

# **Management control systems and governance from its institutional context**

Dr Adam G. Arian\*<sup>a</sup>, Professor John Sands<sup>b</sup>

<sup>a</sup> *Department of Business, Education, Law, and Arts, University of Southern Queensland,  
Darling Heights QLD 4350, Australia,*

<sup>b</sup> *Department of Business, Education, Law, and Arts, University of Southern Queensland,  
Darling Heights QLD 4350, Australia,*

**\*Corresponding author:** Dr Adam G. Arian, Department of Business, Education, Law, and Arts, University of Southern Queensland, Darling Heights QLD 4350, Australia, Adam.gholami@usq.edu.au, Phone +61 7 3211 4188

# Management control systems and governance from its institutional context

## **Abstract**

This study aims to evaluate the institutional role of intangible mechanisms such as organisational values, beliefs, norms and common practices and their interaction with management control systems (MCSs) in improving corporate governance. We use the belief systems lever from Simon's levers of controls framework and more informal mechanisms to evaluate the impact of organisational initiatives on governance in response to the increasing concerns from key stakeholders. Our longitudinal study draws on data reported between 2007 and 2021 and collected from a sample of multinational listed firms across 55 countries using the triangulated approach. Based on the stakeholder approach inspired by the Global Reporting Initiative (GRI), our study recommends an innovative social management control systems (SMCS) model that supports the positive impact of promoting internal intangible control mechanisms to strengthen governance performance. Therefore, it supports the argument that other institutional elements of MCSs, beyond the traditional monitoring mechanisms, are also crucial to achieving organisational goals. Our study provides evidence of how organisations seek to achieve their objectives by creating a trusted relationship with different stakeholder groups that promote behaviour aligned with those objectives.

*Keywords:* Management control systems, Levers of control, Corporate governance

## 1. Introduction

The bursting of the financial system's bubble during the great financial crisis (GFC) between 2007-2008, financial scandals (such as the Dexia-2011, 1MDB-2015 or Wirecard-2019), substantial concerns about climate change and the recent global pandemic (COVID-19) all exacerbate the interest in the corporate governance structure, performance, and its relation to its institutional context. Corporations increasingly face volatile, uncertain, and complex environments that highlight the importance of institutional setting and its relation to corporate governance.

The concerns around the importance of management control systems (MCSs) in improving corporate governance performance (CGP) have attracted considerable attention from scholars (Durden, 2008; Gond et al., 2012; Merchant & Van der Stede, 2007; Norris & O'Dwyer, 2004; O'Dwyer & Unerman, 2016). Despite the extant studies on individual areas of CGP and MCSs, limited studies have evaluated the institutional role of intangible mechanisms such as organisational values, beliefs, norms and common practices and their interaction with MCSs in improving corporate governance (Gond et al., 2012; Henri & Journeault, 2010; Hosoda & Suzuki, 2015; Laguir et al., 2019). MCSs and governance structures are contingent on several external and internal elements, including corporate culture, values and related strategies (Anthony & Young, 1988; Bruggeman & Van der Stede, 1993). Additionally, increasing awareness and sensitivity to social issues is aggravating the situation, and the expectations of different stakeholder groups are pressuring firms to perform better for society (Dobele et al., 2014; Eweje & Sakaki, 2015). Management control systems and corporate governance impact decisions making (Eccles et al., 2014) and firm performance and are critical elements of a firm's long-term success and survival (Aguinis & Glavas, 2012; Boesso et al., 2013). The compelling evidence of the importance of corporate governance and MCS and how they matter should come from evaluating the internal activities, policies and what happens inside corporations (Van der Stede, 2011).

Theoretically, the viewpoints differ on why firms choose to incorporate a mechanism to improve their governance performance. The agency theory proposes a conflict between the corporate executive and shareholders' interests (Friedman, 1970). From the agency theory viewpoint, some argue that corporate managers prioritise their own social, political or career agendas at the expense of shareholders (Jensen, 2000; McWilliams & Siegel, 2001). This viewpoint has been challenged by others who argue that a firm is more than a "nexus of contract" and other stakeholders rather than direct shareholders are also important to the firm's operation (Carroll, 1979; Freeman & Reed, 1983; Waddock & Graves, 1997). Therefore, based

on the legitimacy and stakeholder theories, there is a "social contract" between corporation and society which is rooted in the expectations of broad stakeholder groups such as employees, customers, community and society (Chelli et al., 2014; Cho et al., 2015; El Baz et al., 2016; Lanis & Richardson, 2012). This perspective argues that a firm exists beyond its executives, shareholders, or any specific stakeholder. Stakeholder theory is essential for strategy implementation, and any MCSs have to ensure the continuing success and survival of the firm by connecting and adopting to its dynamic environment (Lowe & McInnes, 1971). We base the position of our study on this stream of theories and consider corporate governance a critical component of a corporation's core activities.

MCSs are central to corporate strategy-setting (Langfield-Smith, 1997; Marginson, 2002; Merchant & Van der Stede, 2007; Simons, 2000). Corporate managers employ MCSs as systematic, rules-based, and practice-oriented mechanisms to direct the organisation's cultural behaviour to shape and sustain the implementation of strategies (Malmi & Brown, 2008). MCSs include formal and informal control mechanisms. Formal controls are those established rules and practices to monitor results through feedback or feed-forward circles by performance evaluations, reward mechanisms and budgetary systems (Langfield-Smith, 1997; Norris & O'Dwyer, 2004). Informal controls, in contrast to formal ones, are mechanisms that promote organisational culture through values, traditions, and beliefs focused on member's behaviour (Abernethy & Vagnoni, 2004; Bhimani & Langfield-Smith, 2007; Falkenberg & Herremans, 1995). These social control mechanisms (referred to as social management control systems (SMCS) in this study) are not as visible as formal controls. They motivate employees' ethical behaviour and, as Norris and O'Dwyer (2004) state, are enhanced through clan control. In other words, SMCSs attract cooperation through socialising in the way that personal objectives permanently overlap with organisational objectives (Ouchi, 1979). The SMCSs are congruent with formal control systems, prompting behaviour aligned with values, ethics and common practices in the organisation (Bedford et al., 2016; Flamholtz et al., 1985; Ouchi, 1979).

Studies on the relationship between the institutional context of MCSs and governance are emerging (O'Dwyer & Unerman, 2016). The MCSs are designed traditionally to align organisational and behavioural norms with economic objectives and to help improve financial performance. The traditional systems seem to be unable to consider the interest of a broad range of stakeholders other than direct shareholders and particularly to address the concerns on governance issues and their interrelationships with financial concerns (Bonacchi & Rinaldi, 2007; Burritt & Schaltegger, 2010; Durden, 2008; Norris & O'Dwyer, 2004). On the other hand, corporations are supposed to be the key contributors to socially responsible behaviour.

