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Co-operative governance by the numbers:
Exploratory analysis of the Cooperative Business Study

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Abstract

Increasingly, co-operatives are being pushed by legislation and best practices to adopt governance measures originally intended for investor-owned firms (IOFs). These include requirements for independent directors, and for directors with requisite expertise (often financial acumen). Theory and anecdotal evidence suggest, however, that adopting such measures could adversely affect co-ops and credit unions. The effects of director independence and requisite expertise have not been empirically substantiated, and before claims can be made, co-operative governance needs to be further examined. This paper provides an exploratory analysis of the *Cooperative Business Study* (one of the few data sets available on co-operative governance) to determine the relationships between a board's composition and its output. Output measures based on the political-economy model of governance, are regressed on the degree to which directors are independent, how involved the CEO and the board are in director selection, and the use of external advisors – as well as on several control variables including membership and board sizes, as well as co-op type, meetings per year, and the number of female directors on a board.

Findings indicate significant negative relationships between CEO involvement in director selection and board output. Use of external advisors by the board is not associated with improved performance, suggesting that directors may have to be selected based on their skills and expertise.

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Pushed by legislative demands and commonly prescribed best-practices, co-ops and credit unions are increasingly adopting corporate governance measures originally intended for investor-owned firms (IOFs). These include requirements for independent directors, and for directors with requisite expertise (often financial acumen). This trend assumes that organizational form does not matter – governance measures for IOFs should work equally well for co-operatives (Ernst & Young, 2012; Pertou, 2013). However, given the differences between IOFs and co-ops, transferring measures from one organizational form to another may diminish organizational performance.

Essentially, governance is what “determines who has power, who makes decisions, how others make their voice heard and how account is rendered,” (Institute on Governance, 2015). It is “who gets to decide what,” (Fulton et al., 2015, p. 3). Different governance requirements are associated with different organizational forms. These forms result in organizational outcomes that benefit different sets of stakeholders.

In contrast to an IOF, a co-operative is owned and controlled by its members – those individuals who use its services (United States Department of Agriculture, 1994). For primary co-ops, benefits from ownership (including profits) are distributed amongst members, in amounts proportionate to their patronage. The more a member uses the co-operative, the greater benefit she receives. IOFs, on the other hand, are owned and controlled by shareholders who receive benefit based on how much they have invested, and not their patronage.

Legislation and best practices originally intended for IOFs may push co-ops and credit unions away from the co-operative model. Theory and anecdotal evidence suggest such measures could do more harm than good. For instance, independent directors may diminish a co-operative’s performance because they are outsiders who are unfamiliar with the organization’s activities (Lorsch et al., 2009; Reiser, 2007). Also, several co-operatives in Canada and the United Kingdom have experienced strife within their membership after their boards tightened restrictions on who could run for a directorship (Farrell, 2015; Pablo, 2012; Silcoff & Strauss, 2015). The effects of IOF governance measures on co-ops have not been empirically substantiated, however, and before any claims can be made, co-operative governance needs to be further examined.

To gain some understanding of whether director independence or requisite expertise affect board output, this paper provides an exploratory analysis of the *Co-operative Business Study* (CBS). The CBS offers unique insight into the functioning of co-operative boards, and their relationship with management and members. Because of its applicability to co-operatives, the political-economy model of governance serves as the theoretical underpinnings of the analysis. Alongside the examination of the CBS, is a discussion of the IOF governance measures co-operatives are adopting.

The paper is broken down into the following sections: sections one and two describe director independence and requisite expertise, respectively; section three describes the political-economy model developed by Fulton et al. (2015); section four describes the CBS; section five details the regression model, including variables and hypotheses; section six discusses the results; and section seven provides a summary discussion.

1. Independent directors

Conventional wisdom holds that independent (or outside) directors make better, more impartial decisions, because they have no relationship with the corporation or its management (Business Roundtable, 2012). The most common qualification for independence is that directors are not employed by the organizations they serve (Reiser, 2007). More extensive definitions bar a widening circle of relationships, prohibiting family members and corporate affiliates from having financial ties to a firm (Brennan, 2013).

Regardless of the definition, the intent of independence is to sever the link between directors and management. Subsequently, an independent director should be more likely to challenge managerial decisions and behaviours. This severance, however, only ensures “formal” independence (Marnet, 2008) – the observable quality of not being financially tied to an organization (i.e., not being an employee). It does not guarantee “functional” independence, whereby directors act as professional referees, or monitors, who are skeptical and objective, and offer constructive criticism (Fama, 1980; Fama & Jensen, 1983; Marnet, 2005).

Functional independence is hard to observe or require. By contrast, formal independence is easier to measure and legislate, though its effects on firm performance are mixed. According to Hermalin and Weisbach (2003), there is little evidence independence routinely leads to improved performance. In fact, formal independence may even adversely affect a firm (Bhagat & Black, 2001).

