Gordon Institute of Business Science
University of Pretoria

The impact of board gender diversity on non-financial performance of state-owned entities

Student number 20807385

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

2 November 2021

Abstract

Despite the national and global significance of state-owned entities, the governance of these entities has received meagre scholarly attention to understand how different governance arrangements may impact their performance. In response, this study employs quantitative methods to determine the impact of board gender diversity (as a component of corporate governance) on non-financial performance of state-owned entities.

Using cross-sectional data from a sample of 136 state-owned entities in South Africa, the results show that the board gender diversity of state-owned entities does not have a statistically significant relationship with non-financial performance of these entities, even when there is a critical mass of three or more women on the board. This challenges two alternative prevailing views of the impact of board gender diversity on performance; firstly, that more diverse perspectives on the board enables better organisational performance and secondly, that more diverse views lead to more disagreements, less effective boards and poorer organisational performance.

Overall, the findings suggest that alternative corporate governance mechanisms may be more suitable for SOEs in emerging economies. Researchers should therefore direct focus towards identifying other mechanisms for enhancing the non-financial performance of state-owned entities, while policymakers can comfortably appoint gender-diverse boards to advance gender equality in society.

Keywords

Corporate governance

Board gender diversity

Bureaucratic representation

Non-financial performance

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Student number: 20807385

2 November 2021

Contents

Chapter 1: Introduction to research problem

1.1 Global and national importance of SOEs

State-owned entities (SOEs) play a key role in the daily lives of citizens and economies (Organisation for Economic Co-operation and Development, 2015). In most cases, SOEs are established to provide public goods or to compensate for market failure of public enterprises (International Monetary Fund, 2020). Accordingly, they provide basic services like water, electricity and transportation and are thus essential to the daily lives citizens in many countries (International Monetary Fund, 2020). They typically also serve their country's most strategic sectors such as utilities, transport, infrastructure and financial services, and through this they enable growth and financial stability (Organisation for Economic Co-operation and Development, 2018). Lastly, their impact on gross domestic product and employment is not insignificant (Organisation for Economic Co-operation and Development, 2015).

SOEs also play a significant and increasingly important role in the global economy. They comprise over one-fifth of the world's largest enterprises and exist, to varying degrees, in nearly every country globally (International Monetary Fund, 2020). Moreover, SOEs are expanding globally and have an increasing impact on international markets (International Monetary Fund, 2020; Organisation for Economic Co-operation and Development, 2015) and their prevalence is expected to increase in the wake of the COVID-19 pandemic (Organisation for Economic Co-operation and Development, 2020).

While SOEs are economically and socially important, many governments contend with managing them effectively (International Monetary Fund, 2020). Since they are owned by countries (through varying degrees of ownership), the link between SOEs and their principles is indirect, at best, while SOEs have a complex web of agents in their managers, boards, ministries and governments (Organisation for Economic Co-operation and Development, 2015). SOEs also suffer goal ambiguity since they need to manage financial performance while also achieving mandate-linked societal outcomes (PWC, 2015).

Given this background, it is no surprise that delivering policy mandates within a sustainable business model has proven challenging for SOEs, especially in emerging markets and low-income developing countries (International Monetary Fund, 2020). SOEs consistently appear to be inefficient compared to their private sector counterparts, with lower productivity and profitability, possibly a reflection of the cost of delivering on their societal outcomes (International Monetary Fund, 2020; International Monetary Fund, 2021). They are also more susceptible to widespread public corruption through (sometimes undue) political involvement, which negatively impacts efforts to improve SOE performance (Baum, Hackney, Medas, & Sy, 2019; Organisation for Economic Co-operation and Development, 2015; Transparency International, 2021).

1.2 SOE governance

In response to the increasing importance of SOEs combined with the arduous task of managing them effectively, the governance of SOEs has become a growing area of interest. The Organisation for Economic Co-operation and Development has accordingly developed a comprehensive set of guidelines for governing these entities, which was first developed in 2005 and later updated in 2015 (Organisation for Economic Co-operation and Development, 2015). Alongside this international standard, countries have also adopted a range of mechanisms to manage governance of SOEs (Organisation for Economic Co-operation and Development, 2018).

The governing bodies of SOEs (hereinafter referred to as boards) have a key role to play in the economic and societal impact of the SOEs they govern and should strive to maximise their performance (International Monetary Fund, 2020). Boards are accountable for the success of SOEs (Institute of Directors in Southern Africa, 2016) and exercise their responsibility while facing increasing civil society activism and stakeholder expectations (Institute of Directors in Southern Africa, 2016). The effective governance of SOEs thus warrants research attention in light of the comparatively meagre research attention it has received compared to other fields (Daiser, Schmitt, & Ysa, 2017).

1.3 Board gender diversity in SOE governance

Board composition is an important component of corporate governance of SOEs and should be considered carefully so as to ensure that the board can provide objective, professional and independent guidance to management of SOEs (Institute of Directors in Southern Africa, 2016). Further, gender diversity in board composition is considered good practice (Institute of Directors in Southern Africa, 2016) and to this end, several countries have introduced reforms to enhance board gender diversity (BGD) (Institute of Directors in Southern Africa, 2016; Malagila, Nguyen, & Ntim, 2020).

Consequently, research on the impact of BGD on organisational performance has proliferated in recent years. Studies on the impact of BGD on *financial* performance abound, and demonstrate a blend of positive, negative and no effect of BGD on financial performance (Al-Najjar, Ntim, & Sarhan, 2019; Baker, Haldar, Kumar, & Pandey, 2020; Boateng, Brahma, & Nwafor, 2021; Kirsch, 2018; Malagila et al., 2020). Research on the impact of BGD on *non-financial* performance, meanwhile, tends to show a positive effect (Byron & Post, 2016; Kirsch, 2018; Malagila, Nguyen, & Ntim, 2020; Park, 2021).

Along with the business case for BGD as a driver for SOE performance, the importance of gender equality in society was first elevated by the landmark Beijing Declaration and Platform for Action. The declaration, adopted in 1995, acknowledged women's participation in decision-making as a crucial element of global development (United Nations, 1995). Subsequently, gender equality has also been captured in Sustainable Development Goal 5: "Achieve gender equality and empower all women and girls" (United Nations, n.d.). These international efforts to elevate gender equality highlight its importance in global development and is important for SOEs as a driver of global development.

However, despite the international acknowledgement of the importance of gender equality for global development, progress on BGD has been disappointing slow. Globally, the percentage of women on boards has consistently been below 50%, and even though women make up 39% of the global workforce, they represent only 28% of management positions (Organisation for Economic Co-operation and Development, n.d.; United Nations, n.d.). Consistent with the global picture, BGD in

Africa and South Africa also reflects underrepresentation of women (Barit, Bosch, & van der Linde, 2020; Sotola, 2019). In South Africa specifically, the underrepresentation of women on boards is particularly surprising as women have specifically been included in the groups of targeted beneficiaries in the Employment Equity Act of 1998 and the Black Economic Empowerment Act of 2003 (Republic of South Africa, 1998; Republic of South Africa, 2004)

1.4 Gaps in existing research

In the context of SOEs, several research gaps exist related to the themes highlighted above. Firstly, corporate governance research has focussed extensively on financial performance, which ignores the critical question of SOEs' non-financial performance against their public service functions (Daiser et al., 2017). It is therefore necessary to augment the existing body of knowledge by studying the antecedents to non-financial performance in SOEs. Secondly, corporate governance research has primarily been conducted in established economies, but the governance arrangements suitable for SOEs in established economies may not be appropriate for emerging economies (Armitage, Hou, Sarkar, & Talaulicar, 2017; Baker et al., 2020; Malagila et al., 2020). Corporate governance frameworks therefore require empirical research in emerging economies to determine if they are appropriate in this context. (Daiser et al., 2017). Finally, corporate governance research has been conducted primarily in the private sector with comparatively little research attention paid to SOEs (Malagila et al., 2020). Since sector specific research cannot always be generalised across sectors, it is necessary to supplement the existing body of research with more SOE-specific studies (Baker et al., 2020).

The purpose of this study is therefore to analyse the impact of BGD on non-financial performance in SOEs. This is embodied in the research question: What is the impact of BGD on non-financial performance in SOEs?

Chapter 2: Literature review

This study will attempt to establish a relationship between BGD and non-financial performance of SOEs, based on data in South Africa. The study is conceptually located within two streams of research. Firstly, in bureaucratic representation theory in the field of public administration. Secondly, in BGD in the field of corporate governance. Because it deals fundamentally with non-financial performance, the stream of literature on non-financial performance is also pertinent and warrants specific consideration. This chapter outlines the theoretical setting for the study.

2.1 Bureaucratic representation theory

Bureaucratic representation theory posits that when government officials as a group are representative of the demographics of the general population, the government is more effective (Capers, 2018; Favero & Molina, 2018; Park, 2013). Early iterations of the theory explored *passive representation*, which simply holds that representation is necessary for democracy (Riccucci & Van Ryzin, 2017).

This theory was further developed to account for *active representation*. Under active representation, government officials advocate for the needs of citizens in their own demographic groups through policy decisions that improve the organisation's ability to serve those citizens (Park, 2013; Riccucci & Van Ryzin, 2017). Thus, overall non-financial performance improves when serving historically underrepresented groups better and does not disadvantage the established majority (Riccucci & Van Ryzin, 2017). Since SOE boards are typically responsible for the approval and monitoring of organisation-level policies, their representativeness may be an important component of this mechanism for improved SOE performance even though evidence suggests that government officials who are serve citizens directly have a greater impact on non-financial performance (Ding, Lu, & Riccucci, 2021).

More recently, studies on *symbolic representation* have shown that when government officials and citizens share demographic characteristics citizens tend to trust government organisations more, which encourages them to co-produce, collaborate and partner with government to achieve social incomes (Riccucci & Van Ryzin, 2017). Since governments struggle to achieve their social outcomes with limited budgets, co-production, collaboration and partnerships achieve better non-

financial performance for government organisations (International Monetary Fund, 2020). Interestingly, this relationship holds even when the representative government officials do not take any specific action, hence introducing the notion of symbolic representation as opposed to active representation (Riccucci & Van Ryzin, 2017). Notably, recent work on symbolic representation indicates that symbolic and active representation are equally effective in improving organisational non-financial performance (Ding et al., 2021) which suggests that both forms of representation can be leveraged to improve SOE performance.

Simply put, "bureaucratic representation allows the path of public service delivery to be more accessible to the various groups that are represented" (Ding et al., 2021, p. 3), contributing to the performance and management of public organisations. Accordingly, the study of bureaucratic representation has produced several empirical studies that establish a positive link between representative government organisations and non-financial outcomes (Ding et al., 2021).

Bureaucratic representation theory is not without its criticisms. Critics of bureaucratic representation theory argue that representation favours equity over efficiency resulting in tokenism, which hinders non-financial performance (Park, 2013). Under active representation, critics further argue that a natural trade-off exists between representation and democracy, whereby representatives of under-represented groups may disadvantage the interests of other groups, diminishing democratic values of equal opportunity and treatment of all groups (Liang & Park, 2021).

Gender in bureaucratic representation theory

Several studies have demonstrated a positive association between female bureaucratic representation and favourable outcomes for women. Interestingly, the relationship holds regardless of whether the non-financial outcome being measured is gendered or not (Liang & Park, 2021). For example, the positive association between female representation and non-financial outcomes has been established for gendered non-financial outcomes like sexual assault (Meier & Nicholson-Crotty, 2006), *and* non-gendered non-financial outcomes like education (Guul, 2018; Song, 2018). This implies that the non-financial performance of state institutions can be enhanced through bureaucratic representation, even if the institution's main goal is not gendered.

This effect is moderated by the saliency of gender in a particular context. The salient demographic characteristics in any context has more distinct effects on organisational non-financial performance than demographic characteristics that are not salient in that context (Ding et al., 2021). This is because salient characteristics will inherently persist over time and attract more public concern, resulting in larger improvements (Ding et al., 2021). The challenge in the current literature is that most bureaucratic representation studies are conducted in the United States due to the availability of data and focus mostly on *racial and ethnic representation* which is salient in the United States context (Park, 2013). However, gender representation may be more salient in other, particularly non-Western country contexts. This warrants further enquiry into *gender* representation in government organisations and the impact on organisational performance, calling for research in countries outside of the United States.

Context in bureaucratic representation theory

Factors like the political-administrative system, democratisation and economic development moderate the relationship between gender representation and social outcomes (Liang & Park, 2021). This suggests that studying the impact of bureaucratic representation in a wider range of countries may further refine the existing body of knowledge in this field.

2.2 Board gender diversity

Boards, as the most senior governance structure in organisations, are ultimately accountable for the internal control systems employed to achieve organisational outcomes (Jensen, 1993). Further, they provide the structure within which the CEO operates (Jensen, 1993). The global proliferation of SOEs since the 1980's has attracted considerable research interest in the corporate governance of these entities, with the number of studies on corporate governance in SOEs increasing exponentially over this time (Daiser et al., 2017). Interest in the corporate governance of SOEs surged along with an increase in unfavourable events such as poor service provision and management (Daiser et al., 2017). Accordingly, authoritative bodies such as the OECD (globally) and the King Commission on Corporate Governance (in South Africa) have established codes to guide the

governance of SOEs (Institute of Directors in Southern Africa, 2016; Organisation for Economic Co-operation and Development, 2015).

BGD, as a subset of corporate governance research, has received considerable research attention especially during the past decade, and this trend is expected to continue given society's increasing focus on diversity (Baker et al., 2020; Byrd Jr, Edmonds, Oner, Savage, & Zungul, 2019). Indeed, corporate governance authorities consistently promote BGD as a specific aspect of board composition (Institute of Directors in Southern Africa, 2016; Organisation for Economic Co-operation and Development, 2015).

Proponents of board diversity argue that through uniqueness of their experiences, challenging conventional wisdom and enabling divergent thinking, minority board members can make a valuable contribution to strategic issues (Figueira, et al., 2015; Milton & Westphal, 2000). Beyond the dearth of research on the effect of BGD on *financial* performance, meta-analysis of the literature reveals many studies on the relationship between corporate BGD and *non-financial performance* measures (Malagila et al., 2020). For purposes of this study, the focus will be on non-financial performance.