MCSs can be a robust executive instrument for managers to improve governance and ensure they are institutionally responding to stakeholders' expectations (Gond et al., 2012).

Despite the argument that supports the notion of using MCSs to foster governance in the organisation (Gond et al., 2012), there are limited and sporadic studies on the SMCSs that connect governance as part of a broad management control mechanism (Crutzen et al., 2017; Laguir et al., 2019; Lueg & Radlach, 2016). Additionally, empirical studies on the MCSs and corporate governance have primarily extracted from the in-depth analysis of single case studies (Durden, 2008; Lueg & Radlach, 2016; Norris & O'Dwyer, 2004) or single control mechanisms (Arjaliès & Mundy, 2013) or they only interviewed those who have directly involved with the governance practices of the organisation (Crutzen et al., 2017). For instance, in an in-depth case study on a large UK firm, Norris and O'Dwyer (2004) investigate the impact of formal and informal control mechanisms on socially responsive MCS. Another study by Durden (2008) studies the measurement and monitoring mechanisms of socially responsible MCS in a single but in-depth case study on a small firm in New Zealand. In another case study of Procter & Gamble, Lueg and Radlach (2016) investigate whether MCSs could play a role in establishing sustainable strategies. Based on the data collected through the questionnaire, Arjaliès and Mundy (2013) investigate the relationship between the formal MCSs and social and environmental performance across France's largest listed firms. Lastly, Crutzen et al. (2017) investigate whether large firms have established a package of formal and informal MCSs based on semi-structured interviews with sustainability executives of each firm. As Laguir et al. (2019) stated, qualitative research based on interviews with corporate executives or responses to the questionnaire is limited in finding generalisability as corporate executives may have felt compelled to respond to questions in a way that enhances their respective firm's image.

Our empirical study fills the research gap, highlighting the institutional role of SMCSs in improving CGP in a sample including medium to large multinational firms. We include a large sample of multinational firms in our study, referring to the Van der Stede (2003) argument that the influence of MCSs established at the corporate level by parent companies is much greater than that of local and national culture. This is also consistent with the argument that management accounting and control practices converge across nations, particularly in multinational corporations (Granlund & Lukka, 1998; Shields, 1998). Establishing a social connection through MCSs and their structural networks and interpersonal relationships expose individuals to mutual benefits with corporations (Chenhall et al., 2010). Our study also responds to the call for further studies by Arjaliès and Mundy (2013) and Crutzen et al. (2017); therefore, it tries to answer whether social management control systems (MCSs) help to have

stronger corporate governance performance (CGP). Lastly, our study responds to the call for more quantitative analysis of the critical role of SMCS in strengthening governance performance, therefore providing support and higher generalisability to recent findings in qualitative research in this field (Ghosh et al., 2019; Laguir et al., 2019).

The framework of control levers proposed by Simons (1994) provides the conceptual framework for our study. Notably, we refer to the belief mechanism and investigate how SMCS can help organisations improve their governance performance while allowing other organisational objectives to be met (Heinicke et al., 2016).

We try to answer the research question using a data triangulation approach (Scapens, 2004; Yin, 2014), collecting data on a sample of medium to large multinational firms across 55 countries from 2007 to 2021 from several reliable sources triangulated with the secondary data provider and performing analysis. The period of our study is selected for several reasons. First, the consequential financial turmoil after GFC (between 2007-2008) has increased the focus on corporate behaviour globally (Aguinis & Glavas, 2012; Eberle et al., 2013). Second, several corporate scandals after the GFC (such as the Dexia-2011, 1MDB-2015 or Wirecard-2019) increased the importance of corporate governance structure, transparency, and oversight. Lastly, the recent global pandemic (COVID-19) increased concerns about social behaviour and corporate contribution to society. Hence, within our study period, a considerable amount of focus on corporate governance and the social mechanism of control systems has occurred globally. Therefore, to increase our findings' generalizability, we investigate this study's question across a panel of multinational firms between 2007-2021.

Our study recommends several contributions. First, it addresses the call in the literature for research into the institutional context of MCS and governance mechanisms stemming from shared values, ethics and common practices rather than traditional external and internal monitoring tools or managerial compensation or incentives which tend to relate to MCSs (Arjaliès & Mundy, 2013; Gibbons & Kaplan, 2015). Second, from the stakeholder point of view, our study responds to the call for further studies to address the importance of including stakeholders' expectations on social concerns and mechanisms that must be embedded into corporate governance (Bedford et al., 2016; Crutzen et al., 2017). Third, our study adopts a quantitative approach, addressing the need for more field-based research on MCSs and corporate governance (Durden, 2008; Parker, 2014). Finally, our study provides insight into how organisations can use the institutional context of MCSs to align their performance with the salient stakeholder's expectations, thereby securing ongoing support from society.

Our findings are consistent after performing several robustness tests, including sensitivity and endogeneity tests. We follow previous literature (Armstrong et al., 2014; Gupta, 2018) and use a simultaneous equation model to check our findings' robustness by utilising an alternative measure of SMCS and evaluating its impact on CGP. Our results are consistent after controlling for the potential endogeneity concerns of our primary estimation model. We follow prior literature (Armstrong et al., 2014; Attig et al., 2013; El Ghouli et al., 2011; Li et al., 2018) and use the instrumental variable (IV) approach to re-examine our estimation models. We perform sensitivity tests to address the concerns around the asymmetric nature of governance structure across different industry sectors that may result in spurious correlations. The results support our main argument that SMCS strengthen CGP.

The remainder of this paper includes the following sections. The next section provides the theoretical background, discussing MCSs and their relations to organisational governance. Section 3 introduces the research design, including sample selection and variable construction. Section 4 reports the results, including robustness analysis results. Section 5 presents the conclusion and implications of this paper.