Various reasons have been given for the questionable relationship between director independence and financial performance. For example, ‘independent’ directors might be formally, but not functionally, independent. Individuals may be appointed to boards because they are overly sympathetic to management (Cohen, Frazzini, & Malloy, 2012). Despite meeting the regulatory definition of independence, these directors act as “cheerleaders” who support, rather than challenge, management. Without effective monitoring by the board, firms with “cheerleaders” more frequently engage in questionable business practices, such as earnings management.

It may also be that independent directors do not have the firm-specific knowledge necessary to properly evaluate and ratify long-term strategies (Klein, 1998; Lorsch, Bower, Rose, & Srinivasan, 2009). Whether independent directors are effective may depend on firm complexity, and the cost of acquiring information. According to Duchin et al. (2010), independent directors hinder firm performance when information costs are high, but improve performance when costs are low.

Positive effects from director independence have been observed, however. For instance, boards dominated by outside directors are more likely to remove CEOs for poor performance than insider-dominated boards (i.e., board where more than 60 percent of directors are managers of the firm) (Weisbach, 1988). Byrd and Hickman (1992) found that boards with over 50 percent outside directors improved shareholder value, specifically when a firm is making a tender offer.

Additionally, markets and investors place significant importance on director independence. The sudden death of an independent director is associated with a sharper drop in share prices, compared to the death of an inside director (Nguyen & Nielsen, 2010). Investors also view the appointment of an independent director less favourably when the CEO is involved in director selection (Shivdasani & Yermack, 1999). It is assumed that, given the chance, CEOs will nominate individuals who are less likely to monitor management, thereby diminishing firm performance.

2. Requisite expertise

Corporate governance best practices, legislation, and empirical research all point to the importance of board members having the requisite expertise to properly oversee a firm (Business Roundtable, 2012; United States Congress, 2002). For example, the Sarbanes-Oxley Act requires companies disclose whether they have a financial expert on their audit committee, and if not, explain why (United States Congress, 2002). Dass et al. (2013) find that directors who are knowledgeable in industries upstream or downstream to the company they oversee, can improve the firm's financial performance and help handle industry shocks. Directors who are more familiar with company operations and industrial conditions, are also more likely to be involved in the formation and implementation of strategy (Zahra & Pearce, 1990).

To ensure directors have the relevant experience, co-operative boards may have to take an active role in director selection. Processes that privilege specific expertise have become increasingly prevalent as co-ops become larger and more complex. For example, the boards of Mountain Equipment Co-op (MEC), the Co-operative Group, and Vancity endorse nominees that meet certain qualifications, including financial acumen, specific expertise (e.g., IT, human resources, marketing, etc.), or experience in senior positions in similar firms. Such practices help address board deficiencies, and ensure directors have the skills necessary to monitor management, and offer sound strategic advice (Office of the Superintendent of Financial Institutions, 2013).

However, endorsing specific candidates can lead to controversy, if members believe that their interests are not represented, or that co-operative democratic principles are being ignored (Allaire, 2008; Silcoff & Strauss, 2015). MEC, the Co-operative Group, and Vancity have all been criticized for tightening restrictions on who could run for the board, and rejecting several candidates due to their lack of financial expertise (Farrell, 2015; Pablo, 2012; Silcoff & Strauss, 2015). For the Co-operative Group, these rejections were so contentious, that members threatened to halt board elections though legal injunction (Treanor, 2015).

3. The political-economy model of governance

3.1 Agency theory and the political-economy model of governance

Most corporate governance measures, including director independence and requisite expertise, are based on a simple principle-agent model consisting of owners and managers (Eisenhardt, 1989; Fulton et al., 2015). Agency theory assumes individuals are opportunistically self-interested, acting only for themselves. Consequently, managers will further their own interests, regardless of whether it is at owners' expense. Corporate governance is seen as a way of curbing managerial opportunism, so that CEOs act in the interests of owners (Shleifer & Vishny, 1997).

The assumption that individuals act only in self-interest, or that governance is strictly a relationship between owners and management may be inappropriate for co-operatives. According to Spear (2004), agency theory overlooks the importance of the trust and reciprocity that characterize co-ops. Cornforth (2004) states that profitability, the main goal of investor-owners, is not the primary driver of member-owners. Instead, members have a variety of goals that are not captured by agency theory. For Borgen (2004), co-op members should be treated as owner-users, and not owner-investors, which is how agency theory characterizes shareholders. Owner-users act collectively, and are more inclined to consensus building compared to investors.

As an expansion of agency theory, the political-economy model does not specify an ownership structure. It also relaxes the assumption of self-interest. Consequently, it may be a better fit for examining co-operative governance.