Evidence suggests that in the public sector for example, there is generally a positive link between organisational gender diversity and performance, especially in agencies that allocate resources for social purposes (Park, 2021). Meanwhile, in the for-profit sector where most research on BGD and performance is located, BGD is positively associated, for example, with environment, social and governance disclosures (Bruna, Dang, L'Hocine, & Manita, 2018), lower levels of fraud (Wahid, 2019) and processes that enhance environmental responsibility (Haque, 2017). This finding has also been extended to the non-profit sector where evidence exists linking BGD to improved board governance practices (Bernstein, Bilimoria, & Buse, 2016). Researchers have, however, called for an increase in sector-specific investigation of BGD, as the generalisations drawn from cross-sector research may lack robustness (Baker et al., 2020).

The framework depicted in Figure 1 below provides some initial insight on the current understanding of how BGD impacts performance. This framework contends that

through gender differences between directors, the board and the organisation's stakeholders are impacted in a way that affects organisational outcomes.

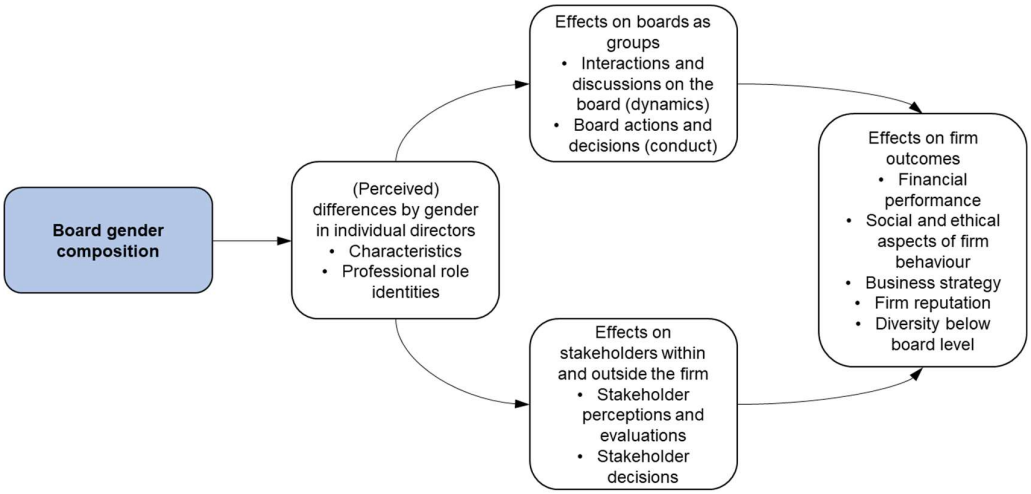

Figure 1: Extract from framework for understanding BGD (Kirsch, 2018)

Several theories have been used to explain the positive relationship between BGD and performance (Malagila et al., 2020). In considering non-financial performance, stakeholder theory and stewardship theory are particularly useful (Ellwood & Garcia-Lacalle, 2015). Indeed, given the complex relationship between corporate governance and performance (Bernstein et al., 2016; Figueira, et al., 2015), a multi-theoretical approach is more suitable for analysis in this field (Al-Najjar, et al., 2019; Ellwood & Garcia-Lacalle, 2015; Figueira, et al., 2015; Malagila et al., 2020).

Stakeholder theory holds that organisations should be governed in the interest of *all* stakeholders, not only shareholders (Ellwood & Garcia-Lacalle, 2015; Malagila et al., 2020). This analytical lens is particularly useful when considering gender and non-financial outcomes, as women care more about social issues than men do and are particularly impactful when considering organisations' social goals (Ellwood & Garcia-Lacalle, 2015; Malagila et al., 2020).

Stewardship theory, as a specific extension of agency theory, argues that in the case of different stakeholders with competing goals, stewards should act in the best interest of the organisation (Ellwood & Garcia-Lacalle, 2015). Stewardship theory therefore helps to explain how boards may exercise their decision-making ability to

achieve non-financial performance measures since non-financial performance is often secondary and in conflict with financial performance.

Critical mass theory adds further nuance to explaining the impact of BGD on performance, suggesting that boards require a minimum number of women in order for the impact of BGD on performance to be realised (Boateng et al., 2021; Calabro, Huse, & Torchia, 2011; Ellwood & Garcia-Lacalle, 2015; Malagila et al., 2020). Additionally, the impact of other factors that moderate the effect of BGD on performance indicates that the moderating effect is contingent on the size of the board, or the number of women on the board (Park, 2020). While some studies have proven this empirically, critical mass theory is sometimes not used in the research design and to explain the findings (Ben-Amar, Change, & McIlkenny, 2017). In fact, critical mass theory is rarely used as the theoretical framework for studies on BGD despite its potential utility (Malagila et al., 2020).

Despite the empirical positive link between BGD and performance, results remain mixed overall. Several researchers have found that there is no relationship between non-financial performance measures such as corporate reputation (Malagila et al., 2020), donations (Malagila et al., 2020), corporate social responsibility (Malagila et al., 2020) and environmental responsibility (Haque, 2017). The mixed findings are likely impacted by the moderating effect of a vast range of factors including organisational and country culture, country institutional context, size, policy areas or issues and the critical mass and power of minority groups, to mention just a few (Byron & Post, 2016; Mohsni, Otchere, & Shahriar, 2021; Miller, Triana, & Trzebiatowski, 2014; Opstrup & Villadsen, 2015; Park, 2020).

Research has also highlighted that the “inner workings” of boards affects the extent to which female members can exercise their decision-making contribution to impact performance. Specifically, the mere inclusion of women on boards does not mean that they are able to influence board decisions in a particular direction. In this regard, research highlights that female board members must be particularly skilled at discerning board dynamics and expressing their views in a manner that will be accepted by other board members (Figueira, et al., 2015). Here, the role of the board chairperson in creating an inclusive environment plays an important role, while experience on other boards also assists (Figueira, et al., 2015; Gabaldon, Kanadlı,

& Torchia, 2018; Milton & Westphal, 2000). Furthermore, increasing heterogeneity may also inhibit board decision-making because it increases conflicts (Miller et al., 2014).

Researchers also warn that the availability of data has largely focussed the study of BGD and performance in established economies, which are governed by specific business systems and institutions (Armitage et al., 2017; Baker et al., 2020). Because of the peculiarities in emerging economies, it is critical to advance the research on corporate governance in emerging economies as this will uncover which governance arrangements are more suitable in the emerging economy context (Armitage et al., 2017; Malagila et al., 2020).

2.3 Non-financial performance of public organisations

Despite efforts to measure and operationalise non-financial performance in existing performance-related research, most studies investigating corporate governance in SOEs tends to reduce performance to financial measures (Daiser et al., 2017). This approach is wholly inadequate in the context of SOEs, given that they exist primarily to achieve public or social outcomes, as opposed to creating shareholder value (Park, 2020). It is also concerning, since correctly conceptualising performance is "possibly *the* most important concept in public administration" (Andersen, Boesen, & Pedersen, 2016, p. 852). While numerous studies have attempted to relate BGD to some measure of non-financial performance, measuring performance in a public sector context remains challenging for researchers (Park, 2021) despite the fact that we find ourselves in the so-called "information age" (Battaglio & Hall, 2018).

In response, recent work attempts to provide some conceptual clarity for researchers studying performance of public organisations, but various practical challenges persist (Andersen et al., 2016; Meier & Song, 2018). Firstly, the quality of public service delivery is inherently difficult to measure (Ding et al., 2021). Secondly, since most SOEs are responsible for a wide variety of both "hard" and "soft" outcomes (far broader than just the "hard" financial outcomes against which private institutions can credibly be measured), identifying an appropriate performance measure or set of performance measures is a complex exercise (Battaglio & Hall, 2018; Lapuente & Van de Walle, 2020). Finally, a lack of available data inherently limits research on public performance (Meier & Song, 2018).

Even once the most appropriate performance measures are identified and described the multitude of pathways between different predictor and response variables as identified through various studies precludes researchers from concluding on any single plausible model for performance (Ding et al., 2021; Favero & Molina, 2018; Figueira, et al., 2015; Gabaldon et al., 2018; Park, 2021). This is because of the often subtle, slow-moving and indirect relationship between predictor and response variables (Park, 2021). Additionally, systemic differences between contexts further influences all studies in this area (Park, 2021). Additional studies using different methodologies, conceptual lenses and contexts will thus assist in clarifying potential relationships between predictor variables, moderators and SOE non-financial performance. Beyond expanding the body of research related to non-financial performance, it may even be appropriate to develop public sector-specific management theories and frameworks since private sector theories probably requires some level of modification when applied in the public sector (Daiser et al., 2017).

In investigating the impact of gender diversity and performance specifically, most studies focus on organisations with specific functions such as schools or law enforcement agencies (Park, 2021). While this is useful, it would not allow for a wider conceptualisation of public sector performance due to the specific organisational context. Secondly, the study of BGD is often conducted in established economies with a lack of research in an emerging economy context (Malagila et al., 2020). In fact, most of the research on gender effects in the public sector is based in the United States, with systematic differences between the United States and other countries (Park, 2020). This warrants enquiry into the effects of gender on SOE performance in different country contexts.

Chapter 3: Hypotheses

The literature review articulated above results in the following hypotheses that will be tested as part of this study.

3.1 Relationship between BGD and non-financial performance

Proponents of BGD argue that women contribute positively to board decision-making and that this results in better organisational performance. Through contributing unique perspectives and challenging "groupthink", women on boards enable better organisational performance (Figueira, et al., 2015; Milton & Westphal, 2000). Further to this, existing research suggests that there is generally a positive link between organisational gender diversity and performance in the public sector (Park, 2021). Finally, bureaucratic representation theory aligns to this position as it holds that government officials represent the demographics of the general population, the government is more effective (Capers, 2018; Favero & Molina, 2018; Park, 2013).

Based on this, the following hypothesis will be tested:

$H1_0$: BGD is not positively related to SOE non-financial performance
$H1_1$: BGD is positively related to SOE non-financial performance

3.2 Relationship between a critical mass of women, and non-financial performance

Critical mass theory suggests that the strength of the relationship between BGD and SOE non-financial performance depends on the number of women on the board, and that when there are less than three women on the board, the impact of BGD is weaker (Boateng et al., 2021; Calabro et al., 2011; Ellwood & Garcia-Lacalle, 2015; Malagila et al., 2020).

The research will thus gather data to test the following hypothesis:

$H2_0$: The strength of the relationship between BGD and SOE non-financial performance is independent of the number of women on the board

$H2_1$: The strength of the relationship between BGD and SOE non-financial performance is dependent on the number of women on the board

Chapter 4: Research methodology

4.1 Purpose of research design

The study aimed to establish and explain the relationship between BGD and non-financial performance and will thus be descripto-explanatory. Descriptive research seeks to provide a description of real-world phenomena, and typically requires responses that can be quantified (Lewis & Saunders, 2018). Explanatory research further seeks to explain the causal relationship found (or not found) in descriptive research (Lewis & Saunders, 2018). This study did both.

BGD and non-financial performance can both be quantified as will be shown later in this methodology, which enabled the researcher to adopt a descriptive study. Further, since the state of existing knowledge should inform the research methodology (Edmondson & McManus, 2007), the researcher favoured the descriptive research design for this study as extensive research already exists in the field of BGD and SOE performance. While various theories exist that may explain the hypothesised findings, there is potential to test these in new contexts and ways to build on the existing theory base, thus supporting the explanatory component of the research design.

The existing research, however, lacks in two respects as outlined above:

a. The existing research tends to reduce SOE performance to financial measures which fails to account for arguably more important social and societal objectives of SOEs (Daiser et al., 2017), and
b. The established positive relationship between gender and financial performance in SOEs is shown to hold in the United States where most studies have been performed, but there is evidence that results differ in other countries (Park, 2021).

By establishing the relationship between BGD and non-financial performance in SOEs in South Africa, the study contributes to the existing body of knowledge and the way that people understand their governments (Pierides & Zyphur, 2017).

4.2 Philosophy

The study will adopt a positivist philosophy. The body of knowledge on BGD and corporate performance has established several theoretical explanations for the

impact of BGD on performance. These include the use of critical mass theory, agency theory, resource dependency theory, stakeholder theory, upper echelon theory and institutional theory amongst others (Calabro et al., 2011; Malagila, Nguyen, & Ntim, 2020). Further to this, bureaucratic representation theory is used specifically in the public sector context to explain representation and its link to non-financial performance (Capers, 2018; Favero & Molina, 2018; Park, 2013). In light of this strong theoretical background, it is more valuable to build on the existing theory by offering an empirical contribution based on objective results. Since the context and performance measures will be different from previous studies, the researcher intends to further confirm existing theory or offer modifications to it.

Adopting a positivist philosophy depends on using highly structured methods such that the results are generalisable (Lewis & Saunders, 2018). The nature of the data as described later in this methodology, lends itself to quantitative analysis. By analysing the data using well-established quantitative methods, the results are objective and generalisable and will be able to support the intended positivist philosophy.

4.3 Approach selected

The study followed these five sequential stages of deductive reasoning as put forward by Lewis and Saunders (2018):

a. Defining research questions from existing theory: The existing theory as outlined above is lacking in that it fails to account for the social and societal role of SOEs when measuring performance. The research question is founded in this gap in existing theory.
b. Operationalising the questions to establish what is occurring: The large body of research on corporate BGD was leveraged to operationalise BGD. The unique South African framework for reporting non-financial performance of SOEs as outlined further below allowed the researcher to operationalise non-financial performance.
c. Collecting data to answer the question or test the hypothesis: The proposed research methodology outlined in this paper describes how data was collected to test the hypothesis.

d. Analysing the data collected to determine if it supports the original theory or suggests that it should be modified: Since the data was quantitative in nature, the researcher adopted quantitative methods for analysis.
e. Confirming or modifying the general theory: The outcome of the quantitative analysis was used to articulate the implications for the existing theory.