## **2. Theoretical framework and literature**

There has been increasing attention and sensitivity toward organisations' social behaviour, where the demand for corporate response is forced by different stakeholder groups (Dobele et al., 2014; Hosoda, 2018). This also indicates an increasing awareness of the influences of corporate activities and its commitment to responsible behaviours (Pedrini & Ferri, 2019). The stakeholder's expectations are different for each firm, which can also impact their relationship (Crane, 2020). The nature of these relationships depends on corporate activities, policies and procedures. The instrumental perspectives of stakeholder theory focus on these influences and relationships with stakeholders (Donaldson & Preston, 1995; Jones, 1995) and the reasons firms consider stakeholders' expectations in MCSs (Lozano, 2005; Spitzack & Hansen, 2010). The need to link and prioritise stakeholders becomes essential in promoting the establishment of a firm's capability to set strategies and achieve outcomes that are directly or indirectly mapped to the stakeholder's expectations. The instrumental branch of stakeholder theory (Jones, 1995) provides the foundation for theorising that corporate governance can help establish and solidify trusted relationships with different stakeholder groups (employees, consumers, communities and other members of society in general) essential to a firm's success and survival. Tanimoto (2019) argues that corporate social behaviours are essential for management strategies and presenting accountability toward stakeholders. The benefits of

addressing stakeholder demands and managing the relationship are potentially more significant than its costs (Waddock & Graves, 1997). For example, building a good relationship with employees might be costly, but it can improve employees' perception of organisational culture and present a responsible image of the corporation to employees (Chaudhary, 2019). This eventually results in better competitive advantages and higher productivity than other organisations. Additionally, firms listed in the "best firms to work for" report might find it easy to hire high-quality employees, possibly achieving higher productivity at a relatively low cost (Moskowitz, 1972). Recently, strategic management has focused on constructing meaningful strategies concentrating on the importance of core business values with which key employees and other stakeholders can connect. The stakeholder theory differs from other theories as it considers ethical consideration prominently across other organisational priorities (Perrini et al., 2011). From the managerial perspective, these assumptions advocate firms' proactive move to address all stakeholder concerns and expectations, promoting a systematic ability to manage communication, relationships and governance performance. We assume that adopting the stakeholder approach as a lens to frame our study on the relationship between SMCS and CGP is consistent with stakeholder theory, explaining the commitment to responsible behaviours concerning the essential interdependencies between firms and their stakeholders (Barnett, 2007; Post et al., 2002). Therefore, we proposed the following hypothesis:

H1 There is a positive relationship between social management control systems (SMCS) and corporate governance performance (CGP) over time

As Dobele et al. (2014) state, the literature did not provide enough consideration on how firms actually implement and promote socially responsible behaviour through their management strategies. However, the management's guiding principles and communication requirements have been argued (Lindgreen et al., 2009). This has prompted studies to fill the gap and investigate the integration between governance structure and MCSs that address the socially responsible behaviour of organisations. Some studies try to address this by aligning social measures with corporate strategies through the balanced scorecard (BSC), thus recommending a framework to integrate non-financial measures into business operations and evaluations (Kaplan & Norton, 1992). It was argued that the sustainability balanced scorecard (SBSC) could provide a foundation for strategy implementation and management (Butler et al., 2011; Epstein & Wisner, 2001; Figge et al., 2002). Although SBSC has provided alternative measures for evaluating and reporting corporate activities, defining and implementing socially responsible strategies are still complex tasks (Butler et al., 2011). Adding sustainability measures to the BSC perspectives may fail to recommend well-defined connections to other



corporate perspectives and strategic objectives, thus weakening sustainability initiatives and corporate commitment to sustainable practices (Butler et al., 2011; Hansen & Schaltegger, 2016). Other literature has investigated other models to integrate social performance into MCSs. Henri and Journeault (2010) argue that eco-control (integration of environmental matters into MCSs) can help organisations to deliver expected results by stakeholder groups and improve corporate public visibility. Gond et al. (2012) investigate how MCSs can contribute to the integration of sustainability within corporate governance using Simons' levers of control (Simons, 1995). They refer to the diagnostic and interactive uses of MCSs and identify eight corporate functions that show different models of integrating sustainability control systems into MCSs. They highlight technical, organisational and cognitive obstacles to integrating sustainability control systems into MCSs. In a case study by Riccaboni and Leone (2010) on the potential use of MCSs to implement corporate sustainability strategies, MCSs are suggested as effective mechanisms for controlling social and financial issues. They argue that social concerns can be effectively integrated into traditional strategic planning, corporate structure and performance evaluations. The increasing pressure and interest that different stakeholder groups have exerted in corporate social contributions (Ait Sidhoum & Serra, 2017), make it crucial for organisations to pay close attention to governance performance and MCSs as part of risk management and to avoid risks associated with irresponsible corporate behaviours (Sarre et al., 2001).

### *2.1. Management control systems (MCSs)*

The notion of formal and informal control mechanisms has offered a base for management control taxonomies (Ahrens & Chapman, 2004; Chenhall, 2003; Nixon & Burns, 2005; Simons, 1995). The combination of formal and informal control mechanisms provides a base to investigate how MCSs could be set and incorporated to impact organisational objectives (Ahrens & Chapman, 2004; Chenhall & Morris, 1995), such as strong governance performance.

Formal controls are a systematic and rules-based mechanism to ensure that individual performances are executed. Corporate executives use formal controls to impact other organisation members and incorporate organisational strategies (Malmi & Brown, 2008). Formal control mechanisms are rules, performance metrics, compensation and reward criteria and budgetary mechanisms to monitor results by feedback and its feed-forward circles (Langfield-Smith, 1997; Norris & O'Dwyer, 2004).

Simons (1995) defines the formal controls within the levers of control framework that comprises four systems (belief, boundary, diagnostic and interactive) through which organisations implement their business strategies. According to this framework, the belief system is an official set of explicit statements that corporate executives use to communicate the organisation's values, goals, and direction. This system is structured to help foster stability and continuity. It can also help the corporate executive to introduce new priorities or values (Bruining et al., 2004; Simons, 1995). A boundary system is the organisational parameters or minimal standards, indicating risks that should be avoided to achieve the organisation's objectives (Simons, 1995). A diagnostic system is a metric that monitors performance results and recommends corrections and action plans to all employees to meet organisational objectives. These metrics are evaluated against performance measures, financial and non-financial objectives and related data on competitors (Ittner & Larcker, 2003). The interactive systems are official procedures that corporate executives utilise for regular involvement through face-to-face decision-making with other subordinates. These formal procedures help managers better understand potential risks and opportunities while communicating the organisation's strategic priorities to employees (Darroch et al., 2006; Simons, 1995). Informal control mechanisms are systems that promote an organisational cultural environment through common values, beliefs and traditions that guide the behaviours of the organisation's members (Bedford et al., 2016; Falkenberg & Herremans, 1995). According to informal processes, most informal systems are an organisation's free flow of information, flexible, adaptive decision-making, and internal organisational interactions (Simons, 1995). These mechanisms are less visible and thus less likely to be deliberately established to guide the attention of the organisation's members. Indeed, they are regarded as effective as formal systems (Langfield-Smith, 1997; Ouchi, 1979). Formal control mechanisms fit into flexible organisational culture well and are consistent with informal mechanisms when established and incorporated according to the empowering rather than mandatory capabilities (Adler & Borys, 1996; Crutzen et al., 2017). The informal control mechanisms can help to sustain formal control mechanisms. For instance, when the values, beliefs and norms of informal control empower behaviour that strengthens the organisational values or objectives, they are seen as congruent with formal control mechanisms. This systematic congruency motivates managers and other members of organisations to behave according to the organisational values or objectives (Bedford et al., 2016; Falkenberg & Herremans, 1995).