3.2 The political-economy model

Organizations lower the costs of exchanging information, goods, and services; and mitigating the cognitive shortcomings suffered by individuals (Coase, 1937; Loasby, 2001; Simon, 1991). Organizations allow people to collectively “accomplish the magnificent” (Davis, 2006, p. 484) – achieving what they could not do alone. Despite this, organizations are still subject to numerous constraints. Three of the most pressing are:

1. The need for co-operation and coordination due to strategic interdependencies;
2. The need to draw the “right” inference about what to do in the future; and
3. The impact and legitimation of authority (Fairbairn, Fulton, & Pohler, 2015).

According to the political-economy model of governance, how an organization deals with these issues determines its success and longevity (Fulton et al., 2015).

Organizations are reliant on co-operation and coordination to operate effectively (Fulton et al., 2015). Strategic interdependencies arise when at least two people come together to form an organization; there is an interconnectedness whereby outcomes experienced by one person are contingent on the actions of others. Within co-ops, these interdependencies exist between various stakeholders, especially between members, management, and the board.

Traditionally, the board has two roles, as monitor and advisor (Larcker & Tayan, 2015). The advisory role relies on information supplied by management; the better the information provided, the better the board’s advice. Although management wants this advice, it does not want to be heavily monitored. Excessive monitoring can happen if too much information is given. By providing information, management improves the board’s ability to oversee its actions (Adams & Ferreira, 2007). Therefore, the board must balance its monitoring function with its need to acquire information, otherwise management may be less forthcoming about its activities. Furthermore, to facilitate this exchange of information, there must be a degree of trust between the board and management (Holmstrom, 2004; Sonnenfeld, 2002).

Information gained from management, and advice given from the board, help shape an organization’s strategic vision – its inferences about the future. Governance structures influence this vision further, determining who is listened to (e.g., the board, certain committees, the CEO, senior management, etc.), what information is to attend to, and how that information is shared (Fulton et al., 2015). Success hinges on the accuracy of an organization’s vision, and how quickly it can adapt to changing circumstances (Fairbairn et al., 2015).

Alongside managing strategic interdependencies, or making inferences about the future, an organization must establish the legitimacy of those with authority, especially management and the board. Authority is contingent on its acceptance the individuals under its subjugation (Barnard, 1938). To be accepted, those in power must be viewed as legitimate (Fulton et al., 2015). With legitimacy comes the ability to induce compliance, encourage participation, and maintain organizational stability (Lamb, 2014). Illegitimacy, on the other hand, causes disobedience, opposition, and instability.

Per the political-economy model, by establishing “who gets to decide what,” governance affects an organization’s use of co-operation and coordination in an organization, its inferences about the future, and the legitimation of authority. Individuals in power establish an organization’s

view of the world by determining what information is attended to. They also shape the strategic interactions within an organization, influencing the rules that dictate how co-operation and coordination are used.

By specifying the characteristics directors should possess, requirements for independence and requisite expertise shape an organization's leadership. In turn, these leaders shape the organization itself. Data from the CBS allow for an examination of how independence and requisite expertise relate to a subset of the issues described by the political-economy model – specifically managing strategic interdependencies, and making “correct” inferences about the future.

4. The Cooperative Business Study

The Cooperative Business Study was conducted by researchers at the University of Wisconsin Centre for Cooperatives (UWCC), with the intent of understanding cooperative governance and management (Hueth & Reynolds, 2014). Participating co-ops and credit unions were selected through a series of stratified random samples, pulled from UWCC's national census of co-operatives. 485 co-ops were surveyed, with questions covering specific governance practices, as well as background information on the CEO, and the firm itself. Missing data and incomplete responses shrank the sample used for analysis to 360 different organizations.

5. Regression Model and Data

5.1 The model

Analyses in this paper deal with board output (i.e., what a board does), examining the relationships between various board activities and director independence and requisite expertise. The basic regression model is:

$$DV_{1-4} = \alpha + \beta_5\% \text{ of outside directors} + \beta_6\text{CEO influence} + \beta_7\% \text{ of long-serving directors} + \beta_8\text{Board influence} + \beta_9\text{Use of external advisors} + \beta_{10-15}\text{Control variables} + \varepsilon$$

The dependent variables are related to the first two governance issues described by the political-economy model: strategic interdependencies and view of the future. Variables are detailed below, and descriptive statistics are summarized in Table One.

5.2 Dependent variables

As discussed, the political-economy model entails three governance issues that boards must deal with to achieve organizational success (Fairbairn et al., 2015):

1. Properly managing strategic interdependencies (SI);
2. Developing the “right” view of the future (VF); and
3. Establishing and maintaining legitimacy.

Board behaviours that act as proxies for the first two issues have been selected. These dependent variables are.

1. SI: *Control over discretionary spending* (0 = low, 1 = high)
2. SI: *Member feedback and participation in governance* (0 = low, 1 = high)
3. VF: *Board involvement in strategic planning* (0 = low, 1 = high)
4. VF: *Board involvement in budgetary planning* (0 = low, 1 = high)

Probit regressions are conducted, with the marginal effects at the mean reported. The same independent and control variables are used in all four regressions. Each issue and its related variables are described in the following subsections.

5.2.1 *Managing strategic interdependencies*

For a co-operative to manage strategic interdependencies, all of its stakeholders must know their roles, and understand what is necessary for mutual success (Fairbairn et al., 2015). The dependent variable, *control over discretionary spending* measures board involvement in reviewing and approving changes to the budget by the CEO. This provides an indication of the relationship between the board and management. *Low* indicates that the board has little, or no, control over discretionary spending (or the board routinely agrees with CEO wishes). *High* indicates that the board limits CEO discretion to make budgetary changes.

Greater control can provide the board with more in depth information about firm performance, as CEOs must justify any spending changes. Better information means better monitoring (Lipton & Lorsch, 1992). Increased scrutiny also helps establish the board's seniority over the CEO (Porter, Lorsch, & Nohria, 2004), and reduce CEO misspending. However, increased monitoring is not always beneficial. It can damage a CEO's trust in the board, and diminish the amount of information the CEO is willing to share (Holmstrom, 2004).

The degree to which a co-op *encourages member feedback and participation in governance* (the second dependent variable) is a proxy measure of how well strategic interactions between the board and members are managed. *Low* indicates the co-operative does little to foster member engagement in governance, aside from common practices such as sending out a newsletter or publishing contact information for the CEO and board. *High* indicates that the co-op actively encourages member involvement, and dedicates substantial resources to the effort.

Organizational success depends, in part, on ensuring stakeholders have a sense of ownership in the organization (Fairbairn et al., 2015). Fostering participation in governance helps give members a sense of agency and control over their co-op. The ability to provide feedback is also antecedent to building trust between the co-operative and its membership (Whitener, Brodt, Korsgaard, & Werner, 1998). Trust, alongside control, determines the levels of confidence in strategic interactions (Das & Teng, 1998).

5.2.2 *Developing the "right" view of the future*

According to Fairbairn et al. (2015), organizations exist "to deal with uncertain environments" (p. 3). To effectively deal with uncertainty, a co-operative must have the "right" view of the future. Governance determine which views guide an organization. Alongside its monitoring function, a board is supposed to assess and approve strategies developed by management – i.e., to ultimately sign-off on a company's view of the future (Lorsch et al., 2009). The assumption is that directors have the appropriate experience and knowledge to act as effective overseers. For a board to bring its expertise to bear, however, it must participate in planning.

The degree of board participation in *strategic planning*, and *budgetary planning and oversight* (the third and fourth dependent variables), are proxies for how involved the board is in developing the "right" view of the future. Boards with *low* levels of involvement in *strategic planning* either give management free reign in setting strategy, or work collaboratively with them. Boards with *high* levels of involvement ultimately decide which strategies are implemented. For *budgetary planning*, *low* levels mean the board is either completely uninvolved in budgeting, or does not

oppose CEO recommendations. *High* involvement means the board is involved in the preparation of the budget, may reject CEO recommendations, and actively monitors financials.

5. 3 *Independent Variables*

This paper is concerned with the relationship between what co-operative boards do (i.e., their output), and the IOF governance measure of director independence and requisite expertise. Overall, it is expected that less independent directors, or directors lacking requisite expertise, will be associated with decreased board output.

5. 3.1 *Director independence*

As mentioned, the most common requirement for independence is that directors are not employed by the organizations they oversee (Reiser, 2007) – that they are not “insiders.” Therefore, the easiest way to determine independence is to see how many board members are not employed by the firm. The CBS does not provide information about director employment, however. Instead it offers data on the *percentage of outside directors* on the board, *CEO influence on director selection*, and the *percentage of long-serving directors* still holding seats – all alternative indicators of board independence.

5.3.1.a *Percentage of outside directors*

Commonly, co-ops require board members to be members. However, membership can involve a significant capital contribution to the co-op, or an ongoing use of the co-op’s services. The highest capital commitment required amongst the co-operatives surveyed in the CBS was \$35,000. Intuitively, such a commitment may interfere with directors’ ability to make impartial, objective decisions, because they still have a strong financial connection to the firm. For actual independence, it may be that directors should be neither employees nor members.

The CBS provides no data on the number of directors who are employees of their co-operative. It does, however, provide data on the number of directors who are not co-op members, but still have voting rights. The percentage of non-member directors (referred to herein as outside directors) on the board, is used as a proxy for the level of board independence.