4.4 Methodological choices

The limited time frame to conduct the study does not lend itself to mixed methods. The researcher thus had a choice between a qualitative and quantitative study. As mentioned under the purpose statement, the aim of the study is to establish the relationship, if any, between BGD and non-financial performance of SOEs. The positivist philosophy argues that objective data will provide the best evidence of this relationship, or the lack thereof (Lewis & Saunders, 2018) and that the relationship would be best proven through correlating quantifiable measures of BGD and non-financial performance. As such, the study expressed BGD and non-financial performance in objectively quantifiable terms and adopted a quantitative methodology to analyse the data.

4.5 Strategy

The research strategy was to collect archival data about BGD and non-financial performance from the published annual reports of South African SOEs. Archival data means that the researcher was able to quantify BGD and non-financial performance objectively, which will increase the generalisability of the findings, thus supporting the positivist philosophy adopted by the researcher. The use of secondary archival data also mitigated the potential influence of the researcher on the compilation of the data to be used in the study.

While archival data is more objective, it could still be vulnerable to manipulation (Park, 2021) as the published reports of SOEs are prepared by the SOEs themselves. Positivity bias and social desirability bias thus introduces the risk that BGD and non-financial performance may be overstated (Meier & O'Toole, 2013). However, annual reports are subjected to independent audit by the Auditor-General of South Africa, who reports on the usefulness and reliability of the information in the performance report of SOEs (Auditor-General of South Africa, n.d.). This mitigates

the risk of overstated self-reported BGD and non-financial performance. Additionally, archival data can be considered a valid measure of stakeholder perceptions of performance, therefore improving its validity as a data source for measuring SOE performance (Meier & Song, 2018) while also accounting for the expectations of a broader range of stakeholders which is suitable in studies on public sector performance (Andersen et al., 2016).

4.6 Time horizon

The study is cross-sectional, using the non-financial performance data from the published annual reports of SOEs for the financial year ended 31 March 2019. While a longitudinal study would have enabled the researcher to study of how the behaviour of the phenomena being studied has changed over time (Lewis & Saunders, 2018), this is not fundamental to answering the research question and in fact, introducing a factor of time into the data may distort the findings. Therefore, the study was limited to one financial year.

It would have been ideal to study the most recent financial year, being the year ended 31 March 2020, so that the research output is based on the most recent available data. However, the researcher identified challenges with this approach in light of the global coronavirus pandemic that broke out in late 2019:

- As South Africa went into lockdown on 27 March 2020, this severely restricted the movement of people and may have impacted SOEs ability to produce quality annual reports due to the unforeseen changes to work practices, and
- Performance against non-financial targets may have been affected by the outbreak of the pandemic. For example, one of the SOEs in the population of interest, the Accounting Standards Board, reported in its 31 March 2020 annual report that it was unable to achieve its target for its monitoring of the implementation of accounting standards, due to stakeholder engagements planned for March 2020 which were cancelled as a result of the pandemic (Accounting Standards Board, 2020).

To reduce any anomalies that may arise due to the outbreak of coronavirus, the researcher thus selected the year ended 31 March 2019 as the subject of the study.

Board composition changes overtime as individuals join boards, resign from board, or the term of individuals or entire boards comes to an end. The time between board decisions and the results of those decisions is also typically not immediate because of the role of the board in guiding strategic rather than tactical or operational direction. Because of this, the researcher elected to use the board composition of the board who was in office as at 31 March 2018 as the measure for BGD.

4.7 Population

SOEs listed in schedule 2, 3A and 3B of the Public Financial Management Act (PFMA) make up the population of interest. The PFMA also lists schedule 3C and 3D public entities, but these entities operate provincially and therefore have limited influence nationally. The use of a broad range of entities representing different mandates and outcomes contributes to the body of knowledge as it overcomes the current concentration of empirical studies in the areas of social welfare, education and health (Park, 2021).

Schedule 2, 3A and 3B entities operate nationally and differ as follows:

a. Schedule 2 SOEs, or major public entities, ought to generate a profit and declare dividends. They operate in accordance with general business principles.
b. Schedule 3A SOEs obtain their funding through government grants and are mandated to fulfil a specific social or economic mandate.
c. Schedule 3B SOEs, or government business enterprises, are also run according to general business principles but are partially funded by government (National Treasury, 2013).

The starting point to determine the population of SOEs included in the study can be summarised as follows (National Treasury, 2019):

Table 1: Summary of SOEs listed in the PFMA schedules

Schedule 2 SOEs	21
Schedule 3A SOEs	155
Schedule 3B SOEs	21
Total	*197*

Further inspection of the annual reports of the 197 listed SOEs revealed that some of the entities were not relevant to the study for the reasons set out below:

Table 2: Summary of SOEs listed in the PFMA schedules but excluded from the population of interest

Governed by an individual and not a board	20
Still listed in the schedules to the PFMA, but no longer in existence	6
No longer operating as a stand-alone entity, but consolidated into another entity for purposes of operations or reporting	4
Placed under administration or in liquidation	2
Numerous changes in the board membership during the year	1
Total	*33*

The remaining population of relevance for the study therefore comprised 164 SOEs.

4.8 Unit of analysis

The unit of analysis for the study is the BGD and non-financial performance of each SOE. Since boards direct their attention at organisation-level performance, the researcher considered it appropriate to conceptualise performance at this level too, as suggested by Andersen et al. (2016). Additionally, the gender-performance relationship is magnified at organisational level, further suggesting that the organisation is the appropriate unit of analysis given the theoretical framing of this study (Ding et al., 2021). To enable quantitative analysis of the data, BGD and non-financial performance were expressed quantitatively.

The theoretical explanations for the impact of BGD on performance suggest that BGD impacts performance, therefore non-financial performance was coded as the response variable. Non-financial performance was measured as a continuous variable being the percentage of targets that the SOE has reported as achieved. The Framework for Managing Programme Performance Information (the Framework) is applicable to all government entities in South Africa and prescribes that all government entities should set performance targets that link directly to its mandate (National Treasury, 2007). The performance measure for purposes of this study was therefore the SOEs effectiveness in performing its assigned functions (Fernandez, Koma, & Lee, 2018). The Framework further prescribes the method that should be used to set performance targets, and emphasis the use of objectively measurable targets (National Treasury, 2007). The Auditor-General of South Africa independently reviews the objectivity of performance targets, thus improving the objectivity of the variable being measured (Auditor-General of South Africa, n.d.).

Performance was conceptualised at the organisational level since the positive association between representative bureaucracy and performance is more prominent at the organisation (as opposed to individual) level (Ding et al., 2021). The Framework further standardises how performance against these targets should be reported in the annual report. SOEs report the actual performance against each of their mandate-linked targets, thereby expressly stating how many targets were achieved, under-achieved or over-achieved. This allowed the researcher to consistently express non-financial performance as the percentage of targets that the SOE has reported as achieved and is consistent with the approach adopted by Fernandez et al. (2018) who used a similar dataset from the South African public sector in a study on representative bureaucracy.

Like the numerous studies on workforce diversity, the main predictor variable being BGD was measured as a continuous variable (the percentage of women on the board (Park, 2021)) for purposes of testing hypothesis one. For purposes of hypothesis two, the number of women on the board was coded as a dummy variable (Boateng et al., 2021). The variable “1 woman on the board” was taken as 1 where the board had one woman. The variable “2 women on the board” was taken as 1 where there were two women on the board. The variable “3 or more women on the board” was taken as 1 where there were three or more women on the board.

4.9 Sampling method and size

Because the dataset was not particularly large, the researcher attempted to gather data from all the SOEs in the target population. In gathering the underlying data in the manner described in the data gathering process described below, the researcher noted that some data relevant to the research questions was unavailable:

Table 3: Summary of SOEs excluded from the sample

Published data not available for all variables in the study	20
Annual reports could not be obtained	7
Total	*27*

The sample of SOEs used for the study therefore totalled 137 (164 SOEs in the population less 27 SOEs where relevant data was unavailable). This sample was deemed sufficient to produce credible statistical analysis as it exceeded the

minimum sample size of 136 required at a 95% confidence level with a 3.5% margin of error for a population of 164.

Table 4 below summarises a reconciliation between the population of SOE's identified in the PFMA schedules (National Treasury, 2019) and the sample included in the

Table 4: Reconciliation between SOEs listed in the PFMA schedules and those included in the study

	Number
SOEs listed in PFMA (Table 1)	197
SOEs not relevant to the study (Table 2)	-33
Remaining population of SOEs	164
SOEs excluded from the sample (Table 3)	-27
Remaining sample	137
Minimum population size	136

4.10 Measurement instrument

Measurement allows for the numerical expression of the constructs being studied (Pierides & Zyphur, 2017), enabling the statistical analysis of the gathered data. The predictor, response and control variables were coded and captured in numerical terms for each SOE using Microsoft Excel. The resulting Microsoft Excel data was subjected to statistical testing using IBM SPSSv27, a statistical application. The researcher performed correlation and regression testing of the data in SPSS and analysed the results to conclude on the hypotheses and answer the research question.

4.11 Data gathering process

Data was gathered from the published annual reports of South African SOEs as obtained from the SOE websites and the website of the Parliamentary Monitoring Group which also published annual reports for SOEs. The published annual reports undergo review by the Auditor-General of South Africa, which increased the objectivity and reliability of the data (Park, 2021).

In gathering data, some of the variables identified required the application of the researcher's judgement or further work to determine how it would be included in the study. Firstly, some of the governing bodies were not referred to as a board of

directors. In some instances, the entity's governing body was referred to as a council, advisory committee, board of trustees or national executive committee. The researcher observed, however, that these entities appeared to function the same as a board of directors based on the governance information published in the annual report. Therefore, all governing bodies were included in the study, as the manner they function suggests that they are relevant to the purpose of the study, despite how they are named. For the sake of simplicity the term “board” in the study encompasses all governing bodies of the entities included in the study.

In most cases the SOE annual reports contained pictures of the board members which allowed the researcher to determine the gender of each board member. In some cases, the identity of the members of the board was merely listed without any pictures. Here, titles such as “Mr” or “Ms” were used to determine the gender of individual board members. In the case of title such as “Dr”, “Prof” or “Adv”, The researcher gathered further data to determine the gender of individual members. In most cases, these individuals sat on more than one board and their gender could be determined from another annual report that included pictures. In a small minority of cases the individual’s gender was obtained through a process of triangulation from other sources such as parliamentary reports, news articles, and other websites that contained information about the individual.

4.12 Data analysis

Since both the predictor and response variables comprises ratio data, this allowed for the application of several statistical methods to analyse the data (Wegner, 2018). The study used correlation analysis and regression analysis to establish a relationship and measure the strength of the relationship between the predictor and response variable (Chen, 2012; Wegner, 2018).

It was important to consider the impact of alternative constructs that may explain the behaviour of the response variable (Köhler, Landis, & Cortina, 2017). The researcher introduced a range of control variables that may also impact performance into study in an attempt to improve accuracy of the relationship that the study aimed to establish. These variables included:

- Total number of performance targets, as goal setting can encourage performance (Fernandez et al., 2018)
- Total revenue, expenditure and workforce size, to account for the impact of the level of resources to available to achieve targets (Fernandez et al., 2018)
- Average training expenditure per employee and training costs as a percentage of expenditure, to account for the impact of training on performance (Fernandez et al., 2018). Here, the cost of staff bursaries was also included in the training expenditure in cases where it was shown separately in the annual report. Where staff bursaries were not shown separately, the researcher made the assumption that it was included in the reported training cost.
- Gender of the chief executive officer, considering the larger role that the chief executive officer typically has in influencing board discussions (Park, 2020).
- Size of the board, as the voice of a female may not show up in larger groups where women are underrepresented (Park, 2020; Boateng et al., 2021; Al-Najjar, et al., 2019).
- A dummy variable for SOE type which was either Schedule 2, Schedule 3A or Schedule 3B. This was to account for how the type of entity may impact performance similar to other studies that employ industry as a dummy variable (Al-Najjar et al., 2019; Boateng et al., 2021).

Where the researcher deemed it suitable due to the high variation in the values of some variables, natural logs were taken to normalise the data.

A correlation test was run for all the predictor, response and control variables. Apart from providing some initial insights about the relationship between the predictor and response variables, the correlation test also identified correlation amongst control variables. Where control variables were correlated, this was considered further from a conceptual standpoint and some control variables were removed from the regression model as a result.

The following rationale was applied to interpret the coefficients generated by the correlation test:

- Absolute value of coefficient <0.3: weak correlation
- 0.3 ≤ Absolute value of coefficient <0.5: moderate correlation
- Absolute value of coefficient ≥ 0.5: strong correlation

Two regression models were then run. To test hypothesis one, the first model contained the percentage of targets met as the main response variable. To test hypothesis two, the dummy variables “1 woman on the board”, “2 women on the board” and “3 or more women on the board” were modelled together with the other control variables.

5 Chapter 5: Results

This chapter outlines the results of the statistical analysis performed on the 137 sampled SOEs, using the methodology described in Chapter 4: Research methodology.

Firstly, the descriptive statistics are outlined for the SOEs included in the study. These were presented for the entire sample and for SOEs listed in Schedule 2, 3A and 3B respectively, to identify any initial trends. Next, the results of the correlation are presented. The presentation of these results comprises two components, being the correlation testing to identify relationships between the predictor and explanatory variables, and to identify correlations between the proposed response variables. Correlations between the response variables were analysed in order to improve the validity of the regression model. Finally, the regression model for H1 and H2 are presented, indicating the strength of the relationship between the predictor and response variables.

5.1 Descriptive statistics: Full dataset

Table 5 below sets out the descriptive statistics for the full dataset. It shows that for the dependent variable, SOEs included in the sample achieved performance of between 9% and 100% of their targets, with average achievement of 74% of targets. The average number of targets was 33, with a minimum and maximum of 4 and 105 targets respectively.

For BGD measured as the percentage of women on the board on 31 March 2018, this ranged from between 10% and 75% with a mean of 40%. The average number of women on the board was 4.45, ranging from a minimum of one and a maximum of 14. On average the boards in the sample consisted of 11.42 members with a minimum of five board members and a maximum of 30.

