds utilized to sponsor charitable and social responsibility activities.

Environmental conservation (5 items):

(1) Nature of environmental conservation activities the credit union is engaged in.

(2) Amount spent on environmental conservation.

(3) Environmental policies or a statement indicating credit union's concern for the environment.

(4) Conservation of natural resources, energy and recycling activities in the business.

(5) Provision of green loans to support businesses.

Member welfare (5 items):

(1) Number of members in the last two or more years.

(2) Information on member education or training.

(3) Amount spent on member education or training.

(4) Information relating to recruitment of members.

(5) Provision for disabled, aged, and difficult-to-reach customers.

Products and services (5 items):

(1) Marketing of the credit union's products and services.

(2) Products and services offered by the credit union.

(3) Information on the quality and terms of the products and services.

(4) How the credit union handles customer matters e.g. complaints and feedback.

(5) Lending and investment policies.

Human resources welfare (9 items):

(1) Number of employees for the last two or more years.

(2) Brief employee profiles.

(3) Indication of employee morale, e.g. trips, turnover, strikes.

(4) Information on employee education and/or training.

(5) Amount spent on employee education and/or training.

(6) Employee salaries, allowances and benefits.

(7) Employee health and safety.

(8) Policies or information on employment of minorities or women.

(9) Industrial relations.

Total number of items: 28.

About the authors

Dr David M. Mathuva, PhD, is currently a Lecturer and an Academic Director (MSc in Development Finance) at the Strathmore University Business School where he teaches Accounting and Finance. Previously, Dr Mathuva worked at KPMG Kenya in the Risk Consulting Department, Forensic Services. He is a Member of Institute of Certified Public Accountants of Kenya. Dr Mathuva holds a Postgraduate Certificate in Academic Practice from the York St John University, UK. He has presented papers at national and international accounting and finance conferences and has published several articles in peer-reviewed journals. His research interests are business reporting and audit including forensic audits and investigations. Dr David M. Mathuva is the corresponding author and can be contacted at: dmathuva@gmail.com

Dr Josephat K. Mboya, PhD, is a Senior Lecturer at the Strathmore University School of Management and Commerce where he teaches Finance and selected courses in accounting. Dr Mboya has authored articles including one in *Managerial Finance Journal*. Dr Mboya presented academic papers in a number of international conferences, seminars and workshops and has Co-chaired the 6th African Accounting and Finance Conference. His research interests include, among others, corporate governance, financial institutions and markets and financial management.

Dr James B. McFie, PhD, is currently a Director at the Strathmore School of Accountancy. Dr McFie teaches Accounting at the Strathmore University. He is a Fellow of the Institute of Certified Public Accountants of Kenya (FCPA-K) and has served as the Chief Judge in a number of Financial Reporting Excellence Awards (FiRe) in Kenya. Dr McFie has also served as a Board Member in a number of business entities. He has presented seminars at conferences organized by the World Bank, the International Organization of Securities Commissions (IOSCO), the East Central and Southern Federation of Accountants (ECSAFA) in Johannesburg, the Kenya Capital markets Authority, among others. Dr McFie's research interests are in financial reporting and business competitiveness.

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2. Saibal Ghosh, Jugnu Ansari. 2018. Board characteristics and financial performance: Evidence from Indian cooperative banks. *Journal of Co-operative Organization and Management* **6**:2, 86-93. [Crossref]
3. MathuvaDavid Mutua, David Mutua Mathuva, ChongH. Gin, H. Gin Chong. 2018. Impact of regulatory reforms on compliance with mandatory disclosures by savings and credit co-operatives in Kenya. *Journal of Financial Regulation and Compliance* **26**:2, 246-270. [Abstract] [Full Text] [PDF]
4. MathuvaDavid Mutua, David Mutua Mathuva. 2018. An empirical analysis of the characteristics of savings and credit cooperatives participating in the reporting excellence awards in Kenya. *Journal of Accounting in Emerging Economies* **8**:2, 223-243. [Abstract] [Full Text] [PDF]