Outside directors have been criticized for being ineffective, because they lack the relevant experience and firm-specific knowledge needed to properly oversee management – especially in complex firms where information costs are high (Bhagat & Black, 2001; Duchin et al., 2010; Lorsch et al., 2009). For co-operatives, Hueth and Marcoul (2015) suggest that because they are owners with economic interests in the co-op, member-directors have increased incentive to monitor management. Without membership, outside directors may be too disconnected from their co-operative to be effective.

Whether the *percentage of outside directors* (i.e., non-member directors with voting rights) on a board is associated with better, or worse, performance is unclear. Research findings are mixed. In some studies, independent directors have little to no effect on overall firm performance (Bhagat & Black, 2001; Hermalin & Weisbach, 2003). In others, independence has either a positive effect (Cotter, Shivdasani, & Zenner, 1997; Petra, 2005), or its effect depends on specific factors, such as how powerful independent directors are (Fogel, 2014), or whether information about the firm is readily available (Duchin et al., 2010). Given these conflicting findings, it is hypothesized that outside directors will have no effect on board performance.

- H_{01} : Outside directors are not associated with changes in board output.

5.3.1.b CEO influence on director selection

The ability to resist CEOs' influence is fundamental to the concept of director independence; if directors are coopted or unjustifiably swayed by management, they cannot effectively represent members. If CEOs can influence director selection, they can populate the board with directors who are formally independent (i.e., meet the mandated requirements such as not being employees, or having no material interest in the firm), but still overly sympathetic to management.

According to Cohen et al. (2012), the appointment of "cheerleaders" (i.e., directors supportive of management) diminishes the performance of IOFs. Coles et al. found that cooption reduced a board's monitoring effectiveness. Coopted directors (i.e., those with allegiance to the CEO because she was influential in their appointment) give a CEO greater latitude, more managerial discretion, and higher compensation.

Overall, the degree of *CEO influence on director selection* can adversely affect what a board does, if it results in directors who unduly favour management. *Low* levels of CEO involvement mean the CEO is not involved in the selection of potential directors. *High* involvement means the CEO plays an active role in suggesting and screening nominees.

- H_02 : High levels of CEO influence on director selection is not associated with decreased board output.

5.3.1.c Percentage of long-serving directors

According to Vafeas (2003), the presence of directors with twenty or more years-of-service on a board is a sign of CEO entrenchment. Entrenchment occurs when CEOs "gain so much power that they are able to use the firm to further their own interests rather than the interests of shareholders," (Weisbach, 1988, p. 435). Long-serving directors have been shown to be less effective at reviewing strategy, because they are out of touch with changes in industry, technology, and regulations (Hymowitz & Green, 2013). Term limits have been suggested to maintain board effectiveness. For example, Lipton and Lorsch (1992) favour limiting director tenure to no more than 12 years.

Term limits are contentious, however. They may interfere with board cohesion, as long-serving directors are forced out. Term limits may also inhibit director acquisition of firm- and industry-specific knowledge, or limit organizational memory (Katz & McIntosh, 2014).

The variable, *percentage of long-serving directors*, is the percentage of the board that has served for twenty or more years.

- H_03 : The percentage of long-serving directors is not associated with board output.

5.3.2 Requisite expertise

5.3.2.a Board influence on director selection

The CBS does not provide information about the experience, expertise, or education of board members. It does include a measure of *board influence on director selection*. *Low* involvement indicates the board has little influence on the nomination process. *High* involvement means the board exercises significant influence on the nomination and selection of directors. The level of board influence does not indicate whether the candidate is chosen because of requisite expertise, a personal connection to the board, an amenable personality, etc. However, it is assumed that a candidate is desired because the board believes she will improve performance in some way.

- H_04 : High board influence on director selection is not associated with board output.

5.3.2.b Use of external advisors

An alternative to selecting directors with requisite expertise is engaging outside experts to consult on matters outside of directors' skills or experience. *Use of external advisors* may correct board deficiencies by giving directors access to other expertise, contributing to the overall quality of information available to the board (Van den Berghe & Levrau, 2004). Co-operatives should ensure external advisors are familiar with co-operative values and principles, however (Galor, 2008). Participants in the CBS were asked if the board used third party advisors.

- H_05 : Engaging external advisors is not associated with improved board output.

5.4 Control variables

In general, the control variables are based on those used in Adams and Ferreira (2009), Coles et al. (2014), Fich and Shivdasani (2007), and Hwang and Kim (2009). They are *co-op type*, *membership size*, *number of directors*, *the percentage of female directors on the board*, *board meetings per year*, and *CEO tenure*.

5.4.1 Co-op type

The CBS classifies co-operatives as consumer, producer, or purchasing; this last type gives members increased purchasing power through economies of scale, stronger market presence, the ownership of processing facilities, etc. (United States Department of Agriculture, 2012). For this paper, however, purchasing and consumer categories have been merged. Both types similarly combine individual demand, and provide members with better availability, selection, or pricing for particular goods and services (University of Wisconsin Center for Cooperatives, 2015). The merge allows for a dichotomous comparison; co-ops surveyed are either consumer or producer.

This dichotomy captures contrasting interpretations of member benefit. A properly-functioning consumer co-op sells to its members at the lowest price possible while still being economically viable. Conversely, a properly-functioning producer co-op purchases products from members at the highest price that is economically viable. The rationale and behaviours of each co-operative type are distinct, yet both are possible because co-operatives are less motivated by profit-maximization than IOFs.

Co-op type is a dummy variable indicating whether a co-operative is either a consumer or producer co-operative.

5.4.2 Membership size

The size of a co-operative's membership (*total number of members*) is used as a proxy for the degree of company complexity; larger co-ops with more members are considered more complex. On one hand, more complex companies are harder to govern (Lorsch et al., 2009). Therefore, higher degrees of complexity may negatively impact board performance, especially if directors are unfamiliar with the co-operative, its members, or the sectors in which it operates.

On other hand, larger co-operatives may also be able to pull from a bigger, more diverse pool of member-candidates, increasing their chances of finding highly qualified directors.

5.4.3 Number of directors

Common sentiment is that as boards become larger, their performance suffers. At what point this decline happens differs between authors. For example, Yermack (1996) states that firm values steadily decline after a board exceeds seven members. Lipton and Lorsch (1992) suggest that

performance decreases once a board is larger than ten. Regardless of exact threshold size, the decline results from increasingly inefficient, and ineffective, decision-making (Lipton & Lorsch, 1992). Larger boards are also easier for a CEO control (Jensen, 2010). Overall, the expectation is that, the more directors on board, the lower its output.

5.4.4 The percentage of female directors on the board

Evidence suggests that female directors have a positive impact on board- and firm-performance. Carter et al. (2003) found increased firm value for companies with higher proportions of female directors. Greater board diversity is associated with more effective problem solving, increased creativity and innovation, and better corporate leadership. Moreover, female directors tend to use cooperation, collaboration, and consensus building more frequently and effectively than male directors (Bart & McQueen, 2013).

Common practices hold that at least three women must be on a board to improve performance (Government of Canada, 2016; Konrad, Kramer, & Erkut, 2008). Conversely, Zaichkowsky (2014) asserts that even a single female director leads to better governance. Female directors do not automatically improve a firm, however. According to Adams and Ferriera (2009), greater gender diversity positively impacts firms with weak governance, but negatively impacts those whose governance is strong. Overall, though, it is expected that higher percentages of female directors should be associated with increased board output.

5.4.5 Board meetings per year

Lipton and Lorsch (1992) promote more frequent board meetings, at least bimonthly, to improve a board's monitoring capabilities. As the complexity of a company increases, so does the time required to gather information and oversee management. There comes a point, however, when demands are too great, and directors are unable to adequately meet time commitments (Lorsch et al., 2009). Furthermore, increased board activity may indicate previously poor firm performance. Vafeas (1999) found that boards meet more frequently following share price declines. Consequently, more meetings may be associated with increased involvement in budgetary and strategic planning, as well as improvements in other areas of board activity, as firms try to improve performance.

5.4.6 CEO tenure

The length of CEO tenure has been associated with decreased levels of director independence. Hwang and Kim (2009) find that long-serving CEOs are more likely to have strong social ties with directors, including the same alma mater, area of study, or industry of primary employment. Moreover, CEOs select directors based on these ties. Stronger social connections between management and the board result in more forgiving assessments of CEO behaviour.

According to Barker and Gompers (2003), CEOs who have held their positions longer are better able to control board composition, providing them with greater bargaining power as they fill boards with directors sympathetic to their interests. *CEO tenure* is the length of service for the current CEO.

6. Results

Overall, results show strong support for increasing the independence of boards – specifically, for minimizing CEO influence on director selection. High levels of CEO involvement were associated

with decreased board control of managerial discretionary spending, and lower levels of board involvement in strategic and budgetary planning. The percentage of outside directors, a proxy for formal independence, was negatively associated with board control over discretionary spending.

Board influence on director selection increased the likelihood of the board exerting high control over discretionary spending. The use of external advisors was unrelated to any of the dependent variables. Interesting relationships also emerged between some of the dependent and control variables.

Table Two presents the marginal effects for board control of discretionary spending, member participation in governance, and board involvement in strategic and budgetary planning. Each of the null hypotheses are addressed below.

6.1 Null hypotheses

6.1.1 H_01

The null hypothesis, H_01 , can be rejected. The percentage of outside directors is significantly related to decreased *control of discretionary spending*. The more directors on a board who are not members of the co-op, the less likely the board exerts a high level of control over managerial discretionary spending. This gives credence to the Hueth and Marcoul (2015) prediction that economic ownership (i.e., membership in the co-operative) can motivate directors to better monitor management. Research on IOF board structures also points to equity ownership for directors as a way of promoting enhanced monitoring (Cosenza, 2007; Linn & Park, 2005).

The link between the presence of non-member directors and decreased board output is weak, however. Doubling the average percentage of outside directors on the board (from two percent to four), only decreases the likelihood that high control will be used by approximately 1.6 percent. Moreover, non-member directors are rare; most boards had none. Of the 478 co-operatives that provided data on director membership, 88.7 percent ($n = 424$) reported having no non-member directors on the board.

6.1.2 H_02

The null hypothesis, H_02 , can be rejected. High levels of *CEO influence on director selection* significantly decrease the likelihood that the board exerts high levels of *control over discretionary spending*, or exhibit high levels of *involvement in strategic management* and *budgetary planning*. This fits with findings from Hwang and Kim (2009) and Cohen et al. (2012) – that if a CEO can fill a board with directors overly sympathetic or attached to management, board performance declines. If CEOs are involved in selection, the directors chosen are less likely to actively monitor management (Shivdasani & Yermack, 1999).

According to Hermalin and Weisbach (1998), CEOs acquire greater power over director selection the longer they hold their positions. However, further analysis of the CBS indicates no difference between new (four or less years as CEO) or longstanding chief executives (over four years as CEO) in terms of how much influence they exert on director selection. In either case, less than twenty percent of the CEOs surveyed were considered influential; 15.6 percent of new CEOs, and 16.6 percent of longstanding CEOs exerted high degrees of influence on director selection.

6.1.3 H_03

The null hypothesis, H_03 , cannot be rejected; there appears to be no significant relationship between the *percentage of long-serving directors* and board performance.

6.1.4 H_04

The null hypothesis, H_04 , can be rejected. High levels of *board influence on director selection* are associated with an increased likelihood that the board exerts a high degree of *control over discretionary spending*; i.e., board influence on director selection increases board output. This gives some credence to recommendations that nomination committees actively recruit potential directors based on specific criteria, instead of allowing anyone to run for the board (Ernst & Young, 2012; Myners, 2014; Silcoff & Strauss, 2015). Research on IOF governance also emphasizes the need to select directors who possess the appropriate skills to effectively oversee management – especially financial acumen (Defond, Hann, & Hu, 2005; Fich, 2005).

6.1.5 H_05

The null hypothesis, H_05 , cannot be rejected; there is no significant relationship between a board's engaging external advisors and different levels of board output. This suggests that boards may have to be involved in recruiting and selecting potential directors to ensure they have the skills necessary to effectively oversee management.

6.1.7 Control variables

Other noteworthy relationships are present, including associations between board performance and *co-op type*, *membership size*, *the number of directors on the board*, and *board meetings per year*. Relative to consumer co-ops, the boards of *producer co-operatives* are significantly less likely to be highly involved in *strategic and budgetary planning*. Further research is required to determine what accounts for these differences.

Contrary to expectations, the percentage of female directors was not related to any of the board output measures. This may be because most co-operatives have less than three female directors ($n = 288$). Therefore, eighty percent of the co-ops and credit unions analyzed do not have the “critical mass” of female directors often believed necessary to positively affect performance.

Analyses were rerun adding a dummy variable for whether a board had three or more women on the board (i.e., whether a board had the “critical mass” of female directors), as well as an interaction term between the percentage of female directors and the new “critical mass” variable. Only one significant relationship emerged; boards with three or more female directors were less likely to be highly involved with budgetary planning. This result contradicts previous findings that gender-diverse boards allocate more effort to monitoring (Adams & Ferreira, 2009). Further investigation is required to explain this result.

7. Discussion

This paper examines the relationship between IOF governance measures and the actions of co-operative boards. Theoretical and anecdotal evidence suggest that director independence and requisite expertise may harm co-operatives. Exploratory analyses of the CBS suggest a negative relationship between a board's percentage of “outside” directors and its output – although this relationship is weak. Moreover, recruiting board candidates based on requisite expertise may be essential, because the use of external advisors does not seem to make boards perform differently.

It is important to note that the exploratory nature of this paper, the data used, and issues of endogeneity preclude making causal statements about board characteristics (e.g., the use of external advisors, or the percentage of long-serving directors), and board output. However, CEO

influence on director selection merits further mention. Regardless of the reason, diminished participation in strategic and budgetary planning means the board may not be providing the advice and oversight necessary to shape a consistent, long-term view of the future. Boards are supposed to ensure co-operatives' long-term success, looking beyond the short-term perspectives often held by management (Lorsch et al., 2009). Failing to develop the “right” view can lead to organizational collapse (Fairbairn et al., 2015).