The size of the SOEs in the sample varied widely, with revenue of between R9 million and R185 billion, expenditure of between R7 million and R202 billion and a

workforce of between zero and 46,665 employees. It should be noted that the entity with a workforce size of zero was newly established and relied on the workforce of another entity to achieve its targets, which mainly relates to the management of a fund. The average revenue of the SOEs in the sample was R3.3 billion, the average expenditure of the SOEs in the sample was R3.6 billion and the average workforce consisted of 992 employees. The average training spend per employee was R10,111 for 2019, ranging from Rnil to R93,366. The two SOEs with very high average training spend per employee perform technical functions, which explains the exceptionally high average training spend per employee. Because of the high variability in these variables, the researcher also took the natural logs of each datapoint of these variables for further consideration in the rest of the analysis.

Table 5: Descriptive statistics for entire sample

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
% of targets achieved	137	.09	1.00	.7410	.20282
Number of targets	137	4	105	32.80	22.396
% women on the board	137	.10	.75	.3951	.12968
Number of women on the board	137	1	14	4.45	1.959
Number of board members	137	5	30	11.42	3.759
Revenue	137	9061624	185230000000	3313223924.15	16710462245.101
Total expenditure	137	7060867	202274000000	3648607950.28	19336214923.530
Workforce	137	0	46665	992.32	4340.621
Average training spend per employee	137	0	93366	10111.44	11811.410
Revenue Ln	137	16.02	25.94	19.8170	1.78950
Workforce Ln	137	.00	10.75	5.1969	1.60075
Average training spend per employee Ln	137	.00	11.44	8.4876	1.74401
Valid N (listwise)	137				

5.2 Descriptive statistics: Schedule 2 SOEs

Table 6 below sets out the descriptive statistics for the thirteen Schedule 2 SOEs, which are the largest SOEs in South Africa (as denoted by their description as “major” SOEs). The average revenue of the Schedule 2 SOEs in the sample was R18 billion, the average expenditure of the Schedule 2 SOEs in the sample was R19.9 billion and the average workforce consisted of 6,443 employees. These averages are all far higher than those of the full sample. Revenue ranged between R235 million and R185 billion, expenditure was between R261 million and R202 billion and workforce ranged between 146 and 46,665 employees. The average training spend per employee was R14,162 for 2019, ranging from R1,020 to R14,162.

For the dependent variable, Schedule 2 SOEs included in the sample achieved performance of between 20% and 94% of their targets, a smaller range than for the full dataset. Table 6 also shows that the average percentage of targets achieved for Schedule 2 SOEs was 51%, which was lower than that of the full sample and the Schedule 3A and 3B SOEs (whereas the full sample had on average achieved 74% of its targets). The average number of targets was 22, with a minimum and maximum of 10 and 56 targets respectively.

For BGD measured as the percentage of women on the board on 31 March 2018, the mean for Schedule 2 SOEs was 35% (lower than the full population mean of 40%), ranging from between 25% and 45%. The average number of women on the board was 3.54 (lower than the 4.45 average of the full sample), ranging between a minimum of two and a maximum of six. On average the boards in the Schedule 2 SOEs consisted of 10.08 members (lower than the full population mean of 11.42) with a minimum of six board members and a maximum of 15.

Table 6: Descriptive statistics for Schedule 2 SOEs

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
% of targets achieved	13	.20	.94	.5069	.22142
Number of targets	13	10	56	22.62	12.244
% women on the board	13	.25	.45	.3503	.06449
Number of women on the board	13	2	6	3.54	1.127
Number of board members	13	6	15	10.08	2.431
Revenue	13	235018000	185230000000	18437849189.00	50308451965.827
Total expenditure	13	261337000	202274000000	19889038044.54	54976708716.117
Workforce	13	146	46665	6443.46	12986.286
Average training spend per employee	13	1020	14162	6653.46	4169.255
Revenue Ln	13	19.28	25.94	21.9418	1.78214
Workforce Ln	13	4.98	10.75	7.4906	1.65996
Average training spend per employeeLn	13	6.93	9.56	8.5401	.84722
Valid N (listwise)	13				

5.3 Descriptive statistics: Schedule 3A SOEs

Table 7 below contains the descriptive statistics for the 115 Schedule 3A SOEs, which make up the majority of the sample under review. The size-related variables indicate that the Schedule 3A SOEs make up the smaller SOEs in the sample. The average revenue of the Schedule 3A SOEs in the sample was R1.6 billion, the average expenditure of the Schedule 3A SOEs in the sample was R1.9 billion and the average workforce consisted of 392 employees. These averages are all far smaller than those of the full sample. Revenue ranged between R9 million and R43 billion, expenditure was between R7 million and R99 billion and workforce ranged between zero and 7,425 employees. The average training spend per employee was R8,495 for 2019, ranging from Rnil to R43,605.

For the dependent variable, Schedule 3A SOEs included in the sample achieved performance of between 9% and 100% of their targets. The average percentage of targets achieved for Schedule 3A SOEs was higher than that of the full sample, at 76% (whereas the full sample had an average of 74% targets average). The average number of targets was 33, with a minimum and maximum of 4 and 105 targets respectively.

Schedule 3A SOEs had a mean of 40% of women on the board 31 March 2018, ranging from between 10% and 75%. This was similar to the full sample and higher than the 35% average for Schedule 2 SOEs. The average number of women on the board was 4.52 (similar to the 4.45 average of the full sample), ranging between a minimum of one and a maximum of 14. On average the boards in the Schedule 3A SOEs consisted of 11.61 members (similar to the full population mean of 11.42) with a minimum of five board members and a maximum of 30.

Table 7: Descriptive statistics for Schedule 3A SOEs

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
% of targets achieved	115	.09	1.00	.7662	.18281
Number of targets	115	4	105	33.73	22.469
% women on the board	115	.10	.75	.3968	.13579
Number of women on the board	115	1	14	4.52	2.032
Number of board members	115	5	30	11.61	3.977
Revenue	115	9061624	43239323000	1612614350.59	6006692844.707
Total expenditure	115	7060867	99019203000	1909960778.04	9677600108.851
Workforce	115	0	7425	392.86	943.922
Average training spend per employee	115	0	43605	8494.53	8180.261
Revenue Ln	115	16.02	24.49	19.4607	1.61125
Workforce Ln	115	.00	8.91	4.8717	1.38217
Average training spend per employeeLn	115	.00	10.68	8.3418	1.80020
Valid N (listwise)	115				

5.4 Descriptive statistics: Schedule 3B SOEs

The descriptive statistics for the nine Schedule 3B SOEs in the sample are shown in Table 8 below. The average revenue of the Schedule 3B SOEs in the sample was R3 billion, the average expenditure of the Schedule 3B SOEs in the sample was R2 billion and the average workforce consisted of 778 employees. These averages indicate that in terms of size, the Schedule 3B SOEs are larger than the Schedule 3A SOEs but smaller than the Schedule 2 SOEs. Revenue ranged between R562 million and R15,8 billion, expenditure was between R434 million and R12,2 billion and the workforce ranged between 84 and 3,458 employees. The average training spend per employee was R35,767 for 2019, ranging from R6,030 to R93,366.

For the dependent variable, Schedule 3B SOEs included in the sample achieved performance of between 25% and 100% of their targets and the average percentage of targets achieved was 76%. The average percent of targets achieved was similar to that of the Schedule 3A SOEs and higher than that of the Schedule 2 SOEs. The average number of targets was 35.56, with a minimum and maximum of 9 and 105 targets respectively.

For BGD measured as the percentage of women on the board on 31 March 2018, the mean for Schedule 3B SOEs was 44% (higher than the full population and the Schedule 2 and 3A SOEs), ranging from between 27% and 62%. The average number of women on the board was 4.89 (higher than the averages of the Schedule 2 and 3A SOEs), ranging between a minimum of three and a maximum of eight. On average the boards in the Schedule 3B SOEs consisted of 11 members with a minimum of nine board members and a maximum of 13.

Table 8: Descriptive statistics for Schedule 3B SOEs

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
% of targets achieved	9	.25	1.00	.7579	.22597
Number of targets	9	9	105	35.56	30.303
% women on the board	9	.27	.62	.4374	.10764
Number of women on the board	9	3	8	4.89	1.691
Number of board members	9	9	13	11.00	1.500
Revenue	9	562046834	15768858000	3196554203.78	4816857707.715
Total expenditure	9	434915000	12219895000	2406256126.00	3751640587.481
Workforce	9	84	3458	778.22	1063.382
Average training spend per employee	9	6030	93366	35766.79	24383.160
Revenue Ln	9	20.15	23.48	21.2998	1.02249
Workforce Ln	9	4.43	8.15	6.0382	1.15716
Average training spend per employeeLn	9	8.70	11.44	10.2752	.73813
Valid N (listwise)	9				

Frequency counts for the schedule of the SOE, CEO gender, and number of women on the board were as follows:

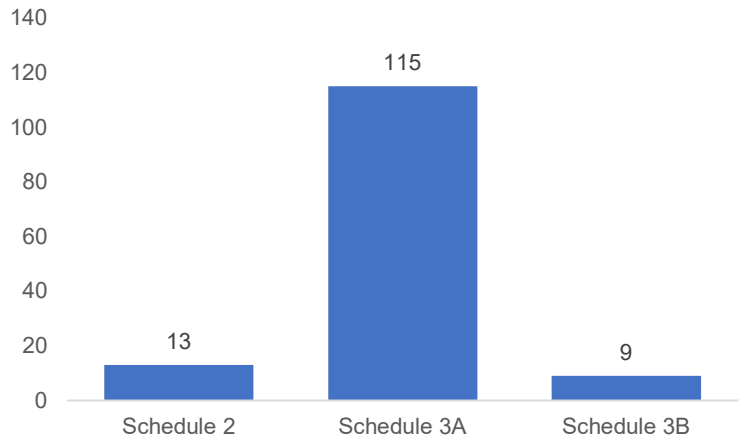

Figure 2: Frequency count for PFMA Schedule listing of the SOE

Figure 2 above demonstrates that Schedule 3A entities make up the vast majority of the sample.

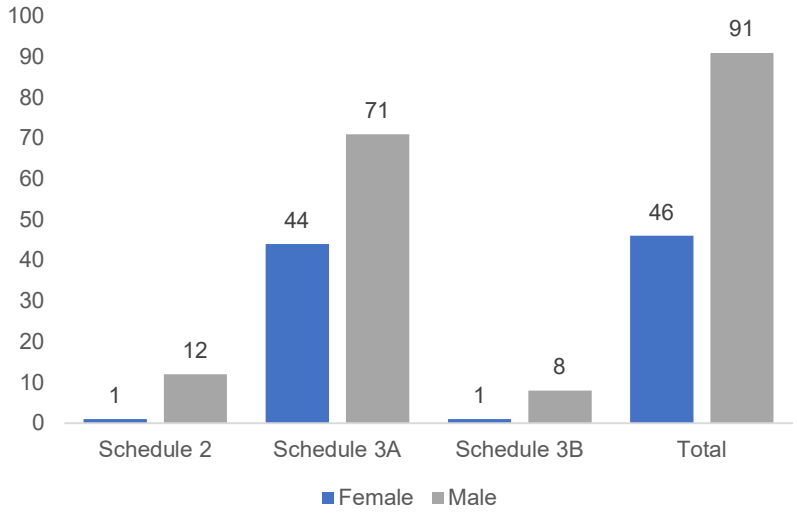

Figure 3: Frequency count of female and male CEOs per SOE type

Figure 3 shows that the number of male CEOs is almost double the number of female CEOs (91 male CEOs compared to 46 female CEOs).

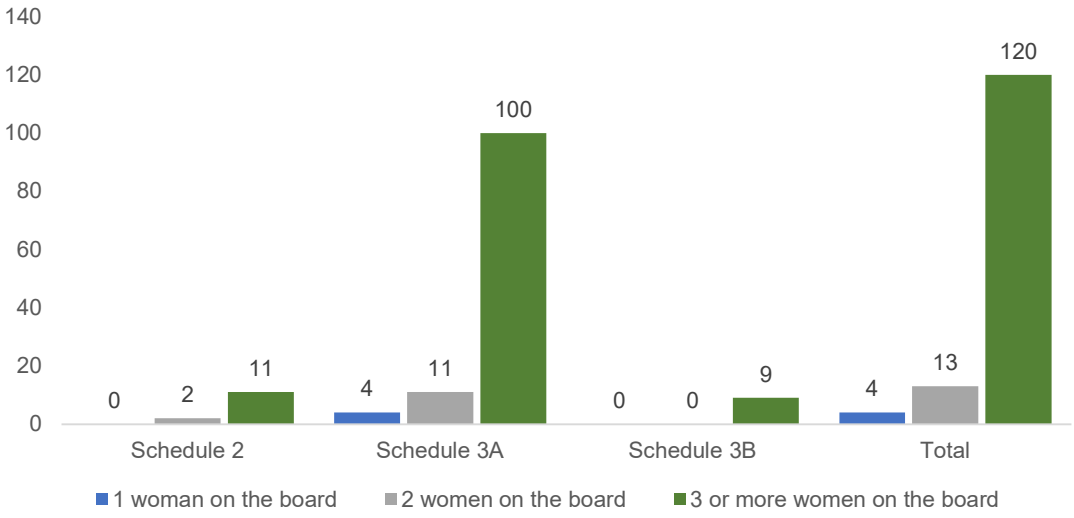

Figure 4: Frequency count of number of women on the board (under critical mass theory) per SOE type

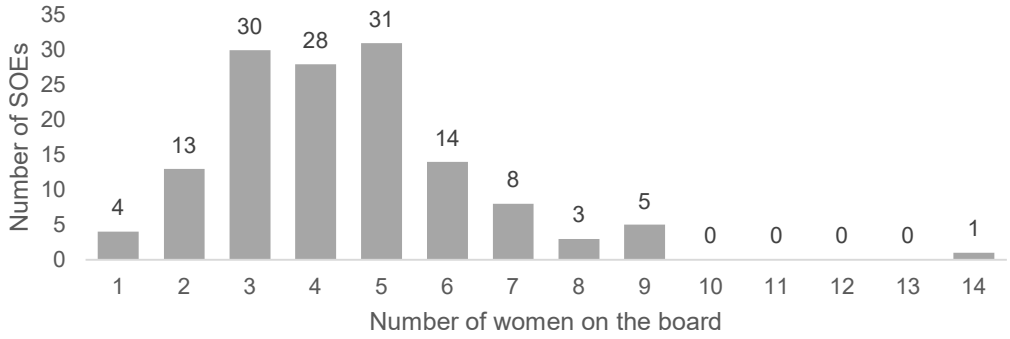

Figure 5: Frequency count for number of women on the board (full population)