In this study, we refer to the extant literature and consider SMCS to be those control mechanisms that play an important role in strengthening corporate governance, thus

incorporated into the strategic organisational objectives (Adams & McNicholas, 2007; Crutzen et al., 2017; Durden, 2008; Gond et al., 2012). For instance, corporate managers can use belief systems to incorporate a broad set of corporate values and norms according to the employees, customers or other stakeholders' expectations. Corporate managers can also use informal control mechanisms to promote stakeholders' commitment to an organisational culture that is aligned with corporate values by including a governance structure. Bedford et al. (2016) state that formal and informal control mechanisms must work together to achieve corporate objectives. The informal control mechanisms can impact the effectiveness of the formal control mechanisms. Thus, the measurement of the formal elements is not enough by itself. Therefore, both components of the MCS must work together to mobilise managers to promote responsible business behaviour (Crutzen et al., 2017). This corporate congruence between formal and informal control mechanisms requires a clear definition of quantitative measures of SMCS; otherwise, tensions will likely arise between these control mechanisms (Norris & O'Dwyer, 2004). We try to summarise the taxonomy of MCSs that we use in this study and also summarise potential links to our measure of SMCSs and governance structure. The details are presented in appendix A.

### **3. Research design**

This study responds to the recent calls in the literature for a more in-depth insight into the relationship between governance and MCSs, particularly in its institutional context (Crutzen et al., 2017; Laguir et al., 2019). This study helps to understand how governance interacts with relevant MCSs situational elements. As Van der Stede (2011) stated, the compelling evidence of the importance of corporate governance and MCSs and how they matter should come from evaluating the internal activities, policies and what happens inside corporations.

#### *3.1. Empirical models*

This section presents the empirical models to analyse the hypotheses of the study. This study constructs a measure of social management control systems (SMCS) to examine the first hypothesis (H1). Following prior literature (Crutzen et al., 2017; McGuire et al., 2012), this study includes other variables that are assumed to impact the association. This study's first hypothesis proposes a positive relationship between social management control systems (SMCS) and corporate governance performance (CGP). Thus, we estimate the following equation:

$$CGP_{i,t} = \beta_0 + \beta_1 SMCS_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + YearFixedEffect_t + FirmFixedEffect_t + \varepsilon_{it} \quad (1)$$

Some studies recommend that firms prioritise their managerial control mechanism more on the employee, community and consumers or customers (Déniz & Suárez, 2005; Miller et al., 2008) due to the emphasises on the stakeholder's approach and in response to stakeholders' expectations. To better evaluate the extent to which elements of SMCS are sensitive and important to governance performance, we perform additional analysis on the disaggregated elements of SMCS as employee-related practices (EMP), society (SOC), Human rights (HUR) and consumer and product responsibility (CON). Following prior literature (Adib et al., 2021; Tanimoto, 2019), This study categorises the SMCS into four different elements and re-examines the above estimation on the relationship with CGP, thus proposing the below estimations:

$$CGP_{i,t} = \beta_0 + \beta_1 EMP_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + YearFixedEffect_t + FirmFixedEffect_t + \varepsilon_{it} \quad (2)$$

$$CGP_{i,t} = \beta_0 + \beta_1 SOC_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + YearFixedEffect_t + FirmFixedEffect_t + \varepsilon_{it} \quad (3)$$

$$CGP_{i,t} = \beta_0 + \beta_1 HUR_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + YearFixedEffect_t + FirmFixedEffect_t + \varepsilon_{it} \quad (4)$$

$$CGP_{i,t} = \beta_0 + \beta_1 CON_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + YearFixedEffect_t + FirmFixedEffect_t + \varepsilon_{it} \quad (5)$$

### 3.2. Data and sample selection

We respond to our research questions based on the data collected from several sources, such as the company's website and its publicly available statements, such as the annual financial statement or integrated reports, sustainability reports and policy statements triangulated with secondary data providers such as the Bloomberg dataset where available. Our initial sample includes all medium to large multinational listed firms in the equity markets across 55 countries from 2007 to 2021. We also follow prior literature and include other firms' characteristics that are assumed to account for confounding elements that might impact CGP, such as firm size,

financial performance and leverage (Aggarwal et al., 2010). The sample selection bias (Epstein et al., 2014) that can impact the relationship between the variables of our study is significantly reduced due to the inclusion of all medium to large multinational firms in the equity market in our sample.

Table 1 in this study shows the individual sample selection procedure for 2007-2021. The initial sample includes all large multinational listed firms from 2007 to 2021 (23,940 firm-year observations). After excluding the missing data, the result in the final sample was reduced to 17,791 firm-year observations, as presented in table 1.

Table 2 presents the sample composition by the industry specification within ten industrial sectors. According to this table, the top four industries representing 55 per cent of the observations include the industrial sector (2,849 firms, 16 per cent), technology (2,740 firms, 15 per cent), material (2,111 firms, 12 per cent) and consumer cyclical (2,209 firms, 12 per cent).