Given the strong negative association between CEO influence on board selection and board involvement in strategic and budgetary planning, co-ops should minimize CEO participation in director selection. This would align co-operative governance practices with the research on functional independence (Cohen et al., 2012; Hwang & Kim, 2009; Marnet, 2005).

Overall, this paper advances the literature on co-operative governance and suggests several avenues for future research, including: what the casual connections between CEO influence on director selection and board performance are; why the boards of producer and consumer co-ops perform so differently; and why boards are less like to be heavily involved with budgetary planning if they have more than three female directors.

Table 1: Descriptive Statistics

Variable	% of High Level	Mean	St. Dev.	Median	Min	Max
<i>Dependent variables</i>						
Control over discretionary spending ¹	46.3	–	–	–	–	–
Encourages member participation in governance ²	38.9	–	–	–	–	–
Strategic planning ³	29.2	–	–	–	–	–
Budgetary planning ⁴	25.6	–	–	–	–	–
<i>Independent variables</i>						
% outside directors ⁵	–	2.1	7.8	0	0	100
CEO influence ⁶	16.3	–	–	–	–	–
% long-serving directors ⁷	–	15.5	19.8	11	0	100
<i>Requisite expertise</i>						
Board influence ⁸	31.7	–	–	–	–	–
Use of external advisors (% yes) ⁹	62.5	–	–	–	–	–
<i>Control variables</i>						
Co-op type (% that are producer co-ops) ¹⁰	56.9	–	–	–	–	–
Membership size ¹¹	–	13,290	13,2751	2,500,000	3	2,500,000
# of directors ¹²	–	9	4	8	3	42
% female directors ¹³	–	14.3	23.2	0	0	100
Board meetings/year ¹⁴	–	11	4	12	1	25
CEO tenure ¹⁵	–	11.3	8.8	10	0	42

1. Degree of board control over CEO discretionary spending (0 = low, 1 = high)
2. Co-operative's level of encouragement for members to participate in governance (0 = low 1 = high)
3. Degree of board involvement in strategic planning (0 = low, 1 = high)
4. Degree of board involvement in budgetary planning and oversight (0 = low, 1 high)
5. Percentage of non-member directors with voting privileges on the board
6. CEO's level of influence on director selection (0 = low, 1 = high)
7. Percentage of directors with 20-plus-years on the board
8. Board's level of influence on director selection (0 = low, 1 = high)
9. Board use of external advisors (0 = no, 1 = yes)
10. Co-op type (0 = Consumer, 1 = Producer)
11. Total number numbers
12. Number of directors on the board
13. Percentage of female directors on the board
14. Number of board meetings per year
15. Length of the current CEO's tenure

Table Two: Probit Marginal Effects (PME)¹ and OLS Regression

	<i>Dependent Variables</i>			
	Board control over discretionary spending	Member encouragement to participate in governance	Board involvement in strategic planning	Board involvement in budgetary planning
	1. (PME)	2. (PME)	3. (PME)	4. (PME)
% outside directors	-0.008* (0.004)	-0.002 (0.003)	0.002 (0.003)	-0.0009 (0.003)
CEO influence	-0.162* (0.072)	-0.0467 (0.078)	-0.131* (0.061)	-0.142** (0.054)
% long-serving directors	0.0002 (0.001)	-0.002 (0.002)	-0.002+ (0.001)	0.0001 (0.001)
Board influence	0.129* (0.061)	-0.078 (0.059)	-0.003 (0.056)	-0.030 (0.053)
External advisors (yes)	-0.096 (0.060)	0.033 (0.060)	0.040 (0.052)	-0.032 (0.053)
Co-op type (producer)	-0.092 (0.075)	-0.122+ (0.071)	-0.149* (0.069)	-0.148* (0.066)
Membership size (ln)	0.008 (0.017)	-0.022 (0.017)	-0.007 (0.015)	-0.019 (0.014)
# of directors	0.007 (0.007)	0.0391*** (0.010)	0.004 (0.006)	0.016* (0.008)
% female directors	0.0003 (0.0015)	0.002 (0.001)	-0.001 (0.001)	-0.0001 (0.001)
Board meetings/year	0.010 (0.007)	0.018 (0.008)	-0.006 (0.007)	0.005 (0.006)
CEO tenure	-0.002 (0.003)	-0.001 (0.003)	0.003 (0.003)	0.005* (0.003)
Observations	360	360	360	360
Adjusted R ²	–	–	–	–

Robust standard errors reported in ()

1. Probit Marginal Effects are reported at the means

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