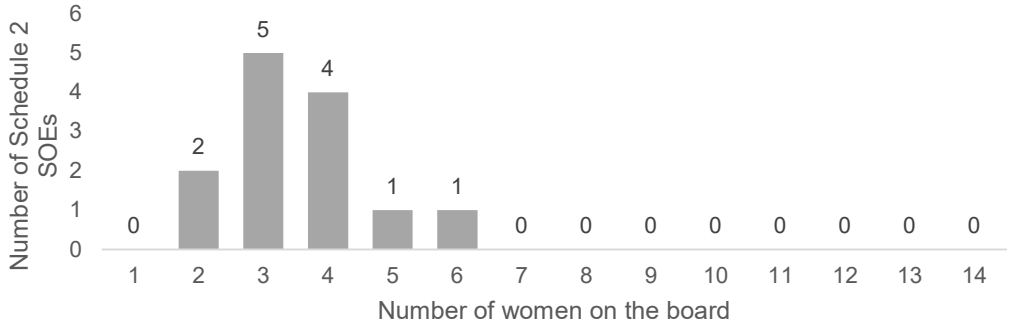

Figure 6: Frequency count for number of women on the board (Schedule 2 SOEs)

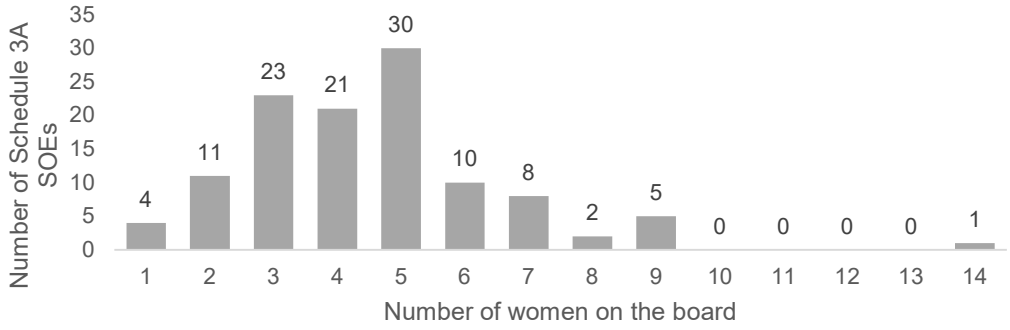

Figure 7: Frequency count for number of women on the board (Schedule 3A SOEs)

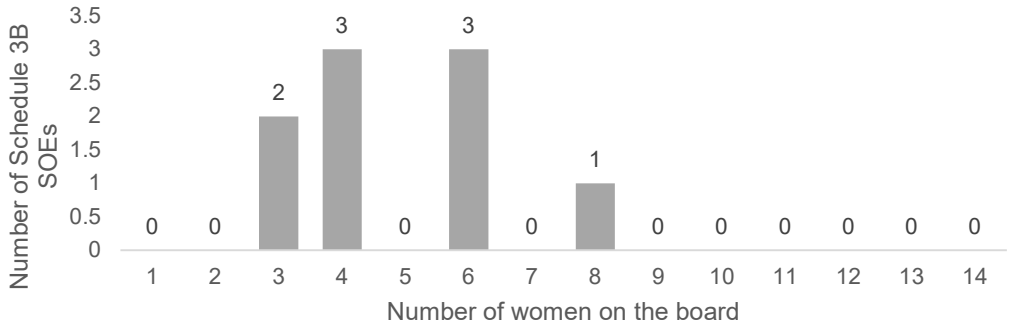

Figure 8: Frequency count for number of women on the board (Schedule 3B SOEs)

Figure 4 depicts that the vast majority of SOEs (120 SOEs) have a critical mass of women on the board, being more than three female board members. Figure 5 lends further nuance, by demonstrating that most SOEs have between three and five women on the board, while Figure 6, Figure 7 and Figure 8 shows that most Schedule 2 entities have only three or four women on the board, and the frequency of women on the board is higher for Schedule 3A and 3B SOEs.

5.5 Test for normality: Full dataset

Table 9: Normality test results

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
% of targets achieved	.101	137	.002	.935	137	.000
% women on the board	.052	137	.200*	.993	137	.686
Number of targets	.140	137	.000	.881	137	.000
Revenue	.422	137	.000	.171	137	.000
Total expenditure	.425	137	.000	.165	137	.000
Workforce	.410	137	.000	.196	137	.000
Average training spend per employee	.196	137	.000	.704	137	.000
% expenditure on training	.211	137	.000	.722	137	.000
CEO gender	.425	137	.000	.596	137	.000
Number of board members	.129	137	.000	.885	137	.000
Number of women on the board	.164	137	.000	.913	137	.000
1 woman on the board	.539	137	.000	.157	137	.000
2 women on the board	.532	137	.000	.332	137	.000
3 or more women on the board	.522	137	.000	.386	137	.000
Schedule 2	.532	137	.000	.332	137	.000
Schedule 3A	.508	137	.000	.441	137	.000
Schedule 3B	.538	137	.000	.267	137	.000
Revenue Ln	.056	137	.200*	.978	137	.026
Workforce Ln	.094	137	.005	.967	137	.002
Average training spend per employee Ln	.140	137	.000	.768	137	.000
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Table 9 above reflects the results of the distribution test. Based on the Kolmogorov-Smirnov test, all the variables other than the percent of women on the board and the natural log of revenue are normally distributed (as the sig.-value of these two variables is greater than 0.05). Non-parametric tests were thus used for the rest of the statistical analysis because at least one of the variables is not normally distributed.

5.6 Correlation matrix

Table 10: Correlation matrix for all variables

Correlations			% of targets achieved	% women on the board	Number of targets	Revenue	Total expenditure	Workforce	Average training spend per	% expenditure on training	CEO gender	Number of board members	Number of women on the board	1 woman on the board	2 women on the board	3 or more women on the board	Schedule 2	Schedule 3A	Schedule 3B	Revenue Ln	Workforce Ln	Average training spend per employee
Spearman's rho	% of targets achieved	Correlation Coefficient	1.000	0.106	0.113	-0.112	-0.114	-0.108	.212*	0.140	-0.111	-0.018	0.071	0.011	0.018	-0.021	-.324**	.234**	0.036	-0.112	-0.108	.212*
		Sig. (2-tailed)		0.219	0.188	0.192	0.183	0.210	0.013	0.102	0.197	0.835	0.412	0.899	0.838	0.805	0.000	0.006	0.675	0.192	0.210	0.013
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	% women on the board	Correlation Coefficient	0.106	1.000	-0.038	-0.030	-0.022	0.023	0.114	.169*	-.233**	-0.166	.677**	-.285**	-.402**	.503**	-0.133	0.045	0.090	-0.030	0.023	0.114
		Sig. (2-tailed)	0.219		0.657	0.727	0.801	0.792	0.185	0.049	0.006	0.053	0.000	0.001	0.000	0.000	0.122	0.601	0.294	0.727	0.792	0.185
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Number of targets	Correlation Coefficient	0.113	-0.038	1.000	0.149	0.139	0.073	-0.039	-0.087	-0.066	.235**	0.126	-0.073	-0.082	0.110	-0.141	0.110	0.003	0.149	0.073	-0.039
		Sig. (2-tailed)	0.188	0.657		0.082	0.106	0.398	0.653	0.310	0.443	0.006	0.143	0.397	0.343	0.202	0.101	0.199	0.972	0.082	0.398	0.653
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Revenue	Correlation Coefficient	-0.112	-0.030	0.149	1.000	.984**	.781**	.290**	-0.103	0.073	.234**	0.123	-0.115	-0.043	0.097	.354**	-.457**	.259**	1.000**	.781**	.290**
		Sig. (2-tailed)	0.192	0.727	0.082		0.000	0.000	0.001	0.230	0.394	0.006	0.153	0.180	0.614	0.257	0.000	0.000	0.002		0.000	0.001
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Total expenditure	Correlation Coefficient	-0.114	-0.022	0.139	.984**	1.000	.784**	.270**	-0.127	0.094	.227**	0.117	-0.091	-0.027	0.071	.365**	-.442**	.223**	.984**	.784**	.270**
		Sig. (2-tailed)	0.183	0.801	0.106	0.000		0.000	0.001	0.138	0.274	0.008	0.173	0.290	0.753	0.413	0.000	0.000	0.009	0.000	0.000	0.001
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Workforce	Correlation Coefficient	-0.108	0.023	0.073	.781**	.784**	1.000	0.084	.169*	0.139	0.118	0.119	-0.027	-0.057	0.065	.389**	-.429**	.175*	.781**	1.000**	0.084
		Sig. (2-tailed)	0.210	0.792	0.398	0.000	0.000		0.331	0.049	0.105	0.168	0.164	0.751	0.506	0.451	0.000	0.000	0.041	0.000		0.331
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Average training spend per employee	Correlation Coefficient	.212*	0.114	-0.039	.290**	.270**	0.084	1.000	.600**	.204*	0.002	0.050	-.172*	-0.008	0.095	-0.052	-.201*	.359**	.290**	0.084	1.000**
		Sig. (2-tailed)	0.013	0.185	0.653	0.001	0.001	0.331		0.000	0.017	0.979	0.564	0.044	0.930	0.271	0.549	0.018	0.000	0.001	0.331	
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	% expenditure on training	Correlation Coefficient	0.140	.169*	-0.087	-0.103	-0.127	.169*	.600**	1.000	.267**	-.181*	-0.001	-0.100	-0.031	0.078	-0.030	-0.151	.260**	-0.103	.169*	.600**
		Sig. (2-tailed)	0.102	0.049	0.310	0.230	0.138	0.049	0.000		0.002	0.035	0.987	0.246	0.720	0.363	0.726	0.078	0.002	0.230	0.049	0.000
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	CEO gender	Correlation Coefficient	-0.111	-.233**	-0.066	0.073	0.094	0.139	.204*	.267**	1.000	-0.021	-.196*	0.031	.230**	-.221**	.177*	-.227**	0.126	0.073	0.139	.204*
		Sig. (2-tailed)	0.197	0.006	0.443	0.394	0.274	0.105	0.017	0.002		0.811	0.022	0.715	0.007	0.010	0.038	0.008	0.142	0.394	0.105	0.017
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
		Correlation Coefficient	-0.018	-0.166	.235**	.234**	.227**	0.118	0.002	-.181*	-0.021	1.000	.556**	-0.160	-0.164	.228**	-0.109	0.081	0.009	.234**	0.118	0.002

Correlations			% of targets achieved	% women on the board	Number of targets	Revenue	Total expenditure	Workforce	Average training spend per	% expenditure on training	CEO gender	Number of board members	Number of women on the board	1 woman on the board	2 women on the board	3 or more women on the board	Schedule 2	Schedule 3A	Schedule 3B	Revenue Ln	Workforce Ln	Average training spend per employee
	Number of board members	Sig. (2-tailed)	0.835	0.053	0.006	0.006	0.008	0.168	0.979	0.035	0.811		0.000	0.062	0.055	0.007	0.205	0.347	0.917	0.006	0.168	0.979
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Number of women on the board	Correlation Coefficient	0.071	.677**	0.126	0.123	0.117	0.119	0.050	-0.001	-.196*	.556**	1.000	-.297**	-.483**	.581**	-0.168	0.083	0.075	0.123	0.119	0.050
		Sig. (2-tailed)	0.412	0.000	0.143	0.153	0.173	0.164	0.564	0.987	0.022	0.000		0.000	0.000	0.000	0.050	0.333	0.384	0.153	0.164	0.564
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	1 woman on the board	Correlation Coefficient	0.011	-.285**	-0.073	-0.115	-0.091	-0.027	-.172*	-0.100	0.031	-0.160	-.297**	1.000	-0.056	-.461**	-0.056	0.076	-0.046	-0.115	-0.027	-.172*
		Sig. (2-tailed)	0.899	0.001	0.397	0.180	0.290	0.751	0.044	0.246	0.715	0.062	0.000		0.515	0.000	0.515	0.378	0.594	0.180	0.751	0.044
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	2 women on the board	Correlation Coefficient	0.018	-.402**	-0.082	-0.043	-0.027	-0.057	-0.008	-0.031	.230**	-0.164	-.483**	-0.056	1.000	-.860**	0.065	0.006	-0.086	-0.043	-0.057	-0.008
		Sig. (2-tailed)	0.838	0.000	0.343	0.614	0.753	0.506	0.930	0.720	0.007	0.055	0.000	0.515		0.000	0.450	0.945	0.318	0.614	0.506	0.930
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	3 or more women on the board	Correlation Coefficient	-0.021	.503**	0.110	0.097	0.071	0.065	0.095	0.078	-.221**	.228**	.581**	-.461**	-.860**	1.000	-0.029	-0.044	0.100	0.097	0.065	0.095
		Sig. (2-tailed)	0.805	0.000	0.202	0.257	0.413	0.451	0.271	0.363	0.010	0.007	0.000	0.000	0.000		0.735	0.610	0.246	0.257	0.451	0.271
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Schedule 2	Correlation Coefficient	-.324**	-0.133	-0.141	.354**	.365**	.389**	-0.052	-0.030	.177*	-0.109	-0.168	-0.056	0.065	-0.029	1.000	-.740**	-0.086	.354**	.389**	-0.052
		Sig. (2-tailed)	0.000	0.122	0.101	0.000	0.000	0.000	0.549	0.726	0.038	0.205	0.050	0.515	0.450	0.735		0.000	0.318	0.000	0.000	0.549
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Schedule 3A	Correlation Coefficient	.234**	0.045	0.110	-.457**	-.442**	-.429**	-.201*	-0.151	-.227**	0.081	0.083	0.076	0.006	-0.044	-.740**	1.000	-.606**	-.457**	-.429**	-.201*
		Sig. (2-tailed)	0.006	0.601	0.199	0.000	0.000	0.000	0.018	0.078	0.008	0.347	0.333	0.378	0.945	0.610	0.000		0.000	0.000	0.000	0.018
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Schedule 3B	Correlation Coefficient	0.036	0.090	0.003	.259**	.223**	.175*	.359**	.260**	0.126	0.009	0.075	-0.046	-0.086	0.100	-0.086	-.606**	1.000	.259**	.175*	.359**
		Sig. (2-tailed)	0.675	0.294	0.972	0.002	0.009	0.041	0.000	0.002	0.142	0.917	0.384	0.594	0.318	0.246	0.318	0.000		0.002	0.041	0.000
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Revenue Ln	Correlation Coefficient	-0.112	-0.030	0.149	1.000**	.984**	.781**	.290**	-0.103	0.073	.234**	0.123	-0.115	-0.043	0.097	.354**	-.457**	.259**	1.000	.781**	.290**
		Sig. (2-tailed)	0.192	0.727	0.082		0.000	0.000	0.001	0.230	0.394	0.006	0.153	0.180	0.614	0.257	0.000	0.000	0.002		0.000	0.001
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Workforce Ln	Correlation Coefficient	-0.108	0.023	0.073	.781**	.784**	1.000**	0.084	.169*	0.139	0.118	0.119	-0.027	-0.057	0.065	.389**	-.429**	.175*	.781**	1.000	0.084
		Sig. (2-tailed)	0.210	0.792	0.398	0.000	0.000		0.331	0.049	0.105	0.168	0.164	0.751	0.506	0.451	0.000	0.000	0.041	0.000		0.331
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
	Average training	Correlation Coefficient	.212*	0.114	-0.039	.290**	.270**	0.084	1.000**	.600**	.204*	0.002	0.050	-.172*	-0.008	0.095	-0.052	-.201*	.359**	.290**	0.084	1.000