*[INSERT Table 1 and 2 HERE]*

### *3.3. Construction of variables*

#### *3.3.1. Social management control systems (SMCS)*

Corporate managers employ MCSs as systematic, rules-based, and practice-oriented mechanisms to direct the organisation's cultural behaviour to shape and sustain the implementation of strategies (Malmi & Brown, 2008). We construct the independent variable, SMCS, referring to the levers of control framework recommended by Simons (1994) to examine how organisations establish and manage CGP through MCSs. According to Simons (1994), MCSs include four controls: diagnostic, interactive, boundary and belief control systems. These four levers of control are assumed to complement each other. Different controls play different roles in managing the organisation. While some control mechanisms can become quite mechanical (such as diagnostic controls), the belief system can complement and mitigate potential negative consequences of diagnostic controls (Simons, 1994). Among these four elements, belief systems (which are referred to as social management control systems (SMCSs) in this study) are those in charge of the business's vision, mission and values. They communicate what the organisation is institutionally trying to achieve and how individuals are required to behave to each other, society, consumers, customers, and suppliers. SMCS can be a very powerful mechanism to guide people in the organisation and provide them with a purpose. SMCS is the non-financial measure that encourages and enhances organisational

culture (or climate) through common values, ethics and beliefs that guide the behaviour of group members (Abernethy & Vagnoni, 2004; Bhimani & Langfield-Smith, 2007; Chenhall, 2003; Falkenberg & Herremans, 1995). These SMCSs are less visible but motivate the ethical behaviour of employees and are enhanced through clan control (Norris & O'Dwyer, 2004). This means that SMCSs attract cooperation through socialising in the way that personal objectives permanently overlap with organisational objectives (Ouchi, 1979). The SMCSs are congruent with other control systems that prompt behaviours aligned with values, ethics, and common practices in the organisation (Bedford et al., 2016; Flamholtz et al., 1985; Ouchi, 1979). MCSs can be a solid instrument for managers to enhance governance and ensure that they are institutionally responding to stakeholders' demands (Gond et al., 2012). The majority of multinational firms have their core values displayed internally and externally.

Regarding the classifications above, we construct an SMCS index from the observations compiled in our data with four dimensions. The first category is employee-related practices such as organisational control mechanisms related to the health and safety of employees, staff training, employee financial and non-financial support packages, fair work etc. The second category is society-related controls, including the mechanism related to the organisational contribution to and impact on society in general, such as community spending, anti-corruption and anti-bribery policies, business ethics policies etc. The third category is human rights-related mechanisms such as non-discrimination and policies against child labour. The last category includes consumer and product responsibility, such as consumer data protection and customer health and safety control mechanisms. Our model of constructing SMCS is also based on the stakeholder initiatives (Adib et al., 2021; Tanimoto, 2019), which are expected to help corporate managers to address governance issues, inspired by the first principle of the Global Reporting Initiative (GRI) released as a pilot version in 2007 (GRI, 2002). This principle stipulates that the organisation should consider stakeholders' reasonable interests and expectations and identify a strategy for considering such a viewpoint where it is needed. The GRI encourage firms to establish a mechanism for their organisation's social contribution, which supports our model's logic for constructing SMCS.

We select 24 items and classify them into four dimensions: employee (EMP), society (SOC), human rights (HUR) and consumer and product responsibility (CON). Among 24 items, 3 items are dichotomous such as community spending; the rest of 21 items are continuous and thus assigned a score from 0.1-1.0. The continuous variables are sorted into deciles and are assigned between 0.1 and 1.0 according to their position in the top or bottom decile. Dichotomous variables are assigned the value 1, showing the existence of the mechanism and 0 otherwise.

We follow Ioannou and Serafeim (2012) and El Ghouli and Karoui (2017) and construct our primary independent variable (SMCS) based on the average score of all 24 variables. The inappropriate variables for inclusion in our index or firms with missing data are treated as void instead of 0. Therefore, our SMCS index is less likely to be impacted by industry-related issues or missing observations. The detailed definition of our variables constructing SMCS and its four categories (EMP, SOC, HUR and CON) are summarised in table 3.

*[INSERT Table 3 HERE]*

### *3.3.2. Corporate governance performance (CGP)*

To respond to the study's research question and evaluate the hypotheses of this study, we follow prior literature (McGuire et al., 2012) and capture the governance information from the Standard and Poor's measure of corporate governance. This measure includes several dimensions of corporate governance, including financial transparency, ownership structure, investor rights, and management and executive board structure and procedures. There are several items in evaluating different dimensions of corporate governance. The measure for financial transparency includes thirty-five elements such as accounting practices, degree of disclosure in financial information, related party transactions disclosure and the degree of disclosure of external auditor reports. The ownership structure and investor rights measure includes twenty-eight elements related to the ownership structure, cross-ownership disclosure, transparency of related policies and voting right. The measure of management and executive board structure and related procedures include thirty-eight elements focusing on committee structure, board policies and remuneration transparency. Standard and Poor utilise these dimensions to construct a nine-point scale of corporate governance.

Since larger firms have higher visibility and may encounter higher scrutiny, we follow prior literature (McGuire et al., 2012) and control for firm size (total assets). As SMCSs might be seen as discretionary corporate activity and therefore be sensitive to financial capital and slack (McGuire et al., 1988), we control for firm financial performance (return on assets) and leverage (debt ratio).

## **4. Empirical results**

### *4.1. Descriptive statistics*

Table 4 reports the summary statistics of the variables of interest in our study. To control the impact of outliers, we winsorises the variables at 1% and 99% levels. The mean value of the main independent variable of our study (SMCS) is 2.42, with the 25<sup>th</sup> and 75<sup>th</sup> of 1.61 and

2.64, respectively, showing an appropriate variation in our SMCS measure to evaluate the hypotheses of our study. This is similar to the other independent variables EMP, SOC HUR and CON, showing appropriate variation across variables. We measure and use the natural logarithm of other variables to statistically bring their values into a notionally common scale. The mean of our main dependent variable (CGP) is 1.45, with reasonable variation between 25<sup>th</sup> (1.17) and 75<sup>th</sup> (1.50).

We perform the Pearson correlation coefficient analysis between the variables of our study and present the correlation matrix in Table 5. The results show that SMCS, SIZE, ROA and LEV are positively correlated with CGP measures (0.171, 0.186, 0.013 and 0.067, respectively). Additionally, other variables represent the forecasted correlations with our primary dependent variable. The results support our study's hypotheses and recommend a positive relationship between SMCS and its elements and better governance performance, indicating that social management control systems and related strategies are institutionally strengthening corporate governance performance. Firms with better SMCS can achieve better governance performance. Lastly, Table 5 shows that the correlation between variables is not significant (below the critical value of 1); thus, multicollinearity is not an issue for the estimation models of our study (Cohen et al., 2013; Hair et al., 2006).

*[INSERT Table 4 and 5 HERE]*

#### *4.2. Main regression results*

##### *4.2.1. Social management control system (SMCS) and corporate governance performance (CGP)*

Table 6 shows the results of the panel regression analysis of our main estimation models. Columns (1) to (5) in Table 6 show the results of regression analysis for the firm's governance performance on our proxies for the social management control system (SMCS) and its elements as employee practices (EMP), society (SOC), human right (HUR) and consumer and product responsibility respectively (CON). The coefficient of the SMCS is positive and statistically significant ( $\beta=0.0065$ ,  $p<0.01$ ), indicating that firms with better SMCS achieve higher governance performance, which is consistent with the finding in prior literature (Adib et al., 2021; McGuire et al., 2012).

Across all other control variables, the debt ratio (LEV) shows a positive and statistically significant relationship with governance performance, indicating that firms with a higher debt ratio have higher governance performance due to the risk related to the higher debt consistent



with prior literature (Benlemlih & Girerd-Potin, 2018). Consistent with the finding in prior literature (McGuire et al., 2012), the results show that large firms (SIZE) which encounter greater scrutiny incorporate stronger governance structures, thus achieving higher governance performance. Our results do not recommend a significant relationship between a firm financial performance (ROA) and its governance performance.

To sum up, consistent with our main hypotheses, the results show that firms with stronger social management control systems achieve higher governance performance.

#### 4.2.2. *Disaggregated social management control systems (SMCS)*

Columns (2) to (5) in Table 6 show the results of the panel regression analysis for the disaggregated elements of SMCS on corporate governance performance. The results show a similarly positive and significant relationship between individual elements of our main independent variables as EMP, SOC, HUR, and CON ( $\beta=0.375$ ,  $p<0.01$ ;  $\beta=0.1204$ ,  $p<0.10$ ;  $\beta=0.0476$ ,  $p<0.10$ ;  $\beta=0.0224$ ,  $p<0.10$ ) respectively. The results on individual elements of SMCS are consistent and complement our main estimation models, indicating that SMCS, in its institutional dimensions, is important to strengthen governance performance. All other control variables also show similar results as the aggregated measure of SMCS. This is consistent with the findings in prior literature (McGuire et al., 2012), thus supporting the hypotheses of our study.

*[INSERT Table 6 HERE]*

#### 4.3. *Robustness tests*

We perform several robustness tests to evaluate the authenticity of our main findings that the SMCS is positively related to the CGP. The results of our robustness analysis are discussed in this section, and they are all consistent with our main hypotheses.

##### 4.3.1. *Sensitivity analyses*

Firms in different industry sectors encounter different risks and therefore require different strategies that significantly impact governance structure (Busch & Hoffmann, 2007; Merchant & Van der Stede, 2007). Furthermore, larger firms encounter higher scrutiny than small firms due to higher visibility (McGuire et al., 2012). Due to the asymmetric nature of governance structure across different industries, we follow prior literature (Bui et al., 2020), including extra sensitivity analysis, dividing the sample into two groups of high and low governance performers and evaluating the main hypothesis of this study. We split the companies based on the median governance performance into high and low performers and conducted regression

analyses. The results presented in Table 7 are consistent with our main estimation models. The findings continue to mirror our findings that stronger social management control systems strengthen corporate governance performance, which is consistent with higher and lower governance performers.

#### 4.3.2. *Endogeneity analyses*

We address the endogeneity issues between the main variables of our study that are highlighted in prior literature as an essential consideration in analysis (Garcia-Castro et al., 2010). This is to consider any potential reverse causality or unobserved variables. It might be the case that large firms with strong financial performance could support better governance performance and thus have better managerial mechanisms. Particularly, corporate executives are likely to promote their management approach and governance performance if it is worthwhile for the firm's financial operation. Additionally, there might be missing elements that can impact a firm's governance performance and structure. Although we have addressed the issue by performing Panel regression analysis, including company and year fixed effect, thus addressing time-invariant unobservable heterogeneity, an additional test is used to negate the issues. We follow previous literature (Cheng et al., 2014; Gupta, 2018) and use simultaneous equation models to find an appropriate instrument and perform the endogeneity test. We follow Gupta (2018) and construct alternative SMCS for our endogeneity analysis. The SMCS for each firm is benchmarked relative to the total firm's sample (Alt\_SMCS) and in the industry sector (Alt\_SMCS\_In). We standardise the SMCS scores for each firm (each industry) by subtracting the mean of SMCS for the total firms (each industry) and dividing it by the standard deviation of total firms (each industry). This helps us to address that SMCS may not be comparable in different industries. Our approach to standardising the variables is:

$$SMCS \text{ adjusted scores} = \frac{SMCS \text{ score} - \text{mean SMCS score}}{SD}$$

We examine the estimation models of our study using alternative measures of SMCS (total sample and industry-adjusted metric for SMCS) and present the results in table 8. The results continue to mirror the main findings, including those for all variables of interest. The findings document a robust positive relationship between the adjusted SMCS score and corporate governance performance. The coefficients of alternative SMCS are 0.0152 for sample-adjusted (Alt\_SMCS) scores and 0.0107 for industry-adjusted (Alt\_SMCS\_In) scores. Overall, the results remain consistent across the battery of robustness tests. Therefore, the results reported in the primary evaluation models are supported.

Additionally, we perform the same robustness analysis for the disaggregated elements of SMCS, including employee practices (EMP), society (SOC), human rights (HUR) and consumer and product responsibility (CON). For the reason of brevity, the results are not presented here. The findings mirror the main results and support the hypotheses of this study,

showing a strong relationship between disaggregated elements of SMCS and corporate governance performance.

## **5. Conclusion**

This study examines how management control systems (MCSs) can help improve corporate governance performance (CGP) by using different institutional elements of MCSs and considering the salient stakeholders' expectations, such as employees, society, community and customers. We use a triangulated approach for collecting data from multiple sources and perform panel regression analysis of a sample of multinational listed firms across 55 countries between 2007 and 2021 longitudinally. Referring to Simon's levers of controls framework (Simons, 1995), we use the belief systems from formal mechanisms and more elements from informal control mechanisms to evaluate the relationship between organisational initiatives and governance in response to the stakeholders' concerns. Our innovative model of constructing social management control systems (SMCS) is based on the stakeholder approach inspired by Global Reporting Initiative (GRI) principles (GRI, 2002). It, therefore, supports the argument that other institutional elements of MCSs, like the traditional monitoring mechanisms, are also essential to achieving organisational goals. Our study provides evidence of how organisations seek to achieve their objectives by creating a trusted relationship with different stakeholder groups that promote behaviour aligned with those objectives. Our findings recommend that SMCSs can be used to strengthen governance performance, contribute to corporate risk management, and help identify related risks and opportunities. Particularly, belief systems and informal control mechanisms can help to establish a strong organisational culture and improve governance performance through an appeal to the values, beliefs and norms of salient stakeholders within a reasonable mechanism of meaningful and unified corporate objectives. Our study's theoretical foundation emphasises stakeholder identification, expectations, and determination of related corporate strategies. Our empirical findings should help to improve the overall understanding of the relationship between business governance and stakeholders and consequently define related strategies to address stakeholders' concerns. This will create and solidify trusted relationships with different stakeholder groups and promote behaviour aligned with corporate goals. Our findings support the hypothesis of this study and are consistent with the argument in the recent literature that informal control mechanisms are mobilised to build an organisational climate to strengthen governance performance and promote behaviour aligned with corporate goals, and further help sustain formal MCSs (Laguir et al., 2019).

Our findings have several contributions to the extant literature. It first responds to the call for further studies into the institutional context of MCS and governance mechanisms rooted in the shared values, ethics and common practices rather than traditional monitoring tools or managerial compensation or incentives which tend to relate to MCSs (Arjaliès & Mundy, 2013; Gibbons & Kaplan, 2015). Therefore, it provides insights into the important role of MCSs in transforming business performance toward responsible behaviour and helps to manage related risks and opportunities. Second, our findings recommend that SMCS significantly strengthen CGP by incorporating related mechanisms into the organisation's core strategy (Adams & McNicholas, 2007; Gond et al., 2012). Lastly, our findings provide support and evidence of how organisations use MCSs to align with salient stakeholders' interests and adequately respond to their expectations, thereby securing ongoing support from different stakeholder groups. Notably, organisations are perceived to have a significant positive or negative impact on their stakeholders, and there might be a gap between what organisations are actually doing or perceived to be doing and what is the stakeholder's expectations of organisations be doing regarding their performance, contribution to and impacts on society. Our empirical findings help reduce this gap based on the model that aligns organisations' objectives with key stakeholders' expectations through inclusively identifying, prioritising and actively engaging with different stakeholders.

Our study has some limitations with some indications for future studies. Although our findings support the critical role of SMCS in strengthening CGP, our study has not considered the role of top executives' motivations on SMCS. Future research can consider this in the relationship between SMCS and CGP. Future research can also consider the relationship between SMCS and financial performance. Cultural contingencies may impact the SMCS that we explored. Thus future research may consider cultural elements in different countries as potential contingencies in the relationship between SMCS and CGP.

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## Tables

**Table 1**

Sample selection

Year	Available data	Missing data	Final observations
2007	1,596	943	653
2008	1,596	754	842
2009	1,596	673	923
2010	1,596	599	997
2011	1,596	549	1,047
2012	1,596	432	1,164
2013	1,596	401	1,195
2014	1,596	381	1,215
2015	1,596	310	1,286
2016	1,596	275	1,321
2017	1,596	234	1,362
2018	1,596	189	1,407
2019	1,596	163	1,433
2020	1,596	147	1,449
2021	1,596	99	1,497
Total	23,940	6,149	17,791

Table 1 shows the sample collection for all listed companies.

**Table 2**

Sample distribution by industry

Year	Observations	%
Industrial	2,849	16%
IT (technology)	2,740	15%
Basic materials	2,111	12%
Consumer cyclical (discretionary)	2,209	12%
Consumer non-cyclical (staples)	1,768	10%
Healthcare	2,000	11%
Communications	1,239	7%
Utilities	1,056	6%
Energy	852	5%
Real-estate	967	5%
Total	17,791	100%

Table 2 shows sample distribution based on industry sector specifications.

**Table 3**  
Construction of SMCSs

Items	Definition	SMCS Category
Health and safety policy	Company's recognition of its operation's health and safety risks and responsibilities and is trying to improve the management of employee health and/or employee safety,	
Mission and visions staff training policy	A company's regular strategy to train new and existing employees on the company's mission and vision statement,	
Training policy	Company's initiatives to train new and existing employees on career development, education, or skills. Training initiatives that apply to all employee levels, not just to those employees at the management level,	
Hiring female and diversity policy	A company's recruiting strategy to increase female new hires,	
Female leadership action plan	A company's specific, time-based action plan with targets to increase the representation of women in leadership positions,	(EMP)
Gender-pay gap action plan	A company's specific, time-bound action plan to close its gender pay gap,	Employee or labour practices
Childcare backup or subsidies policy	A company's policy to assist when there is a gap in regular care arrangements or a subsidy to assist with the cost of childcare to full-time employees,	
Elder care backup or subsidies policy	A company's policy to offer backup care for an elderly family member to assist when there is a gap in regular care arrangements or a subsidy to assist with the cost of care of an elderly family member to full-time employees,	
Sexual harassment policy	A company's policy that explicitly condemns sexual harassment in the workplace,	
Employee engagement survey	A company's policy for the employee engagement survey for its full-time workforce,	
Fair remuneration policy	A company's policy to demonstrates a wide commitment to paying fair wages to all employees,	
Community spending	A company's policy on spending money on community-building activities. This includes both cash and in-kind donations and excludes employee contributions and money raised through events,	
Anti-corruption & Anti-bribery policy	A company's policies to prevent bribery of its employees, executives, and directors by others and/or the prevention of involvement in any corrupt business practices limiting open competition by deception, including but not limited to cartels, collusion, fraud, embezzlement, nepotism, price fixing, and preferred patronage,	
Business ethic policy	A company's policy to establish ethical guidelines and/or a compliance policy for its non-management/executive employees in the conduct of company business,	(SOC)
Employee protection/whistleblowing policy	A company's policies for the reporting of internal ethical compliance complaints without retaliation or retribution, including but not limited to access to confidential third-party ethics hotlines or systems for confidential written complaints,	Society
Employ CSR training policy	A company's policies to conduct training courses for employees on Corporate Social Responsibility (CSR),	
UN global compact policy	Shows whether the company is a signatory of the United Nations Global Compact (UNGC). The field part of the Environmental, Social or Governance (ESG) group of fields,	
Sustainable development goal target policy	Shows whether the company has set a quantitative target for achieving at least one of the 17 United Nations (UN) Sustainable Development Goals (SDGs),	
Mission and visions	Shows whether the company has publicly presented its mission	

Publicly Presented	and vision statement,	
Human right policy	A company's policies to implement any initiatives to ensure the protection of the rights of all people it works with,	(HUR) Human right
Policy against child labour	A company's policies to implement any initiatives to ensure the prevention of child labour in all parts of its business,	
Non-discrimination	Shows whether the company has made a proactive commitment to ensure non-discrimination against any type of demographic group,	
Consumer data protection policy	A company's policies to implement any initiatives to ensure consumer data protection and privacy,	(CON) Consumer & product responsibility
Customer health and safety policy	A company's policies to take all reasonable steps to ensure the health and safety of our customers while at our Company premises,	

This table shows the construction of the social management control systems (SMCS). The SMCS variable is constructed based on the first principle of the Global Reporting Initiative (GRI), which was released as a pilot version in 2007. This principle recommends that the organisation consider stakeholders' reasonable interests and expectations and identify mechanisms to consider such a viewpoint where it is needed. The GRI encourage firms to establish a mechanism for their organisation's social contribution, which supports our model's logic for constructing SMCS.

**Table 4**

## Descriptive statistics

	Obs	Mean	St.Dev	p25	Median	p75
SMCS	17,791	2.4247	0.3416	1.6094	2.1972	2.6391
EMP	17,791	1.5506	0.3929	0.6931	1.3863	1.6094
SOC	17,791	1.6367	0.2581	1.0986	1.3863	1.7918
HUR	17,791	0.5487	0.3593	0	0	0.6931
CON	17,791	0.3371	0.3456	0	0	0.5822
CGP	17,791	1.4535	0.0738	1.1755	1.4359	1.4926
SIZE	17,791	2.2924	0.2511	1.5918	2.1429	2.4452
ROA	17,791	1.7772	0.9523	1.2087	0.2797	2.4042
LEV	17,791	3.7937	1.6211	-0.0672	3.2938	4.7062

This table shows summary statistics of the variables in our estimation models. SMCS for social management control systems and EMP, SOC, HUR, CON, CGP, SIZE, ROA and LEV, respectively, presented for employee practices, society, human rights, consumer and product responsibility, corporate governance performance, firm size, return on assets and debt ratio.

**Table 5**  
Correlation matrix

Statistics	SMCS	EMP	SOC	HUR	CON	CGP	SIZE	ROA	LEV
SMCS	1								
EMP	0.933***	1							
SOC	0.745***	0.513***	1						
HUR	0.827***	0.684***	0.589***	1					
CON	0.705***	0.746***	0.250***	0.437***	1				
CGP	0.171***	0.136***	0.138***	0.166***	0.140***	1			
SIZE	0.186***	0.126***	0.178***	0.235***	0.046***	0.107***	1		
ROA	0.013**	0.084**	0.082***	0.014***	0.225*	0.045***	0.072***	1	
LEV	0.067***	0.043***	0.087***	0.051***	0.026***	0.138***	0.021***	0.325*	1

This table presents the Pearson correlation for the study's variables. Superscript asterisks \*\*\*, \*\*, and \* indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

**Table 6**  
Regression analyses

Variables	(1)	(2)	(3)	(4)	(5)
SMCS	0.0065*** (0.0039)				
EMP		0.0375*** (0.0043)			
SOC			0.1204*** (0.0062)		
HUR				0.0476*** (0.0052)	
CON					0.0224*** (0.0037)
SIZE	0.0019** (0.0091)	0.0022** (0.0079)	-0.0012 (0.0018)	0.0042*** (0.0011)	0.0026*** (0.0019)
ROA	-0.0033 (0.0017)	-0.0024 (0.0017)	-0.0065 (0.0017)	-0.0018 (0.0021)	-0.0027 (0.0017)
LEV	0.0064*** (0.0011)	0.0066*** (0.0308)	0.0059*** (0.0010)	0.0056*** (0.0012)	0.0068*** (0.0011)
Constants	3.6036*** (0.0308)	4.3853*** (0.0308)	3.4664*** (0.03307)	3.5835 (0.0356)	3.6171*** (0.0321)
Year Fixed	Yes	Yes	Yes	Yes	Yes
Firm Fixed	Yes	Yes	Yes	Yes	Yes
Observations	17,791	17,791	17,791	17,791	17,791
R-squared	0.2211	0.2094	0.2335	0.2047	0.2062

This table shows the results of a firm's corporate governance performance (CGP) on its social management control systems (SMCS), employee practices (EMP), society (SOC), human rights (HUR), consumer and product responsibility (CON) respectively in column (1) to (4), including all control variables. The coefficient and standard errors (in parentheses) are calculated using year and firm fixed-effect regression analysis. Superscript asterisks \*\*\*, \*\*, and \* indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

**Table 7**  
Sensitivity analysis

Variables	High CGP	Low CGP
SMCS	0.0474*** (0.0024)	0.0446** (0.0128)
SIZE	0.0019** (0.0041)	0.0028 (0.0021)
ROA	-0.0024 (0.0008)	-0.0046 (0.0044)
LEV	0.0036*** (0.0005)	0.0033 (0.0024)
Constants	3.9642*** (0.0167)	3.9726*** (0.0640)
Year Fixed Effect	Yes	Yes
Firm Fixed Effect	Yes	Yes
Observations	12,078	5,713
R-squared	0.1912	0.1840

This table shows the results of a firm's corporate governance performance (CGP) on its social management control systems (SMCS), including all control variables. Column (1) presents results on high governance performers, and column (2) presents results for lower governance performers. Superscript asterisks \*\*\*, \*\*, and \* indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.



**Table 8**  
Endogeneity analysis

Variables	CGP	CGP
Alt_SMCS	0.0152*** (0.0044)	
Alt_SMCS_In		0.0107*** (0.0024)
SIZE	0.0028** (0.0041)	0.0025** (0.0017)
ROA	-0.0046 (0.0044)	-0.0039 (0.0024)
LEV	0.0036 (0.0024)	0.0021 (0.0018)
Constants	4.0808*** (0.0641)	3.0381*** (0.0521)
Year Fixed Effect	Yes	Yes
Firm Fixed Effect	Yes	Yes
Observations	17,791	17,791
R-squared	0.1840	0.1676

This table presents the result of the endogeneity analysis using the alternative measure of SMCS for evaluating the relationship between SMCS and CGP. Columns (1) and (2) show the results of panel regression analysis of the CGP on their alternative SMCS, proxies for each firm benchmarked relative to the total sample of firms (Alt\_SMCS) and inside their industry sector (Alt\_SMCS\_In). Superscript asterisks \*\*\*, \*\*, and \* indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

## Appendix A

### MCSs taxonomy and link to SMCS

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Category definition	Focus of control	Definition/Measurement
Formal and informal MCSs		
Formal Belief systems: Clear and official sets of organisational statements that managers use to communicate and strengthen values, objectives, and organisational direction	Define, reinforce, and communicate organisational values	They are strengthening corporate governance performance by clarifying corporate values when selecting employees. They are also reinforcing values among existing employees. Help other stakeholders to understand organisational values and purposes.
Informal control systems: Mechanisms that promote organisational culture through shared values, norms, beliefs, and traditions that direct the behaviours of all group members	Open communication channels, easy access to corporate executives, sharing the risks, problems, and solutions	Strengthening corporate governance by developing interactions based on interpersonal connections

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