Correlations			% of targets achieved	% women on the board	Number of targets	Revenue	Total expenditure	Workforce	Average training spend per	% expenditure on training	CEO gender	Number of board members	Number of women on the board	1 woman on the board	2 women on the board	3 or more women on the board	Schedule 2	Schedule 3A	Schedule 3B	Revenue Ln	Workforce Ln	Average training spend per employee
	spend per employee Ln	Sig. (2-tailed)	0.013	0.185	0.653	0.001	0.001	0.331		0.000	0.017	0.979	0.564	0.044	0.930	0.271	0.549	0.018	0.000	0.001	0.331	
		N	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137

5.7 Correlation analysis: Variables of interest

Table 10 above shows the results of the correlation test run for all variables. Firstly, and most notably, there was a weak positive correlation (coefficient of 0.11) between the predictor variable of percentage of women on the board, and the response variable of the percent of targets achieved. Additionally, there was a weak positive correlation between one and two women on the board (coefficients of 0.01 and 0.02 respectively) and the percent of targets achieved. Finally, there was a weak negative correlation (coefficient of -0.02) between three women on the board and the percent of targets achieved. However, these correlations were not statistically significant at the 5% confidence level.

5.8 Correlation analysis: Other variables

Results from the correlation analysis revealed information that the researcher deemed relevant to construct a credible regression model. Statistically significant correlations were noted between several variables that were intended as measures for the same concept that may be a predictor of non-financial performance.

Firstly, the correlation between expenditure and revenue was statistically significant at the 5% confidence level. The correlation between expenditure and workforce was also statistically significant at the 5% confidence level. Revenue, expenditure and workforce were all variables intended to account for the size of the SOE. However, revenue and workforce are also important inputs to account for the resources required to achieve targets. To avoid the inclusion of too many measures of SOE size, expenditure was excluded from the regression analysis.

The correlation analysis also revealed statistically significant correlations between the following variables at the 5% confidence level:

- average training spend per employee and expenditure
- percentage of expenditure spent on training and workforce
- percentage of expenditure spent on training and average training spend per employee

When capturing the annual report data, average training spend per employee was calculated using the following formula:

$$\frac{TotalTrainingSpend}{Workforce}$$

Further to this, percentage of expenditure spent on training was calculated as follows during the data capturing process:

$$\frac{TotalTrainingSpend}{Expenditure}$$

Because several data points in the underlying data overlap, the statistically significant correlations between these variables are not surprising. Percentage of expenditure spent on training and average training spend per employee were both intended to account for the capability of the SOE workforce. To avoid including too many measures of the same predictor, percentage of expenditure spent on training was eliminated from further regression analysis. The researcher concluded that out of the two variables, average training spend per employee is a more suitable reflection of the capability of each employee.

Finally, the number of board members and three or more women on the board had a weak positive correlation which was statistically significant at the 5% confidence level. the correlation between these two variables makes sense as the number of female board members can only be higher when the number of board members is high enough. To remove the effect of multi-collinearity, the variable, number of board members, was removed from further analysis in the regression model.

While some variables proposed for inclusion in the model were also correlated at a statistically significant level, these were not excluded from the model because their conceptual value as stand-alone predictor variables were considered sound.

5.9 Regression analysis for H1

The null and alternative hypotheses are as follows:

- $H1_0$: BGD is not positively related to SOE non-financial performance

- $H1_1$: BGD is positively related to SOE non-financial performance

The regression results for H1 are set out below.

Table 11: Regression model summary for H1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495[a]	.245	.204	.18094
a. Predictors: (Constant), Average training spend per employee Ln, Schedule 2, % women on the board, Schedule 3B, CEO gender, Revenue Ln, Workforce Ln				

Table 12: ANOVA regression results for H1

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.371	7	.196	5.981	.000[b]
	Residual	4.223	129	.033		
	Total	5.594	136			
a. Dependent Variable: % of targets achieved						
b. Predictors: (Constant), Average training spend per employee Ln, Schedule 2, % women on the board, Schedule 3B, CEO gender, Revenue Ln, Workforce Ln						

Table 13: Coefficient output for H1 regression model

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.964	.245		3.940	.000
	% women on the board	-.006	.127	-.004	-.049	.961
	CEO gender	-.030	.035	-.071	-.871	.385
	Schedule 2	-.261	.062	-.378	-4.216	.000
	Schedule 3B	-.049	.067	-.061	-.736	.463
	Revenue Ln	-.031	.015	-.272	-2.117	.036
	Workforce Ln	.031	.016	.241	1.871	.064
	Average training spend per employee Ln	.037	.010	.315	3.712	.000
a. Dependent Variable: % of targets achieved						

Table 14: Excluded variables for H1 regression model

Excluded Variables[a]						
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Schedule 3A	.[b]	.	.	.	.000
a. Dependent Variable: % of targets achieved						
b. Predictors in the Model: (Constant), Average training spend per employee Ln, Schedule 2, % women on the board, Schedule 3B, CEO gender, Revenue Ln, Workforce Ln						

The R^2 value in Table 11 indicates that the regression model for H1 explains 24.5% of the non-financial performance of the SOEs included in the sample, and this is aligned within the range of explanatory power generated by similar studies (Boateng et al., 2021; Mohsni et al., 2021). Per Table 12 above, the model is statistically significant at the 5% confidence level. Statistically significant predictor values are whether the SOE is listed in Schedule 2 of the PFMA, revenue of the SOE and average training spend per employee. There is a moderate negative relationship between non-financial performance and whether the SOE is listed in Schedule 2 of the PFMA. There is also a weak negative relationship between the revenue and non-financial performance. Finally, there is a moderate positive relationship between the average training spend per employee, and non-financial performance.

Notably, while the percent of women on the board has a weak negative relationship with non-financial performance, this relationship is not statistically significant at the 5% confidence level (sig-value = 0.961, greater than 0.05). Therefore, the null hypothesis is accepted.

5.10 Regression analysis for H2

The null and alternative hypotheses are as follows:

- $H2_0$: The strength of the relationship between BGD and SOE non-financial performance is independent of the number of women on the board
- $H2_1$: The strength of the relationship between BGD and SOE non-financial performance is dependent on the number of women on the board

The regression results for H2 are set out below.

Table 15: Regression model summary for H2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	.259	.212	.17999
a. Predictors: (Constant), 3 or more women on the board, Schedule 2, Schedule 3B, CEO gender, Average training spend per employee Ln, 1 woman on the board, Revenue Ln, Workforce Ln				

Table 16: ANOVA regression results for H2

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.448	8	.181	5.586	.000[b]
	Residual	4.147	128	.032		
	Total	5.594	136			
a. Dependent Variable: % of targets achieved						
b. Predictors: (Constant), 3 or more women on the board, Schedule 2, Schedule 3B, CEO gender, Average training spend per employee Ln, 1 woman on the board, Revenue Ln, Workforce Ln						

Table 17: Coefficient output for H2 regression model

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.997	.243		4.104	.000
	CEO gender	-.043	.035	-.101	-1.237	.218
	Schedule 2	-.259	.062	-.376	-4.203	.000
	Schedule 3B	-.044	.067	-.054	-.662	.509
	Revenue Ln	-.030	.014	-.267	-2.088	.039
	Workforce Ln	.030	.016	.241	1.874	.063
	Average training spend per employee Ln	.040	.010	.346	3.998	.000
	1 woman on the board	.034	.107	.028	.320	.750
	3 or more women on the board	-.067	.055	-.109	-1.221	.224
a. Dependent Variable: % of targets achieved						

Table 18: Excluded variables for H2 regression model

Excluded Variables[a]						
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Schedule 3A	.[b]	.	.	.	.000
	2 women on the board	.[b]	.	.	.	.000
a. Dependent Variable: % of targets achieved						
b. Predictors in the Model: (Constant), 3 or more women on the board, Schedule 2, Schedule 3B, CEO gender, Average training spend per employee Ln, 1 woman on the board, Revenue Ln, Workforce Ln						

The R^2 value in Table 15 indicates that the regression model for H2 explains 25.9% of the non-financial performance of the SOEs included in the sample which is similar to the explanatory power generated by similar studies (Boateng et al., 2021; Mohsni et al., 2021). Per Table 16 above, the model is statistically significant at the 5% confidence level. Statistically significant predictor values are whether the SOE is listed in Schedule 2 of the PFMA, revenue of the SOE and average training spend per employee. The same predictor variables were found to be statistically significant for H1. There is a moderate negative relationship between non-financial performance and whether the SOE is listed in Schedule 2 of the PFMA. There is

also a weak negative relationship between the revenue and non-financial performance. Finally, there is a moderate relationship between the average training spend per employee, and non-financial performance.

Notably, having one woman on the board has a weak positive relationship with non-financial performance, and having three women on the board has a weak negative relationship with non-financial performance. These relationships are not, however, statistically significant at the 5% confidence level. Therefore, the null hypothesis is accepted.

Chapter 6: Discussion of results

The previous chapter presented the results of statistical tests performed on the data gathered. This chapter analyses and deliberates on the findings from the statistical analysis, highlighting how they confirm or challenge previous research.

6.1 Discussion of descriptive statistics

The descriptive statistics highlight that while the vast majority of boards appear to have a critical mass of more than three women on the board, the number of women on the board is concentrated around three to five women. This potentially indicates a tendency to appoint just enough women so as to *appear* to have a diverse board. Further to this, out of all SOEs included in the sample, boards on average had only 40% female representation (although it should be noted that SOE BGD is higher than private sector BGD in South Africa as measured by the percentage of women on the board) (Barit et al., 2020). Therefore, despite the increased interest in BGD in recent decades and legislative efforts to enhance workplace and management gender diversity, SOE boards in South Africa have not yet achieved an un-skewed representation of women.

Since national education statistics indicate that the number of women graduating from higher education institutions in South Africa is higher than the number of men across all fields of study, it appears that women ought to be qualified enough for these positions (Khuluvhe & Negogogo, 2021). The results therefore highlight that woman may not have access to the necessary networks to access board positions. Alternatively, if women have access to these positions, other factors prevent them from taking them up.

Interestingly, the descriptive statistics also demonstrate that as a group, the largest SOEs by far (Schedule 2 SOEs) have the lowest BGD and the lowest levels of non-financial performance compared to the rest of the sample under review, as summarised in Table 19 below. By contrast, Schedule 3A and 3B SOEs have higher BGD and higher levels of non-financial performance. This initial assessment may be an indication that the largest and most commercially driven SOEs (which, by design,

are not intended to receive government funding) are assigned a higher percentage of male board members.

Table 19: Summary of non-financial performance and BGD for sample

	Schedule 2	Schedule 3A	Schedule 3B	Full sample
Average percentage of targets achieved	50.69%	76.62%	75.79%	74.10%
Average percentage of women on the board	35.03%	39.68%	44.74%	39.51%

This is further supported by Figure 6 above, which demonstrates that most Schedule 2 boards have less than four female members. These SOEs also have lower levels of performance, suggesting a link between BGD and performance. It should be noted that the full extent of poor performance of Schedule 2 SOEs is somewhat masked by the nature of the data gathered for the study. Schedule 2 SOEs have attracted considerable attention in recent years due to highly publicised government bail-out packages, poor audit outcomes and failed turnaround efforts indicating severe mismanagement (Auditor-General of South Africa, 2019). Although these variables not captured in this study they bear mentioning.

6.2 Summary of statistical testing for H1

Correlation testing of H1 indicated that there is no statistically significant relationship between BGD as expressed by the percentage of women on the board, and non-financial performance of SOEs (sig-value = 0.219). Additionally, correlation testing for H1 yielded a low correlation coefficient (0.106). In addition to not being statistically significant, this result also indicates a weak relationship between the percentage of women on the board, and non-financial performance.

Regression analysis for H1 resulted in accepting the null hypothesis, that BGD is not positively related with SOE non-financial performance (sig-value = 0.961). Further to this, although not statistically significant, the almost negligible coefficient of -0.004 indicates a very weak negative relationship between BGD and non-financial performance. Taken together, these findings are consistent with other research

which indicates no relationship between BGD and performance and suggests that the appointment of more women on the boards of SOEs will not necessarily yield better non-financial outcomes for SOEs.

6.3 Summary of statistical testing for H2

Correlation testing of H2 indicated that even when there are three or more women on the board, this does not impact non-financial performance, as the correlation was not statistically significant (sig-value of 0.805). Additionally, correlation testing for H2 yielded a low correlation coefficient of -0.021. In addition to not being statistically significant, this indicates that the relationship between three or more women on the board and non-financial performance is weak.

Regression testing of H2 yielded a similar result, indicating that there is no statistically significant relationship between three or more women on the board and non-financial performance of SOEs (thus, accepting the null hypothesis) (sig-value of 0.224). While not statistically significant, the coefficient for “3 or more women on the board” was -0.109, indicates a weak negative relationship between BGD and non-financial performance. That the absolute value of this coefficient is higher than the coefficient is higher than absolute value of the main predictor coefficient in H1 (-0.004), suggests that the absolute number of women on the board has more predictive power than the percentage of women on the board. The negative direction of the coefficient supports the theoretical notion that more diverse boards may be ineffective due to a higher number of disagreements and divergent views.

6.4 Discussion of the combined results of the statistical analysis

Taken together, the findings indicate that the presence of women on SOE boards does not have a statistically significant relationship with non-financial performance. The theoretical framework outlined in Chapter 2: Literature review provides some indicators as to why this is the case.

The salience, or relative lack thereof, of gender in South Africa potentially explains why BGD is not related with non-financial performance in South African SOEs (Ding et al., 2021). The system of racial segregation institutionalised by the apartheid regime in South Africa significantly escalated the salience of race in the South African context, thus decreasing the relative salience of gender. Moreover, since apartheid was abolished, the introduction of numerous affirmative action measures by the South African government may have resulted in the normalisation of women on boards (Republic of South Africa, 1998; Republic of South Africa, 2004). While the representation of women on boards is not yet equal, the presence of women on boards in South Africa may well be normalised to the extent that the differential contributions of women on boards may not be significant. Consequently, the perceived difference in characteristics and professional role identities of female and male board members may not be as distinct. Since the South African government has leveraged affirmative action to advance BGD in SOEs faster than the South African private sector has, this normalisation effect may be more prominent in SOEs.

Board dynamics may also explain why BGD does not have a statistically significant relationship with non-financial performance. Not only do board chairpersons play a critical role in elevating the contributions of all board members and giving them equal weight, but the inter-personal, relational and communication skills of female board members also affect the extent to which their contributions affect the direction that the board provides to the CEO (Figueira, et al., 2015). While this study did not focus on how board dynamics and conduct impact the decision-making of gender-diverse boards, numerous researchers have highlighted that this enquiry deserves research attention (Figueira, et al., 2015; Gabaldon et al., 2018; Kirsch, 2018; Park, 2021). In the public sector context specifically, such research may also need to consider the role of politics in board appointments, since ministers are responsible for the appointment of board members.

The positioning of boards as a governance structure reporting directly to the minister in charge of the SOE and removed from the day-to-day processes of service delivery may further explain the lack of a relationship between BGD and non-financial performance. The contention that frontline workers who serve citizens directly have

a greater impact on non-financial performance aligns with the results of this study (Ding et al., 2021). This is demonstrated by the statistically significant moderate relationship between average training spend per employee, and non-financial performance (coefficient of 0.315 for H1 and 0.346 for H2 respectively). To this end, it may be more suitable for ministers to direct their efforts towards the capacity and capability of the SOE workforce, rather than the gender diversity of SOE boards.

Beyond the possible explanations for why BGD does not have a statistically significant relationship with non-financial performance, the results of the study indicate that ministers who are responsible for appointing board members should be indifferent between appointing males and females to SOE boards. In this regard, the results refute the claim that representation results in tokenism, thereby reducing efficiency (Park, 2013). Rather, bureaucratic representation theory highlights the importance of government in not only advancing mission-specific goals of SOEs but also broader goals such as democracy and equality (Liang & Park, 2021). Therefore, in the interests of equality, the appointment of truly gender-diverse boards ought to be a governmental imperative for the sake of the broader outcome of equality. Furthermore, given that women in South Africa are equally as educated as men, there does not appear to be any reason why truly gender-diverse boards should not be possible in South African SOEs.

This result begs the question why South African SOE boards are not gender diverse. While the determinants of appointment of women to SOE boards was outside the scope of this study, previous research indicates that access to the right networks allows women to be identified for board positions (Figueira, et al., 2015; Milton & Westphal, 2000). To this end, future research may attempt to identify other underlying reasons why women do not have equal representation on the boards of South African SOEs.

While the BGD-performance relationship is, by its mere nature, complex, this complexity may be amplified for SOEs compared to their private sector counterparts. Confronted with a broader range of outcomes to achieve compared to their private sector counterparts, SOE boards face a comparatively difficult task in delivering

results (Battaglio & Hall, 2018; Lapuente & Van de Walle, 2020). Moreover, the abundance of SOE stakeholders (compared to the number of private sector stakeholders) increases the demands on these boards (Organisation for Economic Co-operation and Development, 2015).

Given this complexity and considering the results of this study, it is worth considering that perhaps corporate governance mechanisms that have been developed for the private sector has limited relevance in value in explaining performance for the public sector. To be sure, the literature on new public management has certainly highlighted that the management models applicable in the private sector has limitations in the public sector (Lapuente & Van de Walle, 2020). Alternatively, the results of this study lends weight to the contention that governance models designed for the private sector at least require modification when applied to the public sector (Daiser et al., 2017). Beyond this mere modification of existing models, the governance and management of SOEs may even require the development of specific frameworks, theories, and models suitable to these entities (Daiser et al., 2017).

Accordingly, the framework in Figure 9 below offers an alternative depiction of the role of BGD in SOEs from a governance perspective. This model, derived from the results of this study, suggests that corporate governance components impact SOE performance at two levels. Firstly, some corporate governance components should be in place simply because together with other mechanisms, they drive broader social outcomes that inform the socio-political context within which SOEs operate. Specific to the findings of this study, BGD drives equality, which then forms part of the country's socio-political context. However, there may be other corporate governance components that that affect the financial performance and non-financial performance. To this end, the corporate governance mechanisms originally designed for the private sector and adopted in the public sector should be the subject of further research.

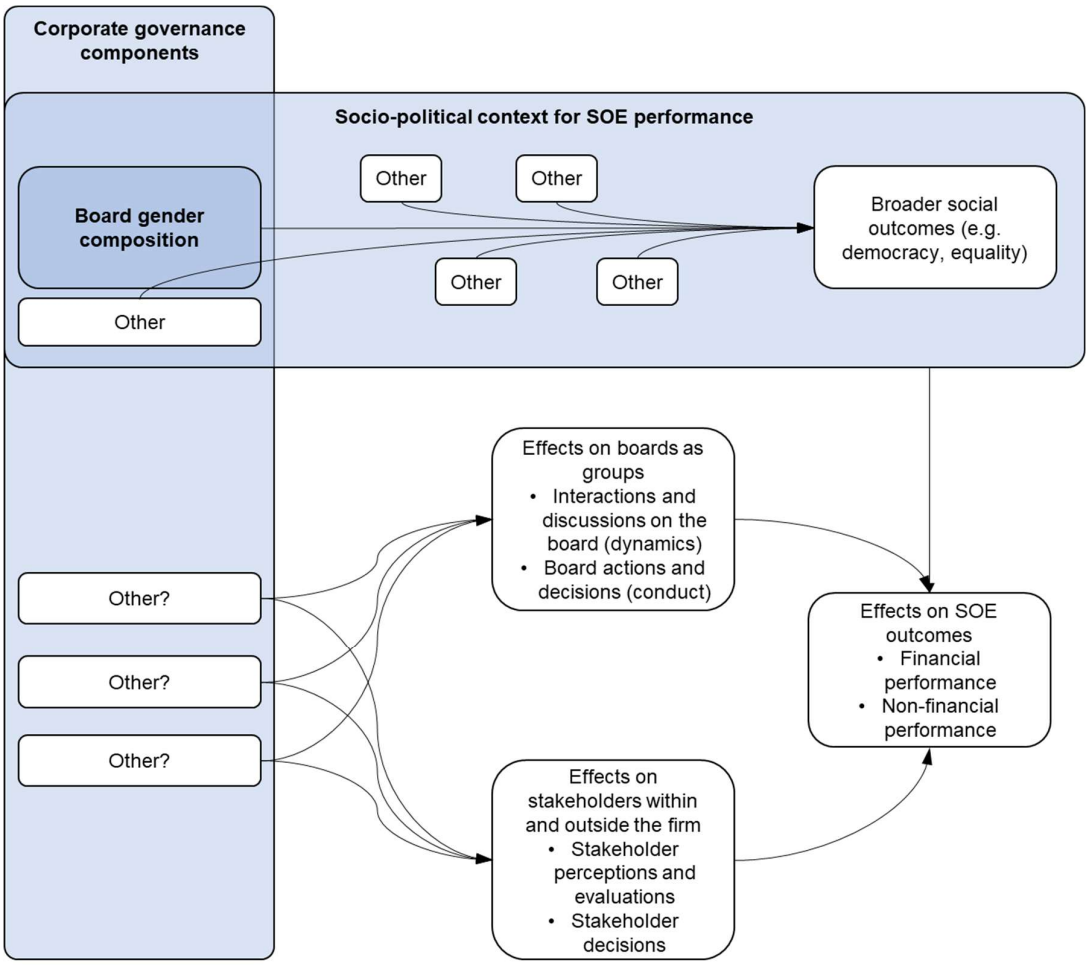

Figure 9: Alternative framework for understanding SOE BGD and performance (Author's own, adapted from (Kirsch, 2018))

Chapter 7: Conclusions and recommendations

This chapter highlights the conclusions, implications, and significance of the study. It also highlights how further research could expand on the findings.

Given that many governments contend with managing SOEs effectively to optimise performance, the purpose of this study was to analyse the impact of BGD on non-financial performance in SOEs. The researcher therefore set out to identify what impact BGD has on non-financial performance, if any.

7.1 Conclusions and implications

The results of the study indicate that there is no statistically significant relationship between BGD and non-financial performance in South African SOEs, even when there is a critical mass of women on these boards. This finding implies, firstly, that those responsible for appointing SOE boards (the responsible minister in the South African context), ought to be unbiased when assigning board roles between men and women and can focus more on attributes other than gender. However, given that SOEs are one of the state's vehicles for advancing broader social goals, an equal measure of men and women on SOEs boards may assist to advance gender equality.

The data gathered also indicates that the gender diversity of the boards of South African SOEs is skewed towards men. Thus, if the government were to use BGD as a driver of gender equality, the low representation of women on SOE boards must be further investigated to understand why women currently do not have equal membership on these boards.

The main theoretical contribution of this study is to suggest that there may be an alternative model for how corporate governance components impact performance in SOEs. This implies that it is inappropriate to take corporate governance frameworks designed for the private sector and apply them to the public sector without modification. To the end, Figure 9 (see Chapter 6) suggests an alternative

framework for the impact of corporate governance components on non-financial performance of SOEs. Primarily, the framework suggests that it is not only through intra-board and stakeholder interactions that boards influence non-financial performance of SOEs. Rather, corporate governance components of SOEs may also be a driver for broader social outcomes, which shape a conducive socio-political environment within which SOEs operate.

7.2 Limitations

The use of archival data in this study meant that the researcher used several proxies to measure controls variables to indicate, for example, workforce capability and workforce capacity. BGD was also used as a proxy for underlying characteristics of board members without detailed investigation of those characteristics, and reported non-financial performance was aggregated for each SOE without a qualitative analysis of SOE outcomes. These proxies might not reflect the underlying reality and alternative data sources may have revealed more information about what affects SOE non-financial performance.

Additionally, the cross-sectional design of this study did not allow for the investigation of how BGD evolves and influences performance over time. Since the effect of boards is often subtle and slow-moving, similar research using panel data may reveal additional insights about the effect of BGD over time.

Finally, the quantitative research design did not allow for the investigation of *how* and *why* BGD does not have a statistically significant relationship with non-financial performance.

7.3 Recommendations for further research

Since SOEs have an increasingly important role in providing services and achieving broader social outcomes, the drivers of non-financial performance of these entities deserves further enquiry. Firstly, further enquiry into the drivers of non-financial performance of SOEs with alternative research designs and data types may provide more insight on the true predictors of non-financial performance of SOEs and the qualitative exploration of the relationships identified in this study.

As for corporate governance mechanisms, further research on board dynamics and how board actions and interactions affect SOE non-financial performance could further enhance the body of knowledge on the relationship between corporate governance components and performance. Additionally, studying corporate governance dynamics more broadly in the SOE context may contribute to further understanding how private sector corporate governance models may need to be adapted when applied in the public sector. Potential further research may consider other diversity measures or corporate governance practices and investigate how they impact performance.

Finally, the study was conducted in a South African context. The post-apartheid context, specifically, is highly unique to South Africa and may have affected the outcome of the empirical analysis. To the extent that the context varies in other countries, different empirical relationships may be revealed that may challenge or expand on the results of this study.

Reference List

Accounting Standards Board. (2020). *Annual report 2019/20.* Retrieved from www.asb.co.za/wp-content/uploads/2021/01/1.-ASB-Annual-report-2020-Final.pdf

Al-Najjar, B., Ntim, C. G., & Sarhan, A. A. (2019). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance & Economics, 24*(2), 761-786. doi:10.1002/ijfe.1690

Andersen, L. B., Boesen, A., & Pedersen, L. H. (2016). Performance in public organizations: Clarifying the conceptual space. *Public Administration Review, 76*(6), 852-862. doi:10.1111/puar.12578

Armitage, S., Hou, W., Sarkar, S., & Talaulicar, T. (2017). Corporate governance challenges in emerging economies. *Corporate Governance: An International Review, 25*(3), 148-154. doi:10.1111/corg.12209

Auditor-General of South Africa. (2019). *National and provincial audit outcomes 2018-19.* Retrieved from https://www.agsa.co.za/Portals/0/Reports/PFMA/201819/GR/2018-19%20PFMA%20Consol%20GR.PDF

Auditor-General of South Africa. (n.d.). Retrieved from www.agsa.co.za/AuditInformation/AuditProcess.aspx

Baker, H. K., Haldar, A., Kumar, S., & Pandey, N. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research, 108*, 232-246. doi:10.1016/j.jbusres.2019.11.025

Barit, S., Bosch, A., & van der Linde, K. (2020). *Women on South African boards: facts, fiction and forward thinking.* Stellenbosch: University of Stellenbosch Business School.

Battaglio, R. P., & Hall, J. L. (2018). A fistful of data: Unpacking the performance predicament. *Public Administration Review, 78*(5), 665-668. doi:10.1111/puar.12989

Baum, A., Hackney, C., Medas, P., & Sy, M. (2019). *Managing fiscal risks from state-owned enterprises.* Washington, DC: International Monetary Fund.

Retrieved from https://www.imf.org/en/Publications/WP/Issues/2019/11/22/Governance-and-State-Owned-Enterprises-How-Costly-is-Corruption-48800

Ben-Amar, W., Change, M., & McIlkenny, P. (2017). Board gender diversity and corporate response to sustainability initiatives: evidence from the carbon disclosure project. *Journal of Business Ethics, 142*(2), 369–383. doi:10.1007/s10551-015-2759-1

Bernstein, R. S., Bilimoria, D., & Buse, K. (2016). The influence of board diversity, board diversity policies and practices, and board inclusion behaviors on nonprofit governance practices. *Journal of Business Ethics, 133*(1), 179–191. doi:10.1007/s10551-014-2352-z

Boateng, A., Brahma, S., & Nwafor, C. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics, 26*(4), 5704-5719. doi:10.1002/ijfe.2089

Bruna, M. G., Dang, R., L'Hocine, H., & Manita, R. (2018). Board gender diversity and ESG disclosure: evidence from the USA. *Journal of Applied Accounting Research, 19*(2), 206-224. doi:10.1108/jaar-01-2017-0024

Byrd Jr, J. D., Edmonds, M., Oner, N., Savage, A., & Zungul, F. D. (2019). Exploring corporate governance research in accounting journals through latent semantic and topic analyses. *Intelligent Systems in Accounting, 26*(4), 175-192. doi:10.1002/isaf.1461

Byron, K., & Post, C. (2016). Women on boards of directors and corporate social performance: A meta-analysis. *Corporate Governance: An International Review, 24*(4), 428-442. doi:10.1111/corg.12165

Calabro, A., Huse, M., & Torchia, M. (2011). Women directors on corporate boards: From tokenism to critical mass. *Journal of Business Ethics, 102*(2), 299-317. doi:10.1007/s10551-011-0815-z

Capers, K. J. (2018). The effect of the external environment on bureaucratic representation: Assessing the passive to active representation link. *The American Review of Public Administration, 48*(4), 301-317. doi:10.1177/0275074016686715

Chen, H. X. (2012). *Approaches to Quantitative Research : A Guide for Dissertation Students.* Cork: Oak Tree Press.

Daiser, P., Schmitt, D., & Ysa, T. (2017). Corporate governance of state-owned enterprises: A systematic analysis of empirical literature. *International Journal of Public Sector Management, 30*(5), 447-466. doi:10.1108/IJPSM-10-2016-0163

Ding, F., Lu, J., & Riccucci, N. M. (2021). How bureaucratic representation affects public organizational performance: A meta-analysis. *Public Administration Review, 00*(00), 1-16. doi:10.1111/puar.13361

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of management review, 32*(4), 1155-1179. doi:10.5465/amr.2007.26586086

Ellwood, S., & Garcia-Lacalle, J. (2015). The influence of presence and position of women on the boards of directors: The case of NHS foundation trusts. *Journal of Business Ethics, 130*(1), 69-84. doi:10.1007/s10551-014-2206-8

Favero, N., & Molina, A. L. (2018). Is active representation an organizational-level process? The indirect effect of bureaucrats on clients they don't directly serve. *The American Review of Public Administration, 48*(1), 3-17. doi:10.1177/0275074016660614

Fernandez, S., Koma, S., & Lee, H. (2018). Establishing the link between representative bureaucracy and performance: The South African case. *Governance: An International Journal of Policy, Administration, 31*(3), 535-553. doi:10.1111/gove.12319

Figueira, C., Hong Yang, J., Kakabadse, A. P., Kakabadse, N. K., Nicolopoulou, K., & Özbilgin, M. F. (2015). Gender diversity and board performance: Women's experiences and perspectives. *Human Resource Management, 54*(2), 265-281. doi:10.1002/hrm.21694

Gabaldon, P., Kanadlı, S. B., & Torchia, M. (2018). Increasing women's contribution on board decision making: The importance of chairperson leadership efficacy and board openness. *European Management Journal, 36*(1), 91-104. doi:10.1016/j.emj.2017.03.006

Guul, T. S. (2018). The individual-level effect of gender matching in representative bureaucracy. *Public Administration Review, 78*(3), 398-408. doi:10.1111/puar.12907

Haque, F. (2017). The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. *The British Accounting Review, 49*(3), 347-364. doi:10.1016/j.bar.2017.01.001

Institute of Directors in Southern Africa. (2016, November 1). *King IV Report on Corporate Governance for South Africa 2016.* Retrieved from Institute of Directors Southern Africa: https://cdn.ymaws.com/www.iodsa.co.za/resource/collection/684B68A7-B768-465C-8214-E3A007F15A5A/IoDSA_King_IV_Report_-_WebVersion.pdf

International Monetary Fund. (2020). *Fiscal monitor: Policies to support people during the COVID-19 pandemic.* Washington. Retrieved from https://www.imf.org/en/Publications/FM/Issues/2020/04/06/fiscal-monitor-april-2020

International Monetary Fund. (2021). *State-owned enterprises in Middle East, North Africa, and Central Asia: Size, costs, and challenges.* Retrieved from https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/09/17/State-Owned-Enterprises-in-Middle-East-North-Africa-and-Central-Asia-Size-Costs-and-464657

International Monetary Fund. (2021). *State-owned enterprises in Middle East, North Africa, and Central Asia: Size, costs, and challenges.* Retrieved from https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/09/17/State-Owned-Enterprises-in-Middle-East-North-Africa-and-Central-Asia-Size-Costs-and-464657

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance, 48*(3), 831-880. doi:10.1111/j.1540-6261.1993.tb04022.x

Khuluvhe, M., & Negogogo, V. (2021). *Gender parity in post-school education and training opportunities.* Pretoria: Department of Higher Education and Training. Retrieved from

https://www.dhet.gov.za/Planning%20Monitoring%20and%20Evaluation%20Coordination/Fact%20Sheet%20on%20Gender%20Parity%20in%20Post-School%20Education%20and%20Training%20Opportunities%20-%20March%202021.pdf

Kirsch, A. (2018). The gender composition of corporate boards: A review and research agenda. *The Leadership Quarterly, 29*(2), 346-364. doi:10.1016/j.leaqua.2017.06.001

Köhler, T., Landis, R. S., & Cortina, J. M. (2017). From the editors: Establishing methodological rigor in quantitative management learning and education research: The role of design, statistical methods, and reporting standards. *Academy of Management Learning and Education, 16*(2), 173-192. doi:10.5465/amle.2017.0079

Lapuente, V., & Van de Walle, S. (2020). The effects of new public management on the quality of public services. *Governance: An International Journal of Policy, Administration and Institutions, 33*(3), 461-475. doi:10.1111/gove.12502

Lewis, P., & Saunders, M. (2018). *Doing research in business and management.* London: Pearson Education Limited.

Liang, J., & Park, S. (2021). A comparative study of gender representation and social outcomes: The effect of political and bureaucratic representation. *Public Administration Review, 81*(2), 321-332. doi:10.1111/puar.13092

Malagila, J., Nguyen, T. H., & Ntim, C. (2020). Women on corporate boards and corporate financial and non-financial performance: A systematic literature review and future research agenda. *International Review of Financial Analysis, 71*. doi:10.1016/j.irfa.2020.101554

Meier, K. J., & Nicholson-Crotty, J. (2006). Gender, representative bureaucracy, and law enforcement: The case of sexual assault. *Public Administration Review, 66*(6), 850-860. doi:10.1111/j.1540-6210.2006.00653.x

Meier, K. J., & O'Toole, L. J. (2013). Subjective organizational performance and measurement error: common source bias and spurious relationships. *Journal of Public Administration Research and Theory, 23*(2), 429-456. doi:10.1093/jopart/mus057

Meier, K. J., & Song, M. (2018). Citizen satisfaction and the kaleidoscope of government performance: How multiple stakeholders see government performance. *Journal of Public Administration Research and Theory, 28*(4), 489-505. doi:10.1093/jopart/muy006

Miller, T. L., Triana, M. D., & Trzebiatowski, T. M. (2014). The double-edged nature of board gender diversity: Diversity, firm performance, and the power of women directors as predictors of strategic change. *Organization Science, 25*(2), 609-632. doi:10.1287/orsc.2013.0842

Milton, L. P., & Westphal, J. D. (2000). How experience and network ties affect the influence of demographic minorities on corporate boards. *Administrative Science Quarterly, 45*(2), 366-398. doi:10.2139/ssrn.236441

Mohsni, S., Otchere, I., & Shahriar, S. (2021). Board gender diversity, firm performance and risk-taking in developing countries: The moderating effect of culture. *Journal of International Financial Markets, Institutions and Money, 73*, 101369. doi:10.1016/j.intfin.2021.101360

National Treasury. (2007, May). *Framework for managing programme performance information.* Retrieved from http://www.treasury.gov.za/publications/guidelines/2015-16/FMPI.pdf

National Treasury. (2013, April). *Preparation of the annual report for public entities.* Retrieved from https://oag.treasury.gov.za/Publications/01.%20Annual%20Financial%20Statements/04.%20For%20Entities/For%20fin.%20Year%20ending%2031-03-2013/Annual%20Report%20Guide/Annual%20Report%20Guide.pdf

National Treasury. (2019, May). *Public institutions listed in PFMA Schedules 1, 2, 3A, 3B, 3C, and 3D as at 24 May 2019.* Retrieved from http://www.treasury.gov.za/legislation/pfma/public%20entities/2019-05-24%20Public%20institutions%20Sch%201-3D.pdf

Opstrup, N., & Villadsen, A. R. (2015). The right mix? Gender diversity in top management teams and financial performance. *Public Administration Review, 75*(2), 291-301. doi:10.1111/puar.12310

Organisation for Economic Co-operation and Development. (2015). *OECD guidelines on corporate governance of state-owned enterprises.* Retrieved

from https://www.oecd-ilibrary.org/docserver/9789264244160-en.pdf?expires=1620850562&id=id&accname=guest&checksum=88BC6FE64C7DB26FE0159111F0CD9FB3

Organisation for Economic Co-operation and Development. (2018, April 26). *Ownership and governance of state-owned enterprises: A compendium of national practices.* Retrieved from www.oecd.org: http://www.oecd.org/corporate/ownership-and-governance-of-state-owned-enterprises-a-compendium-of-national-practices.htm?utm_source=Adestra&utm_medium=email&utm_content=%C2%BB%20Download%20the%20compendium&utm_campaign=OECD%20Finance%20and%20Investment%20

Organisation for Economic Co-operation and Development. (2020). *The COVID-19 crisis and state ownership in the economy: Issues and policy considerations.* Retrieved from https://read.oecd-ilibrary.org/view/?ref=134_134629-poiy72eujv&title=The-COVID-19-crisis-and-state-ownership-in-the-economy-Issues-and-policy-considerations&_ga=2.30232959.1956401028.1635596154-786822749.1631369351

Organisation for Economic Co-operation and Development. (n.d.). *Employment: Female share of seats on boards of the largest publicly listed companies*. Retrieved October 29, 2021, from https://stats.oecd.org/index.aspx?queryid=54753#

Park, S. (2013). Does gender matter? The effect of gender representation of public bureaucracy on governmental performance. *The American Review of Public Administration, 43*(2), 221-242. doi:10.1177/0275074012439933

Park, S. (2020). Size matters: Toward a contingency theory of diversity effects on performance. *Public Performance & Management Review, 43*(2), 278-303. doi:10.1080/15309576.2019.1657917

Park, S. (2021). Gender and performance in public organisations: a research synthesis and research agenda. *Public Management Review, 23*(6), 929-948. doi:10.1080/14719037.2020.1730940

Pierides, D., & Zyphur, M. (2017). Is quantitative research ethical? Tools for ethically practicing, evaluating, and using quantitative research. *Journal of Business Ethics, 143*(1), 1-16. doi:10.1007/s10551-017-3549-8

PWC. (2015, April). *State-owned enterprises: Catalysts for public value creation?* Retrieved from https://www.pwc.com/gx/en/psrc/publications/assets/pwc-state-owned-enterprise-psrc.pdf

Republic of South Africa. (1998, October 19). Employment Equity Act no 55 of 1998. *Government Gazette 19370*.

Republic of South Africa. (2004, January 9). Broad-based Black Economic Empowerment Act no 53 of 2003. *Government Gazette 25899*.

Riccucci, N. M., & Van Ryzin, G. G. (2017). Representative bureaucracy: A lever to enhance social equity, coproduction, and democracy. *Public Administration Review, 77*(1), 21-30. doi:10.1111/puar.12649

Song, M. (2018). Gender representation and student performance: Representative bureaucracy goes to Korea. *The American Review of Public Administration, 48*(4), 346-358. doi:10.1177/0275074016676888

Sotola, D. O. (2019). *Women on corporate boards in Africa: Beyond tokenism.* Retrieved from https://www.africaportal.org/publications/women-corporate-boards-africa-beyond-tokenism/

Transparency International. (2021). *Corruption perceptions index 2020.* Retrieved from https://images.transparencycdn.org/images/CPI2020_Report_EN_0802-WEB-1.pdf

United Nations. (1995, September 15). *Beijing declaration and platform for action.* Retrieved October 15, 2021, from https://www.un.org/en/events/pastevents/pdfs/Beijing_Declaration_and_Platform_for_Action.pdf

United Nations. (n.d.). *5: Achieve gender equality and empower all women and girls.* Retrieved October 15, 2021, from https://sdgs.un.org/goals/goal5

Wahid, A. S. (2019). The effects and the mechanisms of board gender diversity: Evidence. *Journal of Business Ethics, 159*(3), 705-725. doi:10.1007/s10551-018-3785-6

Wegner, T. (2018). *Applied business statistics.* Cape Town: Juta and Company Ltd.

Appendix 1: Ethical clearance form

Dear Robyn Vilakazi,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards