



**Environmental, Societal and Governance Metrics and the Outcomes of
the Underlying Performative Processes of Chief Executive Officer Pay**

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Abstract

My motivation for this research was impassioned by interest in the performativity of the underlying processes that drive CEO pay through my job of running a consultancy on global governance and executive remuneration for the past 24 years. The performativity of CEO pay refers to the idea that the level of pay for CEOs, particularly at large publicly traded companies, is determined in part by what other CEOs are paid - a complex phenomenon that is driven by social norms, competitive pressures, and the actions of compensation committees and boards of directors. A recent study, published in the *Journal of Financial Economics* in 2020, found that the pay of CEOs at S&P 500 companies is positively associated with the pay of CEOs at peer companies, and that this relationship is stronger for CEOs with stronger performance. The research suggests that this is due to a 'peer performance' effect, in which directors look to the pay of other CEOs whose companies have similar performance when setting pay for their own CEO. To complicate matters, wider society has demanded more sustainable and stakeholder-centric practices, which has resulted in the introduction of non-financial measures in the CEO scorecard.

The rapid emergence and development of non-financial measures covering environment, social and governance (ESG) factors has sparked debate on how corporate performance should determine the financial reward of Chief Executive Officers' (CEOs) taking these new criteria into account. Societal pressure has resulted in underlying structural changes, related to ESG performance, in the globe's largest companies, bringing into sharp relief the complex calculative processes (Callon, 1988) used to reward past, current, and future CEO financial rewards. These calculative processes, however, remain largely empirically under-explored and under-theorised. What follows seeks to rectify this imbalance, revealing the tendency of remuneration committees to deploy calculative processes to perform, shape and format executive reward rather than merely observing it (c.f. Callon, 1988: 2). We observe how long-standing debates over the adequacy of the conceptual framework, Agency Theory - traditionally used to unite the interests of shareholders (principals), CEOs (agents) and wider stakeholders - have been reignited by the advent of ESGs and their allocation to executive reward. For all the ESG-related rhetoric used by globally significant firms, analysis reveals it is shareholder value maximisation that statistically drives the allocation of reward, with ESG-related factors pushed firmly further down the list of priorities. Using an original two-panel primary data set comprising the remuneration plans of 517 of the globe's largest firms, we reveal the efficacy of 'Barnesian performativity' that arises when the effects of using a theory bring social reality closer to the assumptions or predictions of that theory. As a result, the theory becomes self-fulfilling. (Barnes, 1983; Mackenzie, 2006: 19; Callon, 1998; Latour, 1987). We map and unpack the performativity of Agency Theory on three fronts. Firstly, we theorise how, by the introduction of specific felicity conditions, ESG factors can be more closely and, critically, better aligned to outcomes generated by the underlying performative processes of CEO reward. Secondly, we empirically examine and

establish how the outcomes of the underlying processes of CEO reward (remuneration committees, annual financial statements and integrated reports, remuneration consulting, articles, books, and academic research) focuses CEO near-term priorities on short term financial goals thereby creating a tension between CEO incentives and the adoption of ESG factors. Thirdly, we seek to integrate a suite of appropriate ESG metrics into the outcomes of the underlying performative processes of CEO pay, using specific non-financial short-term incentives that have been determined by ESG factors that limit risk and ensure that long term value creation and sustainability targets of all stakeholders are met.

Executive Summary

The introduction of non-financial measures of ESG (Environment, Social and Governance) that are linked to Chief Executive Officer (CEO) on-target total remuneration (fixed pay plus target short-term incentive plus target long-term incentive) has taken centre stage since the Covid pandemic highlighted sustainability issues of organisations around the globe. We investigated the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse), with a specific focus on Agency Theory as it relates to the economic matters surrounding CEO on-target total remuneration.

Agency Theory assumes that if an Agent (Management) is adequately and/or appropriately incentivised, then the Agents' interests will be aligned to the Principals' (shareholders') interests. Performativity is described as the power of theories and discourse to remake observable reality (to act or consummate an action, or to construct and perform an identity) in their own image (Callon, 1998). Agency Theory has been the dominant discourse in the determination of CEO pay, where the performative power of the underlying performative processes of CEO pay (through Remuneration Committee meetings, Annual Financial Statements and Integrated Reports, Remuneration consultants, articles, books, and academic research) is evident when the CEO perceives a reality wherein CEO and Executive behaviour is driven by economic incentives to meet financial goals. The introduction of ESG measures, which are tied to CEO compensation, disrupts traditional Agency Theory because it raises questions regarding how ESG measures influence CEO pay dynamics. Additionally, it underscores the necessity of assessing the performative impact of these measures on CEO pay processes. This requires a reviewed theory that expands the Principals to include the stakeholders of ESG.

Our research contributes to the debate about ESG incentives with a novel approach to dealing with the problems of incentives for ESG metrics, and the debate over Shareholder Value (SVM) versus sustainability. If existing theory is not revised, the continued outcome of the underlying performative processes of CEO Pay (theory/models and discourse) may lead to an increased disconnect between society's changing values and the disproportionately large remuneration of CEOs, which companies are defending using current theory. As the world embarks on including ESG factors into corporate scorecards and linking them to on-target CEO total remuneration, the ESG factors are shaping the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). This is science in the making (Latour, 1987) – converting theory into practice. This ontological phenomenon should result in more sustainability-oriented business models in the future - these companies are sustainable by doing well by doing good. Whilst good correlation exists between ESG factors and CEO total on-target earnings, these are leading indicators that point to new areas for

research that will take into account lagging factors like sustainable financial performance, company size and institutional involvement.

In this comprehensive study, three central themes emerge, each crucial for understanding the evolving dynamics of CEO compensation in the context of ESG integration. The first theme is the reframing of Agency Theory. The traditional model of Agency Theory prioritises shareholder interests, often at the expense of broader stakeholder concerns. Our research acknowledges this inherent tension and proposes a re-evaluation of Agency Theory to incorporate a more diverse shareholder motivation that includes not only profit maximisation but also social and environmental considerations. This expansion is essential as it reflects the growing demand for corporate accountability and sustainability, challenging the conventional profit-centric framework and suggesting a model that balances financial goals with societal expectations. Consequently, we explore how Environmental, Social, and Governance (ESG) factors can align with and influence the performative processes underlying CEO pay, evaluating the suitability of different theoretical lenses in capturing this multidimensional aspect of corporate governance. The second theme explores the tension between short-term Incentives and long-term sustainability goals. The research identifies and explores the conflict between existing CEO remuneration models, which are predominantly influenced by short-term financial metrics, and the adoption of sustainable practices that require a long-term perspective. We delve into how ESG factors, when integrated into compensation frameworks, can reshape the incentives that drive CEO behaviour, steering them towards outcomes that align with long-term sustainability and corporate social responsibility goals. The third theme delves into the impact of financial incentives on strategic focus. Our analysis investigates how traditional financial incentives might narrow CEOs' focus to short-term results, potentially side-lining broader, more sustainable business strategies that include non-shareholder interests. The study examines the implications of such a focus for long-term value creation and discusses alternative incentive structures that might encourage a more balanced approach to both short-term performance and long-term strategic investments in ESG.

Each of these themes is interlinked, depicting a complex landscape where ESG factors increasingly influence executive compensation. This influence prompts a necessary shift in corporate governance structures to accommodate and foster long-term sustainability goals. These themes not only highlight the ongoing transformation in how companies evaluate and reward executive performance but also underscore the need for theoretical and practical adjustments to better integrate sustainability into corporate strategies. This adjustment is crucial for aligning executive actions with the broader expectations of society and ensuring that companies can sustain their operations and reputation in a rapidly evolving global market.

Large increases in the use of ESG factors in Annual Financial and Integrated Reports have been accompanied by an increased use of ESG metrics in on-target CEO total remuneration KPIs (Key Performance Indicators). The implications are that the performativity of the underlying processes of CEO pay is being challenged, and that ESG metrics may dilute the centrality of shareholders as primary principals as is currently the case in Agency Theory. This is not consistent with Agency Theory in its current form and may require less reliance or a review of Agency Theory.

We posit that while the underlying processes of CEO Pay (theory/models and discourse) have been performative in delivering value to the shareholders and rewarding CEOs for delivering this value, counter-performativity has meant that short term value has been delivered instead of long-term value creation. Academic research supports the contention that CEO pay structures, predominantly based on short-term financial metrics, often lead to short-term value extraction rather than long-term value creation. Studies by Graham et al (2005) and Lazonick (2014) highlight how this focus on short-termism can compromise sustainable growth strategies and stakeholder interests. Additionally, research by Bebchuk (2009) and Jensen (2001) demonstrates how CEO compensation schemes incentivise behaviours that prioritise immediate shareholder returns at the expense of broader stakeholder concerns and long-term strategic investments. This disconnect between CEO incentives and stakeholder interests undermines the sustainability and societal impact of corporate decision-making, necessitating a re-evaluation of compensation practices to foster long-term value creation.

CEO pay primarily for financial performance measures ignores the long-term value creation for a broader shareholder base. (Bower & Paine, 2017; Li and Young, 2016; Roberts & Ng, 2011) resulting in short-term value delivery. We further posit that governance is not the ideal vehicle to solve the problem statement and that added regulation will not alter the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) effectively. We propose a revised model of Agency Theory in which two obligatory felicity conditions are introduced into the CEO scorecard; namely, alignment with a wider stakeholder base, and adoption of non-financial measures of Environment, Society and Governance (ESG) that are part of the organisation's purpose.

Currently, very few firms have successfully adopted ESG metrics because of CEO focus on increasing the share price in the short term. However, when ESG factors are neglected, they become risk factors that may negatively impact the share price (Sassen et al, 2016; Ng & Rezaee, 2020). High risk ESG factors may be linked to short-term incentives (STIs) and overcome the problem of CEOs focused on maximising their remuneration in the short term at the cost of sustainable growth. We find that there is a negative correlation for ESG factors and STIs, and a positive correlation between ESG factors and LTIs. This shows that CEOs are overwhelmingly

incentivised to avoid or reduce risk through short-term incentives but that longer term incentives for ESG investment is relatively insignificant.

We propose that specific non-financial STIs that limit risk to the organisation for ESG factors are determined and need to be linked to long term outcomes in the LTI design pay-outs to ensure that long term value creation and sustainability targets are met. Our research contributes to the debate about ESG incentives with a novel approach to dealing with the problems of incentives for ESG metrics, and the debate over Shareholder Value (SVM) versus sustainability. Our research opens the need for future research into the nature of ESG risk and mitigation linked incentives.

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Definitions

ASX	Australian Securities Exchange
CAC	Cotation Assistée en Continu (French stock index)
CEO	Chief Executive Officer
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DAX	Deutscher Aktienindex (German stock index)
EBIT	Earnings before Interest and Tax,
ESG	Environment, Social and Governance
EU	European Union
EV	Enterprise Value
FTSE	The Financial Times Stock Exchange
FY	Financial Year
GECN	Global Governance and Executive Compensation
GHG	Green House Gas
GND	Green new deal
IRRC	Investor Responsibility Research Centre
JSE	Johannesburg Securities Exchange
KPIs	Key Performance Indicators
LTI	Long term incentives
Market cap	Market Capitalisation
NFRD	Non-financial Reporting Directive
On-target total remuneration	Fixed pay plus target short-term incentive plus target long term incentive
PCA	Principal Component Analysis
ROCE	Return On Capital Employed
SFDR	Sustainable Finance Disclosure Regulation
S&P	Standard and Poors (USA stock market)
SMI	Singapore Market Index
STI	Short term incentives
SVM	Shareholder Value Maximisation
TSR	Total Shareholder Return

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1. Introduction

Modern companies are under increasing pressure to recognise and respond to a set of stakeholders that is broader than just shareholders. Institutional shareholders and governments, under pressure from broad groups of stakeholders, are increasingly compelling companies to report on their Environmental, Social and Governance (ESG) impact and activities (Gatti, Vishwanath & Cottier, 2019). Consequently, firms have come under increased scrutiny for their ESG activities, and there has been a corresponding increase in Corporate Social Responsibility (CSR) that is the antecedent to ESG performance. ESG is an indicator of the integration of environmental, social and governance factors in a firm's business strategy, while CSR is the action plan or framework of socially responsible activities that the firm plans to engage in (Gillan, Koch & Starks, 2021). Firms have been slow to incentivise Chief Executive Officers (CEOs) to implement CSR programs that improve their ESG metrics (Reda, 2020).

In 2019 the Business Roundtable released a "Statement on the Purpose of a Corporation" (Roundtable, 2019) in which 181 US companies made a commitment - enshrined in firms' commitments to invest in ESG - to the wider social remit of all stakeholders, not just shareholders. This statement was notable in that this was the first time that US corporations publicly stated their commitment to all stakeholders and not just to shareholders, as they had before. Shareholders are the investors in the company, whilst stakeholders are individuals or a group that has an interest in any decision or activity of an organisation e.g., employees, community, customers, suppliers, society, citizens and communities. The statement asserted that all stakeholders were essential for business, and the signatories committed to deliver to all of them. The statement also committed to creating long term shareholder value but was silent on short term value creation. In 2021, in a study that evaluated the implementation of the Business Roundtable pledge on CSR and ESG, Bebchuk & Tallarita (2021) found that almost none of the signatory companies changed their governance practices to include stakeholders or reduced shareholder primacy. In most cases Bebchuk & Tallarita found that, far from recognising the interests of a wider stakeholder base, most companies simply re-affirmed the primacy of shareholders. The tension that Bebchuk & Tallarita (2021) highlight is that ESG/CSR investment requires the financial sacrifice of shareholder returns in favour of the wider and non-financial interests of stakeholders, most of whom are not directly involved in the firm (Sajko et al, 2021; Bebchuk & Tallarita, 2020). The primacy of shareholders is fundamental to dominant CEO remuneration models that align shareholder interests with CEO incentives (Edmans, Fang, & Huang, 2022). ESG factors are non-financial and supposedly tied to the sustainability and long-term value creation for society, while shareholder interests are aligned to the financial performance of shares and stock. The issue is whether the wider agenda of ESG is in fact material to financial performance and this has driven the explosion in the number of ESG investment portfolios in recent years. It is important to discover whether CEO pay is driving ESG outcomes or whether ESGs are

simply being performatively retro fitted to key performance indicators (KPIs) and LTIs and linked in a way to appear as if CEOs are being paid for ESG performance. Recent findings are now challenging the efficacy of ESG portfolios, and there is a need to explore the statistical link between CEO pay and their firm's ESG related activities and verify the outcomes.

The setting of CEO Fixed pay is driven by many factors of strategic level and complexity – appendix 8 shows the factors used when setting CEO Fixed pay. Financial performance or key performance indicator (KPI) measures dominate the setting of CEO variable pay. Underpinning the rationale for allocating CEOs' economic reward is Agency Theory. The mandate and core performance objective of every CEO is to deliver on their firm's business strategy. Capital and investors set the purpose (and the strategy) of the firm. The outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) is enacted when the CEO perceives a reality wherein economic incentives to meet financial goals drive CEO and Executive behaviour (Callon, 1998; Roberts & Ng (2012).

The tension between financial and non-financial measures is difficult to reconcile, and inevitably leads to greenwashing, with companies paying lip service to ESG factor for marketing and public relations purpose (Bebchuck & Tallarita, 2020; Sajko et al., 2021). The primacy of shareholder is appropriate, as Agency Theory continues to play out in CEO remuneration practice. This is the fundamental problem that is dealt with in the three papers that comprise this thesis. The first paper is a theoretical paper that explains the power of Agency Theory and proposes a revised model for CEO remuneration. This model addresses the tension caused by the shareholder primacy and the need to include broader stakeholder groups. The second paper proves empirically the tension inherent in current practice and the dominance of Agency Theory. The third paper extends the findings of the first two papers and shows that the tension between shareholder interests and broader stakeholder interests are increased when short-term incentives are largely financial, and when ESG (non-financial) incentives are long term.

We first look at the theoretical positioning of corporate purpose and ESG, followed by a literature review of Agency Theory and the performativity and CEO pay. We discuss the framework linking the three papers in this research followed by a description of the methodology used in the research. This is followed by the three papers and final conclusions from the research.

2. Theoretical Positioning and Literature Review

Corporate scandals and the increased media attention focused on CEO pay have led to pressure to alter CEO incentives away from purely financial measures (Mayer, 2021). Since 2019 there has been a ramping up of - and increased focus on - non-financial measures of ESG. This was accelerated with the arrival of the Covid pandemic, and the focus has moved from shareholders to stakeholders

with a renewed look at company purpose. The pressure for firms to adopt ESG is an ongoing trend, but the levels of adoption remain low. The CEO is the most influential driver of the adoption of ESG factors into business models and strategies, which makes CEO incentives a powerful lever to encourage ESG and CSR. However, CEO remuneration is determined by a board that represents the shareholders' interests. This practice has resulted in an ongoing debate about corporate purpose and the primacy of the shareholder over other stakeholders (Granola & Ryan, 2022). The thesis and overall research area is about incentivising CEOs for ESG/CSR. These three papers engage three main bodies of literature: corporate purpose and ESG; Agency Theory and performativity; and CEO remuneration and ESG.

2.1. Agency Theory and Performativity

2.2.1. Agency Theory and CEO Remuneration

Agency Theory was initially theorised by Jensen and Meckling (1976), who defined an agency relationship as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen & Meckling, 1976, p. 311). Two distinct set of actors emerge; the principal (who is a shareholder in the corporation) and the agent (who acts as a manager for the principal (Berle and Means, 1991). Agency Theory posits that the size of the reward - which may be linked to the level of complexity (amongst other factors) - offered by the principal to the agent defines the relationship between the principal and the agent (Perkins and White, 2016). However, this relationship has not been an easy one. It is common cause, in all the nascent literature on Agency Theory, that there is a contracting problem between the Principal and Agent (Fama & Jensen, 1983) because of competing interests.

Jensen and Meckling (1976) detailed the key issues around the agency model as costs arising from the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss. Even though this seminal piece of work was researched 50 years ago, Jensen and Meckling (1971, pp. 7) had already identified the main problem plaguing Agency Theory:

“That literature focuses almost exclusively on the normative aspects of the agency relationship; that is, how to structure the contractual relation (including compensation incentives) between the principal and agent to provide appropriate incentives for the agent to make choices which will maximize the principal’s welfare, given that uncertainty and imperfect monitoring exist. We focus almost entirely on the positive aspects of the theory.”

Firstly, according to [Jensen & Meckling \(1976\)](#) and [Singh \(1985\)](#), monitoring is the direct or indirect observation of the agent's effort, or behaviour, over some period using tools like budgets, responsibility accounting, rules, and policies. To try to solve the moral hazard problem, 'pay for performance' models have been adopted but complexity factors, which affect long term value, have arisen that result in conflicting measurements between establishment and delivery. These models require the writing of sufficiently detailed contracts ex ante as well as measurement and verification of results ex post. This has exacerbated the problem of creating long term value.

The reward structure is designed to incentivise managers to make decisions that are in the best interests of Principals. However, the Agents natural conflict of interest causes them to desire less monitoring and lower their risk whilst maximising reward for the least effort ([Harris & Raviv, 1979](#)). [Demski, Patetl, and Wolfson \(1984\)](#) state that Agents would choose courses of action that are in their own self-interest - even if they conflict with the well-being of the Principals.

Secondly, this is further complicated by the informativeness principle ([Holmström, 1979](#)) and multi-tasking ([Holmström, and Milgrom, 1991](#)). Information asymmetry and multitask problems arise when the Principal can observe some outcomes, but not others. This makes monitoring more difficult. The problem is that Agents (management) are usually the party proposing the reward structure to the Principals (via Remuneration Committees and Boards) and they have better information at their disposal than the Principals. According to [Callon \(1998\)](#), what the agents do depends on the form and structure of the relations in which they interact – in this case, the Principal-Agent relationship. This does not preclude the risk-averse agent from abusing their power through asymmetry of information and bounded rationality, thus giving them the opportunity to ignore social and environmental - and even economic - stakeholder interests.

Thirdly, contracts are traditionally allocated to Agents in four steps ([Fama & Jensen, 1983: 302](#)). The first two steps fall under 'decision management' and include initiation (alternative ways to use resources and structure contracts) and ratification (the choice of decision alternatives). Steps three and four, implementation (executing the choices) and monitoring (measuring and rewarding performance), fall under 'decision control'. These last two critical steps monitor the agent's actions and determine the reward structure - including how well managerial incentives are aligned with the interests of owners ([Fama & Jensen, 1983](#)). If the Principals' decision control is effective, they will succeed in reducing Agency costs ([Shavell, 1979; Holmstrom, 1979](#)). However, asymmetry of information means that it is extremely difficult to monitor accurately.

Lastly, the allocation of decision rights generates bargaining power, which in turn determines incentives. The executives have more power and influence than the non-executive directors who are not willing to exert their power ([Bebchuk, Fried and Walker 2002; Bebchuk, 2009; Roberts, McNulty and Stiles, 2005](#)).

CEOs (agents who function as managers for the Principal) are in the position to make decisions that may not be in the best interest of the Principals and stakeholders (Laffont and Martimort, 2002). Agents may choose to maximise their own remuneration by focusing on short term gains and observable outcomes that translate to incentive payouts, instead of focusing on long term decisions (that may only realise after their tenure) that will enhance the sustainability of the organisation. These actions may also be unobserved by the principal, who has no access to the direct actions of the agent. This allows the agents to consistently act in a manner that promotes self-interest and is said to be 'rent seeking' (Jensen, 2001; Jensen and Meckling, 1976), claiming greater pay for constrained delivery or by claiming pay based only on meeting shareholder expectations.

These actions then reduce the overall surplus of the relationship for equitable distribution to the stakeholders (value creation), whilst increasing the cost of the Agent. This is in direct conflict to shareholders' desire to maximise profit (O'Reilly & Main, 2010) and *stakeholders'* expectation of sustainability through long term value creation. The tension between the agendas of the Principal and the Agent, and the inflated agency costs that result from this tension, can reduce the company value, and consequently reduce shareholder wealth (Otieno, 2011) as well as challenge the long-term sustainability of the organisation.

2.2.2. Underlying performative processes of CEO Pay (theory/models and discourse)

Performativity is described as the power of theories and discourse to remake observable reality (to act or consummate an action, or to construct and perform an identity) in their own image, with the involvement of a 'sociology of translation' (Callon, 1998). Callon posits that performativity of economics (incentives) becomes a reality of the fiction of the 'rational' individual. Roberts & Ng (2012) go on to deduce that traditional incentive pay practices have therefore resulted in the very self-interested opportunism that they strove to avoid. This is the fiction enacted by the Agent – driven by the economic incentives to meet financial goals. This means that the Agent focuses on delivering the performance that is required to drive his/her incentive. Callon (1998) states that material arrangements and investments create a taken-for-granted boundary within which actors' interactions occur, the CEO (and executives) being the main actor/s.

Callon and Muniesa (Araujo, 2007) advance this notion of the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) by stating that the actors are cognitively embedded in economic principals to perform market mechanisms and related economic activities. Companies are adopting calculative models and technologies, known as market devices, which are integral to CEO remuneration and incentives (Callon, Millo & Muniesa, 2007a; Callon, 1998a; MacKenzie & Millo, 2003; Muniesa, Millo & Callon, M., 2007; Preda, 2006).

While these calculative models and technologies have driven CEO pay, they are normative economic devices that have framed (affected) the social interaction in these market settings so that society (stakeholders) interpret or evaluate CEO pay as being *only* financial and focused on shareholder returns. The devices have served to change the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) only in relation to economic theory. Latour (1987) calls this the power of science in action, as opposed to science in the making. As Barnesian (Marti, & Gond, 2018) discourse states - performativity describes a situation in which the world starts to resemble the predictions of a theory or a model (Svetlova, 2012). Thus, the outcomes of the underlying performative processes of the Agents' (CEOs') Pay (theory/models and discourse) is that of alignment to the normative financial goals that drive his/her incentive - and not that of sustainable performance or what the wider stakeholder sees as sustainable performance (Tosi et al, 2000).

2.2. CEO Remuneration and ESG

The concern of proponents of Agency Theory is the decoupling of pay for performance. Bebchuk, and Tallarita (2022, p.2), posit that the use of ESG-based compensation delivers a “questionable promise and may pose significant perils”. They further the narrative to say that expanding the use of ESG-based compensation may encourage executives to increase their own payouts without creating stakeholder value - and may in fact lower their desire to deliver shareholder value. They posit that there are two structural flaws in the use of ESG metrics to incentivise CEOs. Firstly, the focus is limited to a restricted subset of relevant stakeholders. Secondly, these shareholders are then unable to effectively assess whether the incentives are in fact beneficial, or whether they are used merely to enhance the executives' payouts.

The decoupling that Bebchuk and Tallarita (2022) explain is further complicated when the nature of the incentive is considered. Dardour and Husser (2016) focused on short-term incentive compensation and total incentive compensation. They found that these two components are not correlated with the total CSR disclosure score (comprising environmental, social, and governance factors). Only the environmental disclosure score is correlated with short term and total executive incentive compensation, and Social and governance disclosure is not correlated. Derchi et al, (2021) studied the effectiveness of the use of executive remuneration linked to Corporate Social Responsibility (CSR) goals across US firms of 746 listed companies for the period 2002–2013. They found that the use of CSR-linked remuneration contracts promotes CSR performance and that linking executives' remuneration to CSR goals produces positive effects in the 3rd year after adoption. This is long term value creation at the expense of short-term value transfer. According to a study done by Detemple and Xing (2020), ESG investment helps to mitigate the production externality and fosters conditions for long term growth of cashflows, both of which improve the welfare of the principal and the agent - thereby also improving the welfare of the local community.

They posit that ESG investment is negatively related to traditional pay for performance measures and conclude that ESG contracts are less sensitive to traditional performance measures than contracts that preclude rewards based on ESG measures. This would imply that when designing incentives, ESG measures should be moderating measures. Expertly designed contracts based on these measures could help focus ESG investment towards value creating activities and align the objectives of managers and stakeholders.

Not all ESG factors are equally relevant and need to be differentiated. An instructive study by Dikolli et al (2022) determined that mutual votes are likely to be 19.1% higher for proposals that aim to align executive compensation with environmental and social (ES) objectives and that this drops to 6.3% for compensation proposals that focus on governance (G) objectives. Dikolli et al (2022) found that ESG funds are 13.7% more likely than non- ESG funds to support proposals that aim to improve the transparency of executive compensation. Dumitrescu and Zakriya (2021) found that social factors have a mitigating effect on the risk of stock price crash, whilst environment and governance factors do not. Meanwhile Eklund and Stern (2021) posit a measurement system that will enact the outcome being a relative (indexed) performance measure, which they say has more benefits than its costs, as it neutralises the factors that are not under the direct control of the CEO, maintains the intrinsic rewards in the CEO compensation contracts, and is flexible and adaptable to the unexpected changes in the technology, market, economy, and the globe.

2.3.1. Short-term and long-term ESG Metrics

These attempts to differentiate between ESG factors do not solve the short termism conundrum. There is a need to differentiate between ESG/CSR factors and align them directly to CEO incentives without decoupling the pay for performance mechanism. We argue that ESG metrics be differentiated according to their impact on shareholder's equity. It is common cause that using the implicit cost of equity is a better estimate of shareholder requirements in the context of socially responsible businesses, as the cost of equity is reduced for companies that embrace ESG measures (Chouaib et al, 2021). ESG measures that are linked to short term measures are often defensive (risk) factors, or risk mitigating factors, in the companies' greenwashing' claims (Andriosopoulos, 2022; Dammert, 2021; Huang, 2022). O'Hare (2022) names the risk relationship between governance, and environmental and social risks as one of the top five global risks in 2019 (World Economic Forum 2019). ESG measures that are linked to long term value creation are sustainable measures that are shaping the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) for long term value creation and benefit to society. Furthermore, short-term incentives exhibit trade-off behaviours under earnings pressure to deliver Shareholder Value Maximisation. Boeger (2020) found evidence that investors take interest in environmental, social and governance (ESG) issues, but frequently this appears linked to possibilities of continued wealth, or as a strategy to avoid risk. Many studies have tried to demonstrate that ESG factors result

in value creation, but it has been shown that ESG measures have a statistically significant and negative relationship with the level of real earnings management (Chouaibi and Zouari, 2022). In other words, ESG measures increase the cost to the shareholders in the short term. The careful inclusion of ESG measures in STI and LTI incentive design for CEOs has been an attempt to avert these issues. Variable pay design has incorporated STIs for risk management/mitigation (loss of STI if risk actualises) whilst it uses LTIs to align to shareholder interests. However, ESG requires the shareholder to sacrifice profits or shareholder value in the short term for ESG (particularly the Environmental and Societal factors, but not at the expense of Governance).

Whilst the research done in this area is voluminous and comprehensive, it fails to dissect the defensive or risk ESG factors from the sustainable factors – which is what our paper attempts to do. For example, Gadinis and Miaza (2020) identify the wide range of issues nurtured under the sustainability movement - including environment and climate, diversity and other employee concerns, privacy, and supply chain management - but they do not connect these to sustainability outcomes, as they say that they do not always lend themselves readily to a profit-maximising logic and are often costly in the short term. This goes against the objective of long-term value creation and sustainability measures. Their solution is that companies are looking primarily for safeguards against downside risks (risk mitigation in the short term) – this conclusion is limited or incomplete. They believe that social risk is highly destructive for corporate value even when the company's key failure is not violating laws. They use Facebook and Uber as examples. They contrast sustainability with compliance and note that while compliance's reach is tied to legal violations, sustainability is more normative and doesn't require legislation. This supports our argument that ESG should be differently rewarded for both compliance and sustainability in the long term. The market seems to have intuitively accepted this distinction as shown in a study on carbon emissions by Haque and Ntim's (2020) that found that the market tends to reward firms with superior process-oriented carbon performance instead of actual-carbon emissions. This indicates a shift towards incentive targets based on process that are short-term (STI) rather than output that are long-term (LTI).

It becomes common cause that remuneration policy and incentives schemes should also be linked to the stakeholder expectations, should reflect the understanding for their values, and should respect the mutual obligations that organisation has towards society, its shareholders, employees, and other stakeholders (customers, suppliers) and corporate performance (Klimkiewicz, 2017; Klimkiewicz and Beck-Krala, 2015). Reda (2020) found that a small minority of companies were including ESG metrics in remuneration decisions for CEOs but even then, the differentiation between LTI and STI was limited. Reda (2020) did however speculate that this was driven by compliance.

Linking ESG factors to LTIs is a different proposition, as the adoption of ESG practices may not lead to an immediate increase in performance, and that there needs to be a strong CSR/ESG strategy in place to adopt ESG practices (Serafeim, 2022). This was also shown by Flammer et al (2019) where

they found that CSR contracting leads to an increase in long term orientation and an increase in CSR. This clearly indicates the utility of LTIs for CSR contracting, but with the prevalence of short termism, actual investment in ESG is exceptional rather than the norm. According to [Walker, \(2022\)](#) in most cases of explicit ESG incentives - even when they are explicit and incorporated in annual bonus plans - they are economically insignificant relative to financial measures that maximise remuneration. However, this will change when an ESG metric becomes a risk to both CEO and shareholder alike.

2.3. Framework Linking the Three Papers

The research in this thesis links three main bodies of literature about the corporate purpose, Agency Theory and CEO incentivisation. The literature review leads to the following research questions, which are separately tested in each of the three papers:

1. Is there tension due to the dominance of Agency Theory when shareholder interests are given primacy over other stakeholders and if so does this tension discourage the adoption of non-shareholder interests?
2. Is there empirical evidence showing the tension between CEO incentives and the adoption of ESG factors and CSR practices
3. Given that ESG incentives for CEOs are non-financial and long term, do financial incentives focus the attention of CEOs on short term results at the cost of long-term incentives and ESG/CSR?

The three guiding findings were developed and reflect in the research problems dealt with in the three papers. Figure 1 illustrates the framework of the three papers.

Figure 1: Framework of the three papers

	Barnesian Performativity	
	Discursive Element	Discursive Element
ESG / Stakeholders	ESG language	CEO Remuneration
ESG / Shareholders	Non-financial measures: 42 ESG variables	Financial measures: TSR, EBIT, MCAP (*)
ESG / Stakeholders / Shareholders	Revised Blair / Hesketh / Leitch Performative Model (Short-term and Long-term)	

(*) Total shareholder return (TSR), Earnings before interest and tax (EBIT), Market capitalisation (MCAP)

Paper 1: A Greener New Deal? Aligning ESG factors to the outcomes of the underlying performative processes of CEO Pay

Can the interests of shareholders, and the executives they employ to manage their capital on their behalf, be aligned with the evolving environmental, social and governance (ESG) demands of wider society? The theoretical underpinning to the claim that executives (agents) can be motivated by certain reward structures offered by shareholders (principals) has been called into question by an apparent failure of large firms to adequately address the new, wider ESG-related demands of a broader set of stakeholders in the form of wider society. Agency Theory obliges executives to meet the objectives captured by certain key performance indicators (KPIs) or financial fundamentals set by a board appointed by shareholders to act in their interests and maximise the value of their investments while reducing risk. The aims of maximising shareholder value often conflict with the interests of stakeholders such as employees, customers, or society and this may lead to multi-constituency goals for the company, which in turn, should reflect in the incentives and remuneration of executives. We reveal how the performative effects of Agency Theory’s focus on short term financial fundamentals and supporting KPIs ensures that executive agents remain largely focused on shareholder value maximisation. We posit that accommodating the theoretical evolution of Agency Theory needs to accommodate the material risks represented by ESGs in the underlying performative processes used to justify executive rewards structures. Such an approach, we posit, leads to more transparency for principals and justifiable executive reward for agents on the one hand, while driving material ESG-related progress for wider stakeholder principals on the other.

Paper 2: How Green is Green? Are ESG Factors shaping the outcomes of the underlying performative processes of CEO Pay?

This paper reveals the analytical tensions that arise when executive remuneration packages attempt to balance the adoption of ESG-related factors with CEO pay. The introduction of ESG measures introduces the interests of wider stakeholder which effectively compete with wider shareholders' incentives. This creates a tension with Agents (CEOs) who are conventionally incentivised and motivated by a different set of financially driven short-term objectives. Tensions we identify include the trade-off between Agents being rewarded simply for the inclusion of ESG metrics as opposed to additional incentives being wrapped around and released by progress in ESG factors deemed by wider stakeholders as now worthy of shaping executive financial packages. Far from triggering additional rewards for positive traction against ESG-related performance indicators, our analysis reveals how executive remuneration committees in the world's largest organisations are retrospectively deploying performative processes to perform, shape and format the relationship between ESG factors and executive reward (c.f. Callon, 1988: 2). Despite little identifiable traction against ESG-related criteria (momentum, growth, material impact), emergent discursive-based factors are, in Barnesian terms (when the effects of using a theory bring social reality closer to the assumptions or predictions of that theory), performatively deployed to construct the "objective" case for ESG-related progress and subsequent executive reward. The paper discusses and analyses the theoretical tensions in Agency Theory released when societal stakeholders are introduced as additional principals whose interests may lie in direct opposition to those of shareholders, creating dilemmas around the alignment CEO interests and related incentives. The net effect of this ongoing performativity is to question the continued ability of Agency Theory to sustain a balance between shareholder primacy and ESG-related measures. These can only be resolved with the deployment of the distorting discursive techniques of performativity.

Paper 3: It's the ESGs: Aligning the performativity of CEO pay with sustainable business through short term and long term incentives

Is there an empirical basis for aligning executive reward with shareholder value and environmental, social and governance (ESG) factors? CEOs are incentivised by means of a combination of short-term and long-term incentives that reward them primarily for share price performance in the short term, and through long term value creation via the execution of the firm's strategy. Recently firms have been under pressure to introduce non-financial measures to incentivise executives to improve their ESG metrics through CSR activities, but these non-financial activities threaten the pay for performance financial incentives that are the reason that shareholders invested in the firm in the first place.

Remuneration committees struggle with incentivising Environmental, Sustainability and Governance (ESG) factors for CEOs because ESG factors are non-financial measures and are difficult to link to financial performance. Despite this, institutional investors increasingly expect firms to adopt ESG metrics, as there is evidence that ESG factors may impact the long-term success of firms. When companies neglect ESG factors, they become risk factors that may negatively impact the share price. High risk ESG factors may be linked to short term incentives (STIs) and thus overcome the problem of CEOs who are focused on maximising their remuneration in the short term at the cost of sustainable growth.

We propose that specific non-financial STIs that limit risk to the organisation for ESG factors are identified and are linked to long term outcomes in the LTI design payouts to ensure that long term value creation and sustainability targets are met. Our research contributes to the debate about ESG incentives with a novel approach to dealing with incentivisation of ESG metrics, and the debate over shareholder value maximisation versus sustainability.

The 3 research papers investigate how the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) discourages the adoption of non-shareholder interests and creates tension between CEO incentives and the adoption of ESG factors and CSR practices. This requires a review of Agency Theory to include additional stakeholders. The revised Agency model should encourage CEOs to manage risk in the short term and focus on long term value creation and long term sustainability.

3. Methodology

3.1 Research design

The research was informed by the literature review which advocated that the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) could be aligned with stakeholder interests using non-financial measures of ESG. The study was a quantitative and empirical desktop study. It was archival in nature where we gathered information from secondary sources from Annual Financial Statements of the top indexes of public companies from the following eight Security Exchanges: Australia (ASX 100), Canada (TSX 60), UK (FTSE 100), France (CAC 40), Germany (DAX 30), South Africa (JSE top 40), Singapore (SMI 20) and the USA (S&P 100) around the globe that are quantitative in nature. The data was sourced from publicly disclosed reports of listed companies on global securities exchanges, thereby ensuring its credibility and reliability. The use of publicly available data contributes to the transparency and verifiability of the information, which underpins the integrity of the research findings. The information is public and credible as the Annual Financial Reports and Integrated Reports have been audited and are subject to IFRS standards and to the listing requirements of the Securities

Exchanges. The information provided is consistent with standards established by the International Financial Reporting Standards (IFRS). The IFRS, developed by the International Accounting Standards Board (IASB), outlines the guidelines for credible financial reporting and auditing. These standards ensure that financial reports and integrated reports are transparent, reliable, and adhere to global accounting principles (Paananen & Lin, 2009, pp. 31-55). The credibility and public trust in the financial reports of organisations are significantly enhanced by adherence to the International Financial Reporting Standards. Developed by the International Accounting Standards Board (IASB), IFRS provides a comprehensive set of guidelines intended to ensure that financial statements are both transparent and reliable, facilitating greater global comparability and understanding of financial reports.

IFRS serves multiple functions: firstly, it aims to support investors, lenders, and other users of financial statements in making well-informed economic decisions. Secondly, it promotes transparency by requiring the disclosure of the financial performance and position of an entity. Thirdly, it contributes to the economic efficiency by helping investors to identify opportunities and risks across the world, thus improving capital allocation. The standards are designed to be globally applicable, which means they must be sufficiently robust and adaptable to cater to a wide range of industries and economic environments.

According to the IFRS Conceptual Framework, the primary goal is to provide financial information that is useful in making decisions about providing resources to the entity (Framework, 2018). This includes presenting a true and fair view of an entity's financial position, performance, and cash flows, which necessitates the application of consistent accounting standards. The framework emphasises the importance of relevance, faithful representation, comparability, verifiability, timeliness, and understandability in financial reporting (Framework, 2018). Moreover, the adherence to IFRS standards means that the financial statements are subject to rigorous auditing standards which enhance their reliability. The alignment with these globally recognised standards also ensures compliance with the listing requirements of major securities exchanges around the world, further upholding the integrity and comparability of financial information across borders.

Annual Financial Reports and Integrated Reports are often audited to comply with these standards, aligning with the regulations set by various securities exchanges around the world (Dechow & Schrand, 2010). The standards also align with the listing requirements of these exchanges, further enhancing the credibility of the information presented (Cascino & Gassen, 2015). Additionally, the creation of the International Sustainability Standards Board (ISSB) under the IFRS Foundation has established a framework for credible ESG reporting, ensuring sustainability information is also subject to rigorous standards and investor-focused materiality criteria (IASB, 2024) The IFRS

Foundation's efforts in maintaining and enhancing these standards reinforce the credibility and transparency of financial and integrated reporting.

There are differences in disclosure in different countries due to regulation and reporting standards, but we managed to collect uniform data across all jurisdictions. For example, Europe has more regulation regarding ESG reporting whilst the USA has less. Table 1 and 2 shows the difference in regulation across these jurisdictions.

Table 1: ESG Regulation across Europe

EUROPE Regulation	In Effect	Impacts	Details
Sustainable Finance Disclosure Regulation ("SFDR")	Mar-21	Financial market participants offering, investment products, and financial advisors	<p>Aim: make it easier for investors to distinguish and compare between the many sustainable investment strategies and products available in the market. Designed to improve industry-wide comparability and prevent greenwashing. Requires firms to disclose how they integrate sustainability risks and objectives in their policies and how they integrate sustainability in their financial products (e.g., funds); and requires firms to classify the investments they offer based on their ESG credentials. The SFDR divides products into three categories: (1) funds that do not integrate any kind of sustainability into the investment process ("article 6" products); (2) financial products promoting ESG characteristics ("article 8"); and (3) financial products with sustainable investment as their objective ("article 9")</p>
EU Taxonomy Regulation	Jan-22	Financial market participants, All companies subject to CSRD	<p>Aim: establish a common framework to classify certain economic activities as environmentally sustainable ("green") or not sustainable, defines environmentally sustainable activities as economic activities that make a substantial contribution to at least one of the EU's environmental objectives, while at the same time, not significantly harming any of these objectives and meeting minimum social safeguards. Requires certain entities to disclose information concerning the degree of alignment of their activities with the Taxonomy</p>
Corporate Sustainability Reporting Directive ("CSRD")	2022 (Adopted), 2024 (Reporting Starts)	Publicly listed companies, large companies (>250 EE), and small and medium sized enterprises (SMEs)	<p>Aim: ensure companies publicly disclose adequate information about the sustainability risks and the opportunities they face, as well as the impacts they have on people and the environment ("double materiality"). Requires companies to disclose sustainability risks, including climate risks; disclose detail on the organisation's impact on society and environment; identify material ESG topics for stakeholders; include specifics on targets and progress; report in line with SFDR and The EU Taxonomy regulation. Replaces the EU's non-financial reporting directive (NFRD), which was established in 2018 to require ESG reporting. The CSRD expands the companies under scope under a new broader framework and requires third party assurance of reported data</p>

**European
Climate Law**

2021

EU Member
States

Aim: ensure that the European economy and society become carbon neutral by 2050 and provide predictability for investors and other economic actors. Legally commits EU countries to meet the Paris Agreement Accord on climate emissions reduction. Sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels

Source: Author

Table 2: ESG Regulation across USA

USA State	Regulation	Regulation Type	Status
California	AB 979, required covered companies to have minimum one director from underrepresented community	Quota	Racial/ethnic diversity law signed in 2020, struck down by California Court in April 2022
	SB 826, mandates Board gender diversity quota	Quota	In effect, 2018 struck down by California Court in May 2022 (appealed by California Court)
Colorado	HJR 17-1017, encourages companies to strive for equitable and diverse gender representation on Boards	Encourage	Resolution passed (non-binding)
Hawaii	SB 193, mandates Board gender diversity quota	Quota	Not passed and/or in process
Illinois	HB 3394, mandates disclosure on Board diversity	Disclosure	In effect, 2019
	S3508, mandates Board gender diversity quota	Quota	Not passed and/or in process
Maryland	HB 1116, mandates disclosure on Board diversity	Disclosure	In effect, 2019
Massachusetts	SB 2080, mandates Board gender diversity quota	Quota	In effect, 2020
Michigan	SB 115, mandates Board gender diversity quota	Quota	Not passed and/or in process
New Jersey	S798 & A1982, mandate Board gender diversity quota	Quota	Not passed and/or in process
New York	S7195, mandates disclosure on Board gender diversity	Disclosure	In effect, 2020
Ohio	HCR 13, encourages companies to commit to increase gender diversity of Boards and senior management	Encourage	Not passed and/or in process
Oregon	HB 3130, mandates Board gender and minority diversity quota	Quota	Not passed and/or in process
Pennsylvania	HR 0114, mandates Board gender diversity quota	Quota	Not passed and/or in process
Washington	SSB 6037, mandates Board gender diversity quota	Quota	In effect, 2022

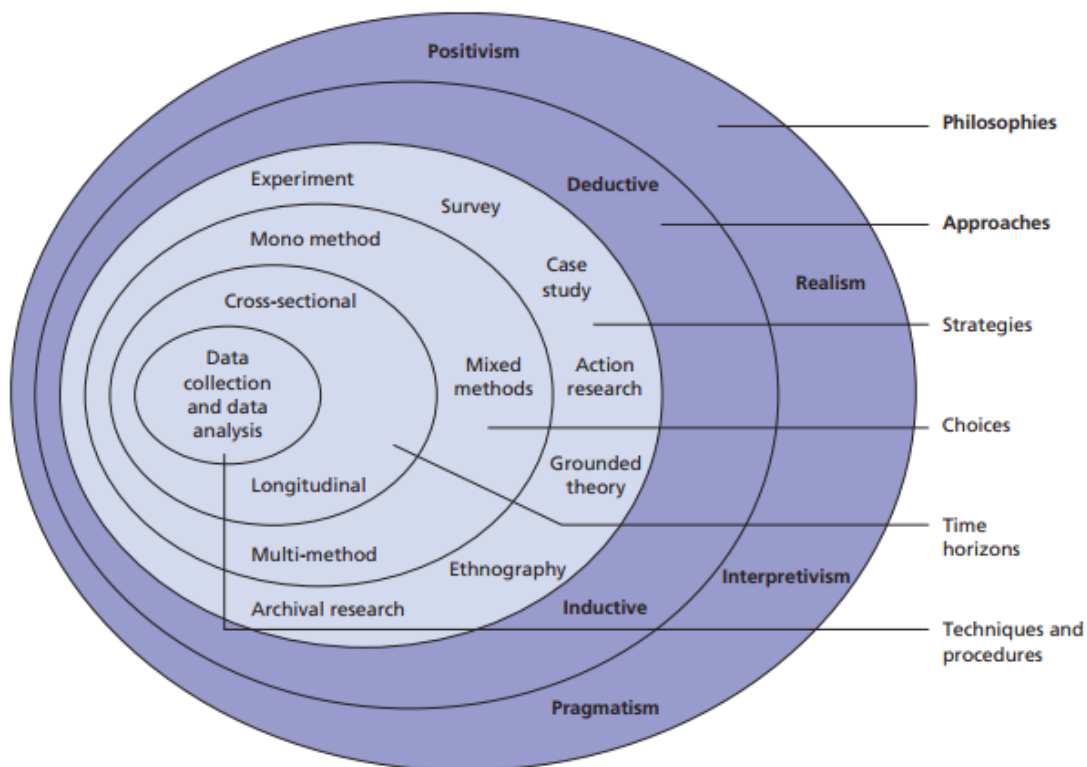
Table authored by Blair (2023)

Leuz & Wysocki (2016) show that Europe has adopted regulation much more comprehensively than USA and this does have an impact on the economics of financial reporting regulation, including an influence on the reporting of ESG in each jurisdiction.

This data is ex-post facto where the focus was on reporting the variables rather than playing any role in manipulating them (Blumberg, Cooper, & Schindler, 2008). The data was longitudinal in nature, where the study was repeated over a 2-year period (Blumberg, Cooper, & Schindler, 2008). The archival nature of the study meant that the relevant data already existed, thereby addressing the challenge of generating sufficient data (Shevlin & Miles, 2000) because the population of data was analysed. The quantitative, positivist approach facilitated straightforward yet robust statistical analysis, employing regression and correlation techniques (Hirose & Creswell, 2023). The longitudinal nature of the study allowed for trends to develop and to see emerging trends in a new area of research.

Saunders and Lewis (2012) recommend that the research method be designed in phases like peeling off the layers of an onion. Ulrich (2010) supports that this is necessary before data collection can begin. Figure 2 illustrates the 'layers of the research onion' to be:

Figure 2: The Research Onion (Saunders, Lewis, & Thornhill, 2008)



The research design chosen for this study is shown in table 3.

Table 3: Research Design

Research Philosophy	Positivism epistemology
Research Approach	Deductive and Inductive
Research Strategy	Archival research
Research Choices	Quantitative Multi-method
Time Horizon	Longitudinal
Techniques & Procedures	Desktop data collection

Authored by Blair (2023)

Both deductive and inductive approaches were used in this study. The differences between Deduction and Induction are shown in Table 4 (Saunders, Lewis & Thornhill, 2012: 144). In this research data collection was used to evaluate hypotheses relating to an existing theory, Agency Theory (deductive) and to identify themes and patterns and create a conceptual framework for theory building – a new Agency model (inductive). Inductive reasoning is a bottom-up approach while deductive reasoning is top-down (Prodi & Out, 2022). Inductive reasoning takes the researcher from specific premises to the general premises whilst deductive reasoning takes the researcher from general inferences to specific conclusions.

Table 4: Difference between the three research approaches (Dudovskiy, 2016)

	Deduction	Induction	Abduction
Logic	In a deductive inference, when the premises are true, the conclusion must also be true	In an inductive inference, known premises are used to generate untested conclusions	In an <u>abductive</u> inference, known premises are used to generate testable conclusions
Generalisability	<u>Generalisability</u> from the general to the specific	Generalising from the specific to the general	Generalising from the interaction between the specific and the general
Use of data	Data collection is used to evaluate propositions or hypotheses related to an existing theory	Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework	Data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection and further processing
Theory	Theory falsification or verification	Theory generation and building	Theory generation or modification; incorporating existing theory where appropriate, to build new theory or modify existing

(Mitchell & Education, 2018)

According to Trochim (2006) “most social research involves both inductive and deductive reasoning processes at some time in the project”. This is indeed the case in this research and both approaches have been used.

3.2 Research methodology

This research explores the evolving significance of Environmental, Social, and Governance (ESG) factors in corporate governance, with a particular focus on their impact on CEO remuneration, including short-term incentives (STI) and long-term incentives (LTI). We also examine the relationship between these ESG factors and business performance, as well as the interaction between risk factors and long-term value creation.

To analyse the complex interdependencies between CEO pay and ESG factors, we employed a suite of standard statistical methods adapted for our non-standard, multi-dimensional data set. This included linear regression, correlation analysis, panel data analysis, and Principal Component Analysis (PCA).

Before applying these methods, it was essential to standardise the data to ensure consistency and comparability across various measurements and scales. Standardisation involves transforming the data so that different variables are on a common scale, typically with a mean and a standard deviation of one. The Mean, Quartiles and Standard Deviation of ESG Factors of All Companies with the different 7 ESG measures by Industry are shown in appendix 3 (FY2021) and 4 (FY2020). The initial step involved collecting data from multiple sources, including annual financial reports, remuneration reports, and integrated ESG disclosures. This raw data often varied in scale and units, necessitating standardisation. Each variable was transformed to have a mean and a standard deviation of one. This process involved subtracting the mean of each variable from the individual data points and then dividing by the standard deviation (Gelman & Hill, 2006). Missing data points were addressed using imputation techniques, such as mean substitution or regression imputation, to maintain the integrity of the dataset (Little & Rubin, 2002). Post-standardisation, the data was verified to ensure that each variable had a mean of zero and a standard deviation of one. This step was crucial to confirm that all variables were on a comparable scale and free from biases introduced during the collection process.

By standardising the data, we ensured that the various ESG factors and CEO pay data were comparable and that the statistical analyses were not biased by differences in the scales of the measurements. This process allowed for a robust examination of the interdependencies between CEO pay and ESG factors, facilitating meaningful and reliable insights.

Linear Regression was utilised to model the dependencies between CEO compensation (dependent variable) and various independent ESG factors, aiming to identify key influences on pay structures (Tosi et al., 2000). Correlation Analysis helped in assessing the strength and direction of relationships between CEO compensation and ESG metrics (Murphy, 1999). Panel Data Analysis was essential for handling data involving multiple observations over time from the same entities, allowing for control of unobserved heterogeneity that is consistent over time but varies across entities (Bertrand & Mullainathan, 2001). Principal Component Analysis (PCA) was implemented to reduce the dimensionality of our extensive data, retaining significant variation and identifying underlying patterns among the 42 ESG factors (Abdi & Williams, 2010).

These methodologies enabled the systematic examination and interpretation of the complex ways in which ESG considerations are integrated into executive remuneration. Specifically, PCA helped in distilling the extensive factors into manageable components, which were then analysed for their impact on CEO pay. The assumption of normality and linearity was critical for the effective application of PCA, as it assumes data points are linear combinations of the underlying variables, which should be normally distributed. The use of a Likert scale for assessing ESG disclosure levels assumes ordinal data, requiring specific statistical treatments suitable for non-parametric data (Sullivan & Artino, 2013).

The statistical tools used and the application of Boolean indicators were utilised to mark the presence or absence of specific ESG factors, and a Likert scale measured the extent of disclosure in annual reports. These tools were chosen for their ability to simplify the complex qualitative assessments into quantifiable metrics, facilitating statistical analysis.

The following tests were used in the assessment of validity and reliability. Internal consistency was tested by measuring the reliability of our ESG factor scales using Cronbach's alpha. Cronbach's alpha is a measure of internal consistency, indicating how well a set of items measures a single unidimensional latent construct. An alpha value (α) greater than 0.60 is generally considered to indicate acceptable reliability, ensuring that our instruments consistently measure the proposed constructs (Urquiza, Navarro, & Trombetta, 2009). Cronbach's alpha is a statistical measure used to assess the reliability, or internal consistency, of a set of scale or test items. It is particularly useful in determining whether multiple items that propose to measure the same general construct produce similar scores (Tavakol & Dennick, 2011). A Cronbach's alpha value of 0.70 or higher is generally considered acceptable in social science research, indicating good internal consistency (Nunnally, 1978). However, for exploratory research, a lower threshold of 0.60 is often deemed acceptable (Ursachi, Horodnic, & Zait, 2015). This lower threshold is appropriate in the initial stages of research where the aim is to identify and develop constructs. Values of Cronbach's alpha range from 0 to 1, with higher values indicating greater reliability. An alpha value above 0.60

suggests that the items have relatively high internal consistency and are likely measuring the same underlying construct. Conversely, a value below 0.60 may indicate that the items do not adequately capture the construct, potentially requiring revision or the addition of more items (Gliem & Gliem, 2003). In the context of ESG factor scales, achieving a Cronbach's alpha greater than 0.60 ensures that the items used to measure each ESG dimension (Environmental, Social, and Governance) are reliable. In this study a Cronbach of greater than 0.60 was present for all factors. This means that the scales used in our study are consistent and dependable, providing confidence that the results reflect true associations rather than measurement error. By ensuring that our ESG factor scales have a Cronbach's alpha above 0.60, we validate that our measurement instruments are reliable, contributing to the robustness and credibility of our findings. Factor Analysis was used post-PCA to confirm the number of factors and the loadings of each ESG area, ensuring the factors were representative of the data's underlying structures (Costello & Osborne, 2005).

The adoption of these methods acknowledges the potential for biases inherent in self-reported data and the challenge of correlating complex, non-financial metrics with financial outcomes. The methodology section concludes with a reflection on how these chosen methods effectively addressed the research questions, providing a robust framework for evaluating the impact of ESG factors on CEO remuneration and business performance, thus contributing to academic discussions around sustainable business practices and executive remuneration.

Application of the methodology

Our research methodology was rigorously applied to a comprehensive dataset incorporating 42 ESG factors, categorised into three primary buckets: Environmental, Social, and Governance listed in table 5 on page 34. These factors were systematically evaluated for their impact on CEO compensation structures, including both short-term and long-term incentives, and their broader implications on business performance and risk management in the context of sustainable corporate governance. Standard statistical methods that are routinely used in the analysis of CEO pay such as linear regression and correlation analysis have been deployed to determine the relationships between the independent and dependent variables. Linear regression is used to model the relationship between CEO pay (dependent variable) and various independent variables. The goal is to identify which factors have significant effects on CEO pay listed in appendix 8 on page 154 (Tosi, et al, 2000). Correlation analysis is also employed to examine the strength and direction of the relationship between CEO pay and ESG factors (Murphy, 1999). Panel data analysis is utilised when the dataset includes multiple observations over time for the same entities (e.g., CEOs and firms). This method allows researchers to account for time-invariant unobserved heterogeneity (Bertrand, & Mullainathan, 2001), which refers to individual-specific traits that do not change over time but can influence the dependent variable. By incorporating both cross-sectional

and time-series data, panel data analysis effectively controls for these unobserved variables, thereby reducing bias in the estimation of causal relationships (Baltagi, 2005; Hsiao, 2014).

Principal Component Analysis (PCA) was a crucial step in reducing the complexity of our extensive ESG dataset. By transforming the data into principal components, we retained crucial variations and identified inherent patterns across the ESG spectrum (Abdi & Williams, 2010). PCA helped in simplifying the dataset into manageable elements for further analysis, enabling a more targeted investigation into how each ESG element influences CEO pay. Factor analysis was employed to determine the number of factors, helping identify the underlying structure and ensuring the retained components were meaningful (Costello & Osborne, 2005). The factor analysis confirmed the significance and loadings of each ESG factor. Once the number of factors was established, Boolean indicators were used to represent the presence or absence of ESG sub-factors, and a Likert measurement scale was applied to assess the level of ESG disclosures as shown in table 2 on page 140. The Likert measurement scale was coded by the author by doing secondary analysis of the primary data. These methods align with existing literature on ESG reporting, where similar measurement techniques have been successfully employed (Cardi, Mazzoli, & Severini, 2019; Nielsen, Rimmel, & Yosano, 2015).

For analysis, appropriate statistical tests were used to handle the ordinal nature of the Likert scale data, including t-Tests, ANOVA (Analysis of Variance), Pearson's correlation coefficient, and regression analysis (Sullivan & Artino, 2013). To ensure the internal consistency of ESG disclosure factors, Cronbach's alpha (α) was used as a reliability coefficient, which is well-supported in academic literature if α exceeds 0.60, as it aligns with accepted thresholds (Urquiza, Navarro, & Trombetta, 2009). However, it is important to note that Cronbach's alpha assumes the items measure a single construct, and higher values indicate greater internal consistency (Tavakol & Dennick, 2011).

After determining the number of factors through PCA and confirming their significance and loadings via factor analysis (Costello & Osborne, 2005), we employed linear regression and correlation analysis to explore the relationships between these factors and CEO remuneration. Linear regression models were used to identify which ESG factors significantly affect CEO pay (Tosi et al., 2000), while correlation analysis examined the strength and direction of these relationships (Murphy, 1999). Regression coefficients quantify the relationship between each ESG factor and CEO pay. For instance, a positive coefficient indicates that an increase in a specific ESG factor is associated with an increase in CEO remuneration, while a negative coefficient indicates the opposite. Through hypothesis testing (e.g., t-tests), regression analysis helps determine whether the relationships observed are statistically significant. This means evaluating

whether the effect of each ESG factor on CEO pay is strong enough to be unlikely due to random chance (Wooldridge, 2010). By including multiple ESG factors in the regression model, we control for potential confounding variables, isolating the unique contribution of each factor. This helps in understanding the net effect of each ESG dimension on CEO remuneration without the influence of other correlated factors (Greene, 2003). The regression model's goodness-of-fit, often measured by R-squared, indicates how well the independent variables explain the variability in the dependent variable. A higher R-squared value signifies that the model accounts for a substantial portion of the variance in CEO remuneration (Hair et al., 2010). By examining the size and significance of the regression coefficients, we can identify which ESG factors are the most influential drivers of CEO pay. This provides actionable insights for stakeholders aiming to align executive compensation with sustainable business practices (Neter et al., 1996). Finally regression analysis can also explore interaction effects between ESG factors, providing a nuanced understanding of how combinations of ESG elements jointly impact CEO remuneration. This is critical for capturing the complexity of ESG integration into corporate governance (Aiken & West, 1991). By leveraging these capabilities, regression analysis elucidates the intricate relationships between ESG factors and CEO pay, offering a comprehensive picture of how sustainability considerations are integrated into executive compensation frameworks.

The refined ESG factors were mapped against CEO remuneration data across various industries and geographic locations. Regression models were adjusted for purchasing power parity (PPP) to mitigate economic disparities between countries, and market capitalisation was used as a control variable to account for company size, ensuring that our findings accurately reflected ESG impacts rather than mere size effects.

Purchasing power parity (PPP) is an economic theory and method used to adjust financial data for differences in price levels between countries. This adjustment is crucial for cross-country comparisons as it standardises the value of money by taking into account the cost of living and inflation rates in different countries (Rogoff, 1996; Taylor & Taylor, 2002). By converting all financial data to a common PPP-adjusted currency, we mitigate the distortions caused by varying economic conditions. In our regression models, we adjusted CEO remuneration data for PPP to ensure that the comparisons between CEOs' pay from different countries were based on equivalent purchasing power. This involved converting the CEO compensation figures into a standardised international dollar value using PPP exchange rates, which reflect the relative cost of a comparable basket of goods and services across countries. This adjustment allows us to analyse the true impact of ESG factors on CEO pay without the confounding effects of differing national economic contexts. We collected CEO remuneration data and financial information, including market capitalisation, from various companies across different countries. The remuneration figures

were converted to a common PPP-adjusted currency using the latest available PPP conversion rates from reputable sources such as the World Bank or OECD.

Table 5 represents all 42 ESG factors that were consolidated into the 7 factors used in this paper to illustrate the initial categorisation of the 42 ESG factors before they were condensed into principal components. This shows the breadth of data initially analysed and how PCA was applied to distil this into more manageable components. Our study identifies an emerging spectrum of specific metrics being used and being connected to compensation. These metrics were captured from the Annual Financial Statements Remuneration reports and Integrated reports resulting in the list in table 5. The correlations were performed on all 42 factors to demonstrate that the results are consistent and comprehensive. A correlational research design was used to investigate relationships between two variables (or more) without the researcher controlling or manipulating any of them - a non-experimental type of quantitative research (Queirós et al, 2017).

Table 5: ESG factors considered

Environmental	Health & Safety	People & Culture	Customer Performance	Community Performance	Sustainability	Governance
Scope 1 GHG Emissions	Fatalities	Gender Balance	Customer Satisfaction	Community Incidents	Sustainability Index Target	Governance at the Board of Directors' level
Scope 2 GHG Emissions	Injuries	Diversity & Inclusion	Customer Net Promoter Score	Community Complaints		Governance at the Executive Boards' level
Scope 3 GHG Emissions	Illnesses	Employee Engagement	Customer Complaints and Resolutions	Community Investment		Risk management
GHG Emissions (scope not specified)	Exposure to Harmful Substances	Training and Development	Product Quality and Safety	Community Not Disclosed		Compliance
Non-Renewable Energy	Workplace Policies	Behaviours, Ethics, Values, and Culture	Customer Not Disclosed	Other Community (State Measure)		Other Governance (State Measure)
Renewable Energy	Health & Safety Not Disclosed	Employee Voluntary Turnover	Other Customer (State Measure)			
Environmental Incidents		People & Culture Not Disclosed				
Air Quality						
Land Management						
Water & Wastewater Management						
Waste & Hazardous Materials Management						
Environment Not Disclosed						

The grouping of the seven original factors into the final three categories - Environmental, Social, and Governance (ESG) - reflects a widely recognised framework in corporate social responsibility (CSR) reporting. This categorisation aligns with common practices used by various ESG frameworks, such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), which encourage grouping similar sub-factors to enhance comparability and consistency across different industries (GRI, 2022; SASB, 2020).

Environmental:

Combining "Environmental" with "Health & Safety" recognises that these areas often overlap in sectors like mining, where safety protocols are crucial to prevent environmental contamination. Research indicates that integrating health and safety with environmental concerns allows companies to monitor their environmental impact more comprehensively while simultaneously considering the well-being of their workforce (Morrow & Rondinelli, 2002).

Social:

The "Social" grouping, which includes "People & Culture," "Customer Performance," and "Community Performance," is consistent with how various industries perceive social impact. This category emphasises employee welfare, customer satisfaction, and community engagement, which are interconnected aspects of social responsibility (Orlitzky et al., 2003).

Governance:

The combination of "Sustainability" and "Governance" aligns with the principle that effective corporate governance practices are foundational to sustainability. Governance practices ensure ethical conduct, transparency, and strategic alignment with sustainable goals, directly impacting sustainability outcomes (Eccles, Ioannou, & Serafeim, 2014).

Grouping the factors in this way aligns with the broader trend of streamlining ESG factors to provide more targeted insights into each organisation's specific impact areas. It also enhances comparability across industries by allowing organisations to "tick the box" on relevant sub-factors (GRI, 2022).

To analyse the data, Boolean indicators were employed to denote the presence (1) or absence (0) of each ESG factor within the corporate reporting structures. Additionally, Likert scales were used to measure the extent of ESG disclosures in the annual reports. This quantification allowed us to apply statistical tests accurately and to assess the level of ESG integration into business practices. We used a Boolean variable (0 or 1) to denote the presence of each of the factors in the following 7 ESG factors:

- 1. Environmental**
- 2. Health & Safety**
- 3. People & Culture**
- 4. Customer Performance**
- 5. Community Performance**

6. Sustainability

7. Governance

Within each of these factors, there are sub-factors designed to accommodate the specific requirements of different industries, thereby allowing them to meet the necessary criteria. For example, a bank will not focus on GHG emissions but may focus on using renewable energy. These 7 factors are further grouped into 3 factors:

1. Environmental – (Environmental & Health & Safety)
2. Social – (People & Culture, Customer Performance, Community Performance)
3. Governance (Sustainability & Governance)

The 7 factors were therefore grouped into the ESG reported factors as follows; Environment including environmental factors, health, and safety (0, 1, or 2); Society including people and culture, community performance and customer performance (0, 1, 2, or 3); and Governance and sustainability measures (0, 1, or 2). Each of the 7 ESG factors was assigned to a one of the 3 PCA factors and these PCA factors were assigned as being part of Environmental, Social or Governance using the decision-making rules below:

1. Majority rules – if sustainability and customer are in the same factor then sustainability represents 50% of the governance variables and Customer represents 33% therefore it would be assigned to governance.
2. Cross loadings function as disqualifiers – If an individual metric appears in more than one factor, it can only be assigned to one metric. In other words, for example, Social cannot be assigned to more than one Factor.
3. In the event of the majority rules, the rule resulting in a tie then the ESG Factor that the Factor will be assigned to will be the one with the largest impact on the Factor.

Example: The below illustrates this process across all industries. Rules 1 and 3 ensure that Factor 1 is assigned to Governance, Factor 2 Environmental (Rule 1) and Factor 3 is Social (Rule 2 and 3).

ESG Factor	Factor 1	Factor 2	Factor 3
Environmental		0.49	
Health & Safety		0.62	
People & Culture			0.66
Customer		-0.34	
Community			
Governance			0.42
Sustainability	1.00		

Regression analysis was performed on the 3 factors of ESG against the independent variable of on-target CEO total remuneration reported for the whole database, by Industry and by Country. Regression analysis involves finding the relationship between a dependent variable and one or more independent variables. The on-target CEO total remuneration was adjusted for purchasing power parity (PPP) for each Country to remove the effects of Country economies as discussed in detail before. Because CEO total remuneration was strongly correlated to company size, Market Capitalisation was used to control for this across the dataset.

The linear regression equation used was:

Without Market Cap:

$$Y_i = + X1_i + X2_i + X3_i$$

Y_i = On-target remuneration

$X1_i$ = Environmental aggregate score

$X2_i$ = Social aggregate score

$X3_i$ = Governance aggregate score

With Market Cap:

$$Y_i = Z_i + X1_i + X2_i + X3_i$$

Y_i = On-target remuneration

Z_i = Market cap

$X1_i$ = Environmental aggregate score

$X2_i$ = Social aggregate score

$X3_i$ = Governance aggregate score

We used STI and LTI data collected by the GECN Group of Companies for common industries across the eight exchanges. The data was further dissected by the following industries in each country/exchange namely: Overall Industry; Communications Industry; Consumer; Discretionary; Consumer Staples; Energy; Financials; Health Care; Industrials; Information; Technology; Real Estate and Utilities (11 industries). Only companies that did not report all the elements of CEO total remuneration were omitted from the sample. Correlations were performed on the data in the local exchange currency and then also after conversion to US\$. The correlation results (positive or negative) were then coded into a positive or negative correlation for <0,1; >0,1<0,5; >0,5<1,0 and >1,0.

Lastly regression analysis was used to determine the strength and significance of the relationships in both the exchanges and industries. Market capitalisation was used as a control variable to remove

the effect of size of company across jurisdictions and industry. The regression analysis equations are as follows:

On-Target STI = Factor E + Factor S + Factor G + Market Cap

On-Target LTI = Factor E + Factor S + Factor G + Market Cap

Where:

E is Environmental factors

S = Societal factors

G = Governance factors

Market cap = market capitalisation

This comprehensive application of our chosen methodologies allowed us to draw significant conclusions about the integration of ESG factors into CEO compensation strategies. The analysis not only reinforced the importance of these factors in modern corporate governance but also highlighted the need for companies to align their executive reward systems with long-term sustainability goals. Our findings suggest that ESG factors are increasingly becoming critical elements in determining executive pay, reflecting broader societal and investor demands for corporate responsibility and sustainability.

The methodologies applied effectively bridged theoretical constructs with practical applications, providing a robust framework for understanding the dynamic interplay between ESG factors and executive compensation. This approach has laid the groundwork for future research to explore deeper into the causative effects of ESG metrics on corporate performance and risk management.

The methodologies employed were adeptly applied to the actual data, enabling a thorough exploration of the research questions, and providing valuable insights into the role of ESG factors in shaping CEO compensation and corporate governance. This structured application underscores the efficacy of our methodological choices and the potential for these approaches to contribute to academic and practical advancements in corporate sustainability practices.

3.3 Universe

The data used in this study was from Annual Financial reports and Integrated reports across the top indexes of the following eight stock exchanges: Australia (ASX 100), Canada (TSX 60), UK (FTSE 100), France (CAC 40), Germany (DAX 30), South Africa (JSE top 40), Singapore (SMI 20) and the USA (S&P 100). The final sample consisted of 517 companies reported in Financial Year FY2021 (99,4% of 520 total sample) of which 382 (74%) had ESG measures and 478 companies reported in

Financial Year FY2020 (99,6% of 480 total sample) of which 310 (65%) had ESG measures. Only companies that did not report all the elements of CEO total remuneration were omitted from the universe (using the GECN Group of Companies' database that spans five continents). The GECN Group consists of six international independent companies that specialise in compensation/remuneration and governance advice - specifically in the more challenging aspects that organisations face both locally and globally. Senior advisors in multiple strategic locations offer advice (based on in-depth local knowledge) that helps companies enhance value creation by addressing the complex compensation, tax, and regulatory landscape.

The results were captured by highly skilled compensation advisors in each member firm; namely, Carrots Consulting (Asia), Farient Advisors (U.S.), Guerdon Associates (Australia), HCM (Europe and the Gulf countries), MM&K (U.K.), and 21st Century (Africa).

In paper 2 we performed a Principal Component Analysis (PCA) to determine how many factors should be used. We then calculated the loadings of each ESG area per factor as a measure of how influential each variable is within each factor. We then interrogated the uniqueness of the factors and grouped the variances. This reduced the seven factors (with the subfactors) into three pillars; Environment, Society and Governance that are reported in Integrated reporting. The results are shown in appendix 1. These three factors together with Market Cap (to control for company size—explained below) were then regressed against the total on-target remuneration of the CEO per company. Finally, we ran a panel regression for FY2020 to FY2021 to determine the growth and momentum of ESG factors and their effect on the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse).

In paper 3 we categorised the ESG factors into seven categories: Environmental, Health and Safety, People and Culture, Customer Performance, Community Performance, Sustainability, and Governance. We used a Boolean (O'Donnell, 2014) variable (0 or 1) to denote the presence of each of the 7 ESG factors. Within each of these factors there were sub points, however, these are meant to allow for different industries to make specific choices. For example, a bank will not focus on GHG emissions but may focus on using renewable energy. We scored the presence of items in the annual report with either 1 for disclosed or 0 for not disclosed (Cardi, Mazzoli & Severini, 2019; Nielsen, Rimmel & Yosano, 2015).

Each of the 42 ESG factors captured have been classified as Risk or Sustainability factors. Governance is used to manage risk so that the sustainable factors can lead to long term value creation and sustainability. We collected STI and LTI data from the GECN Group for common industries across the eight exchanges. The data was further dissected by the following industries in each country/exchange namely: Overall Industry; Communications Industry; Consumer; Discretionary; Consumer Staples; Energy; Financials; Health Care; Industrials; Information;

Technology; Real Estate and Utilities (11 industries). Market capitalisation was used as a control variable to remove the effect of size of company across jurisdictions and industry.

3.4 Unit of analysis

Dependent Variable

Total on-target earnings for all CEOs were used made up of the sum of both fixed (guaranteed) pay as well as variable pay (Short-term plus Long-term incentives). The specific measures making up the

$$\text{Total on-target Earnings} = \text{Fixed pay (guaranteed pay)} + \text{on-target Short-term incentives} + \text{on-target Long-term incentives}$$

Independent Variables

Sustainable performance measures that were used as the observed variables were the ESG factors in table 5.

3.5 Population and sampling

The population for the research included data from the eight stock exchanges. Sampling was done on an exclusion basis if the companies did not declare all the components of remuneration to make up Total on-target Earnings for the CEO or if they did not have an integrated report that reports on the dependent variables. Appendix 2 details the population and prevalence (descriptive statistics) for the data for FY2021.

3.6 Validity and reliability

Although validity shows the truthfulness of the research as well as the extent to which the research measures what it is intended to measure, the researcher determines general validity (Walonick, 2011). The researcher used the following forms of validity. Construct validity refers to how well a test or tool measures the concept it is intended to measure. It is particularly important for studies involving theoretical concepts or constructs, such as the ESG measures. Construct validity ensures that the measurement tool accurately reflects the theoretical foundations it is based on (Bollen, 1989). Internal validity focuses on the accuracy of the study's results regarding causal relationships. It assesses whether the independent variable genuinely caused the effect on the dependent variable, or whether other factors influenced the outcome. Controlling for confounding variables enhances internal validity (Campbell & Stanley, 1963). External validity refers to the extent to which the results of a study can be generalised to other settings, populations, or times. In the context of ESG measures, we examine how applicable the findings are across different industries or time periods (Shadish, Cook, & Campbell, 2002). Content validity assesses whether the test covers the full range

of the construct being measured. We have ensured that all relevant aspects of the concept are included and measured (Haynes et al, 1995).

Face validity is the extent to which a test appears to measure what it is supposed to measure. It is more about the subjective judgment of the researcher or experts in the field regarding the appropriateness of the test (Nevo, 1985). The author is a world expert with 25 years' experience in Executive Pay and Governance globally having consulted to over 1500 organisations and may be influenced by prior learning and current stakeholder activism. The literature research did provide reliability in that the financial relationships have been extensively researched and only the relevant financial factors were used in the study. Reliability may have been influenced by the Yes/No approach of the ESG measures as the strength of the measure will not be included as a variable.

Reliability tests like Cronbach's Alpha test were used as a measure of internal consistency and homogeneity between items. According to Blumberg *et al.* (2008) Cronbach's Alpha test is an excellent test to estimate reliability for dichotomous items for multi-item scales as in this research.

3.7 Research limitations

This research has the following limitations:

- The research was limited to one emerging economy (South Africa) and seven developed economies. The conclusions may therefore not be generalisable to other countries or economies without further research.
- The research focussed on the total on-target earnings of the CEOs only and may not be generalisable or extended to executive pay in general.
- The data panel only consisted of 2 years (FY2020 and FY2021) and may not be generalisable over a longer time periods.
- The International Integrated Reporting Standards have evolved over the period of research affected by various codes of practice e.g., King IV and the UK Corporate Governance Code but there is no standard for reporting of ESG measures. This means that there are variations across countries and industries in reporting of elements of the Integrated Reports and affected the reliability of the data panel.
- The two-year period may not be long enough to fully describe the relationship between the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) and the ESG variables.
- Changing remuneration strategies or policies over the longitudinal study resulting in new incentive programs or different total on-target remuneration may have influenced the research over time.

- Causal factors were described by a constant and the relationship with the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) has not been investigated for these factors.

4. Papers 1, 2 and 3

4.1. Paper 1



Paper 1: A Greener New Deal? Aligning ESG factors to the outcomes of the underlying performative processes of CEO Pay

by

Christopher Francis Blair

Thesis

SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

Doctor Philosophiae

IN

Organisation, Work and Technology

IN THE

Faculty of Management
Department of Organisation, Work and Technology

AT THE

University of Lancaster

Supervisor: Anthony Hesketh
Co-supervisor: Claire Leitch

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Abstract

Can the interests of shareholders and the executives they employ to manage their capital on their behalf be aligned with the evolving environmental, social and governance (ESG) demands of wider society? The theoretical underpinning to the claim that executives (agents) can be motivated by certain reward structures offered by shareholders (principals) has been called into question by an apparent failure of large firms to adequately address the new, wider ESG-related demands of a broader set of stakeholders in the form of wider society. Agency Theory obliges executives to meet the objectives captured by certain key performance indicators (KPIs) or financial fundamentals set by a board appointed by shareholders to act in their interests and maximise the value of their investments while reducing risk. The aims of maximising shareholder value often conflict with the interests of stakeholders such as employees, customers, or society and this may lead to multi-constituency goals for the company, which in turn, should reflect in the incentives and remuneration of executives. We reveal how the performative effects of Agency Theory's focus on short-term financial fundamentals and supporting KPIs ensures executive agents remain largely focused on shareholder value maximisation. We posit that accommodating the theoretical evolution of Agency Theory needs to accommodate the material risks represented by ESGs in the underlying performative processes used to justify executive reward structures. Such an approach, we posit, leads to more transparency for principals and justifiable executive reward for agents on the one hand, while driving material ESG-related progress for wider stakeholder principals on the other.

A revised model of Agency Theory in which two obligatory felicity conditions are introduced into the CEO scorecard; namely aligning with a wider stakeholder base and adoption of non-financial measures of Environment, Society and Governance (ESG) that are part of the organisation's purpose.

Keywords: performativity, long term value creation, positive economics, normative economics, sustainable organisation, sustainable performance, CEO pay, Principal Agency Theory, stakeholder, organisation performance.

4.1.1 Introduction

The link between CEO pay and performance is an area that has attracted scrutiny for many decades (Dever, Cannell, Reilly & Yoder, 2007) and pay for performance models that incentivise CEO to maximise shareholder value dominate remuneration practice. However, the primary focus on Shareholder Value Maximisation has been challenged by the view that a corporation has a purpose beyond that of Shareholder Value Maximisation (Goranova & Ryan, 2022). There has long been a debate about whether the interests of shareholders are more important than those of other stakeholders and this debate has led to a dichotomisation of the debate (Goranova & Ryan, 2021) between those who argue that companies are responsible to multiple constituencies (e.g. employees, customers and societies or communities that provide the labour and other resources) (Bebchuk & Tallarita, 2020; Mayer, 2021) and those that argue that Shareholder Value Maximisation already incorporates the interests of stakeholders, but only if CEOs do not adopt a short term perspective and build long term shareholder value (Inkpen & Sundarum, 2022). In this paper we take the view that both the interests of shareholders and stakeholders need to be accommodated in models that decide CEO incentives, which in turn will require changes in the conditions for performativity (or felicity conditions (MacKenzie (2006a, 43; 2006b; 2007, 68)) of such models.

CEOs are expected to drive the much-needed innovation and implementation of long-term strategies but are hampered by the pressure to deliver profits, short term shareholder return, the lack of systems to implement and measure sustainable value creation. The debate about what constitutes sustainable value in the 21st century (Fearne et al, 2012) and how to measure it, is central to the issues surrounding CEO remuneration and are complicated by distrust of institutions (Alfano and Huijts, 2019), rising inequality in remuneration (Galbraith and Kum, 2003), proliferation of data in the digital economy (Reimsbach-Kounatze, 2015) and the difficulty for companies to influence the conclusions made by society about their business (Gioia, 2003). Sustainability and long term value creation is the overriding theme and stated intention of all executive Remuneration governance codes around the world (UK Corporate Governance Code, King IV, Basel III, Dodd Frank, SOX, etc) and wider society is placing a great deal of pressure on organisations - and in particular, their leadership - demanding greater transparency, accountability and responsibility with regards to CEO remuneration and what they are paid for (Chatterji and Toffel, 2018).

The debate about the purpose of the company and its responsibilities to stakeholders is not dealt with in most current remuneration and incentivisation models and theories, yet CEO incentivisation is the most powerful lever to avoid harm or enhance social good by the company (Maak & Voegtlin, 2016). The debate about how to remunerate CEOs is still dominated by a single theory, Agency Theory, which elevates financial measures above all others.

According to Agency Theory, the CEO is expected to fulfil Executive key performance Indicators (KPIs) established by a board representing shareholders and acting to safeguard their interests by maximising the value of their investments while mitigating risk (Mackenzie & Spears, 2014b). KPIs are measurable metrics that assess an executive's effectiveness and ensure alignment with an organisation's strategic goals. They illuminate leadership performance in areas such as financial management, operational efficiency, market expansion, customer satisfaction, and employee engagement. Each KPI is specifically crafted to suit an executive's unique role and responsibilities, ensuring that their activities contribute to the overall corporate strategy. Commonly monitored KPIs include profit margins, return on investment, market share growth, project completion rates, and employee turnover. By providing a framework for evaluating executive impact, KPIs are instrumental in enabling data-driven decision-making and strategic planning at the highest levels of management.

The aims of maximising shareholder value often conflict with the interests of stakeholders such as employees, customers, or society. This in turn may lead to multi-constituency goals for the company, which in turn should reflect in the incentives and remuneration of CEOs. CEOs have openly and enthusiastically endorsed the view that the purpose of the company is to create value for all stakeholders, but this has not translated into practice and CEOs are still largely focused on Shareholder Value Maximisation (Bebchuk & Tallarita, 2020). In this way the outcome of the underlying processes of CEO Pay (theory/models and discourse) then becomes performative in aligning CEOs behaviour and interests with Shareholder Value Maximisation. Performativity is the power of theories and discourse to remake observable reality in their own image (Latour, 1987; Callon & Muniesa, 2005; Callon, 1986a). The limitations and potential contradictions of Agency Theory have become clear and are regularly highlighted by society, unions, and pundits in this arena.

We first look at the literature review of CEO pay theories and Agency Theory and the underlying performative processes of CEO Pay (theory/models and discourse). We then look at the felicity conditions needed for a revised the Agency model and then describe the posited model. This is followed by a conclusion for the rescuing Agency Theory and a Green New Deal for CEOs and their incentivisation.

4.1.2 CEO Pay Theories and Agency Theory

Current CEO pay practices are the result of Agency Theory. Agency Theory (Jensen & Meckling, 1976) is used to understand the relationship between Principal and Agent, to try to describe and resolve conflicts that arise because of the separation of their interests and to set pay. Agency Theory is deeply embedded in inter- and intra-organisational processes: communication, risk control and - more especially - in the setting of bonuses (Mackenzie & Spears, 2014b).

The Principal (shareholders) attempt to minimise the cost of the Agent (CEO) (Eisenhardt, 1989; Perrow, 1986) by reducing Agency loss (the amount that the Principal loses due to the Agent acting contrary to the Principal's interests), and by increasing monitoring (Jensen & Meckling, 1976; Singh, 1985). The actions taken by the Agent are greatly hampered and restricted by the boundaries set within the compact, (e.g., governance, legislation, complexity, ownership, management, development, use, operation, leasing, maintenance, repair or improvements of assets and investments). The Agent's natural conflict of interest causes them to resist monitoring, lower their risk, and maximise their own reward for the least effort (Harris & Raviv, 1979). If the Principals' decision control is effective, they will succeed in reducing Agency costs (Shavell, 1979; Holmstrom, 1979). However, if the "Principal force" (which determines whether shareholders will combine together to take collective action to address Agency costs) or the "fiduciary force" (which determines how probable it is that non-executive directors will carry out their fiduciary responsibilities to the fullest extent possible) – are not large enough, they will not have a moderating influence on Agency costs.

Agency Theory assumptions and definitions (Droege & Spiller, 2009), summarised from Eisenhardt (1989); Aulakh & Genturk (1993) and Lassar & Kerr (1996), are as follows; self-interest (principal and agent act in their own best interests); goal conflict (principal and agent have different goals); bounded rationality (all information is not known); information asymmetry (principal and agent possess different information); pre-eminence of efficiency (the agency relationship focuses on cost-benefit analysis); risk neutrality of the principal (the principal is neutral to risk); risk aversion of the agent (the agent is averse to risk) effort aversion of the agent (the agent exerts only enough effort to obtain rewards); information as a commodity (all information can be known and purchased). It would follow then that these tensions may lead to a focus on financial measures and short-term incentives at the expense of non-financial measures of Environment, Society and Governance (ESG) factors, even when they are present. This focus then is at the heart of the dichotomy of current debate about the purpose of the firm (Goranova & Ryan, 2021).

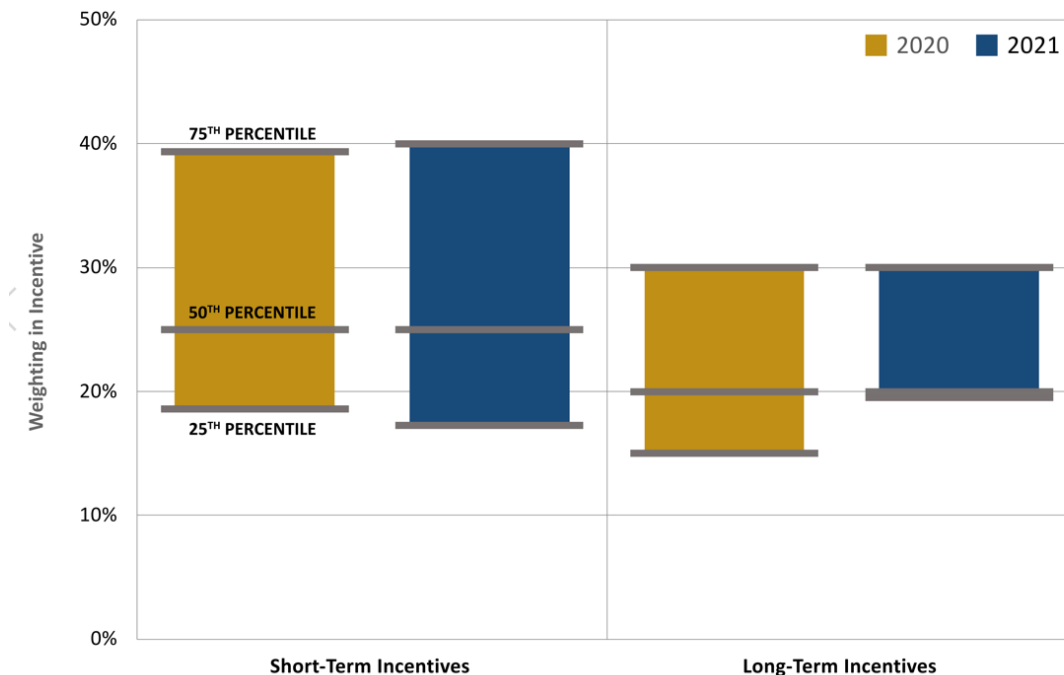
4.1.2.1. The underlying performative processes of CEO Pay (theory/models and discourse)

The power of the underlying processes of CEO Pay (theory/models and discourse) is due to its performativity, or the situation where the world starts to resemble the predictions of a theory or a model (Svetlova, 2012). The aims of the Agency model become reality in the choice of incentives that drive the remuneration of CEOs. Shareholders and investors set the purpose, and sometimes the strategy, of the company, which gives rise to compacts between the Principals (shareholders) and the Agent (CEO). The compact that results from interactions between the CEO and the shareholders details the key performance areas and key performance indicators (KPIs) that drive the company strategy. The mandate and the core performance aim of every CEO is to deliver on the

organisation's business strategy, and to act in the best interests of the shareholders (Callon, 1998). The CEO uses management tools to deliver on this compact. These tools include the vision and mission of the company, calculative models, and technologies (also termed "market devices") that are embedded across the organisation. The outcome of Agency Theory is that value transfer to the shareholders often takes precedence over value creation. As a result, CEOs spend a disproportionate amount of effort meeting shareholder return demands, often at the expense of the sustainability of the organisation. Governance codes and public pressure oblige them to deliver sustainable long-term value and yet they are still financially rewarded for delivering Shareholder value. The CEO focuses on delivering the performance required (the delivery of shareholder returns.) to drive his/her incentive, which is set up by the very people who benefit from shareholder returns (the Principals). Ulaj, Foulks and Bowe (2019) conducted an in-depth study over 3 years of the prevalence of LTI performance measures in large cap companies in the USA and found that, across the S&P 500 US market, TSR/stock price remained the most commonly applied performance measure (64%), with the usual CEO currencies of profit/earnings (45%), EPS (34%), revenue (21%), cash-flow (12%), margin (6%), economic value-add and book value being significantly prevalent. A similar study by the Global Equity Organisation (2019) showed the prevalence of LTI performance measures across Europe and the rest of the world. The prevalence was ranked as follows : TSR (53%), profit/earnings (37%), EPS (30%), ROC (27%), revenue (26%), share price (19%) and other financial measure (19%). Non-financial measures for a more diverse organisation sample worldwide have a greater prevalence than they do in the USA but remain low at around 20%. As we see from the above figures, performance measures remain largely financial and are extremely heavily weighted towards TSR and ROA.

Corporate scandals and media attention to CEO pay has led to pressure to alter CEO incentives away from purely financial measures (Mayer, 2021). Since 2019 there has been a ramping up and increased focus on non-financial measures of ESG. This was accelerated with the arrival of the Covid pandemic, and the focus has moved from shareholders to stakeholders with a renewed look at company purpose. Figure 4 shows a marked jump in the prevalence of ESG measures weightings in LTIs from below 20% to up to 30% (median 25% in FY2021). This trend is gaining traction with governance bodies around the world citing the introduction of regulatory reporting on ESG measures.

Figure 4: Weighting of ESG Metrics in Short-term and Long-term Incentives for FY2020 and FY2021 (GECN, 2021)



Organisational value and CEO performance are both valued in quantitative terms because Shareholder Value Maximisation (SVM) has been the predominant measure of organisation long term wealth creation posited by Jensen & Meckling (1976). Sundaram & Inkpen (2004a, 2004b) developed and defended five arguments for why SVM should be the preferred corporate objective and go on to further their original argument by stating that “Our view was explicitly premised on SVM for the long-run.” (Inkpen & Sudarem, 2022, pp. 556). Financially based metrics are a reliable way to measure profitability and can be correlated directly with the CEO’s value and performance. However, reducing the value of the CEOs socio-technical interactions - both within the organisation and without - into a single unit called ‘shareholder returns’ does not consider, or measure, the delivery of long-term value, innovation, growth, and intangible assets. This view is well laid out by Mayer (2021, pp. 887) who put forward a compelling argument that “defined notions of corporate purpose can help to promote not only better social outcomes but also enhanced functioning of firms and markets”. The corporate purpose extends much wider than SVM. Klaus Schwab, Founder of the World Economic Forum, defined what kind of capitalism society wants and offers up three models to choose from; “shareholder capitalism,” where a company’s major goal is maximising profits; “state capitalism,” (Schwab, 2019, pp. 1) which entrusts the government to set the direction of the economy e.g., China; and “Stakeholder capitalism,” which positions private corporations as trustees of society.

The outcome of Agency Theory is that value transfer to the shareholders often takes precedence over value creation. As a result, CEOs spend a disproportionate amount of effort meeting shareholder return demands, often at the expense of the sustainability of the organisation

(Donaldson & Davis, 1991). Governance codes and public pressure oblige them to deliver sustainable long-term value and yet they are still financially rewarded for delivering Shareholder value. The CEO focuses on delivering the performance required (the delivery of shareholder returns.) to drive his/her incentive, which is set up by the very people who benefit from shareholder returns (the Principals). The underlying performative processes of CEO Pay (theory/models and discourse), then, is the fiction enacted by the CEO, who is driven by the economic incentives to meet financial goals above all other goals. Traditional incentive pay practices have resulted in the very self-interested opportunism that they strove to avoid, as the financial value of the CEOs incentive is currently linked to measuring his/her delivery on the key performance indicators (Bower & Paine, 2017; Roberts & Ng, 2011).

It is important to note here that Agency Theory's contribution to the change of organisation performance could be either positive or negative. While the theory drives the achievement of financial targets, it has led to a short-term focus and CEOs have exploited discrepancies that have rewarded them handsomely in the absence of organisation performance. This is a counter-performativity action and counter performativity occurs when the practical use of an aspect of economics makes economic processes *less* like their depiction (Mackenzie, 2004 and 2006a).

Most counter-performative actions in the underlying performative processes of CEO Pay (theory/models and discourse) could arguably be seen as moral/ethical issues or criminal actions. Since 'what the Agents do depends on the form and structure of the relations in which they interact' (Callon, 1998), it thus follows that when an Agent performs an ethically dubious action (e.g., fraud, gaming, racketeering), this is dependent on the form and structure of the relations in which the Agent interacts, in this case, the form and structure of Agency. This allows for opportunism (as detailed in the Agency assumptions: - bounded rationality (where all information may not be known); information asymmetry (where Principal and Agent may possess different information); and Information as a commodity (where all information may be known and purchased) (Droege & Spiller (2009)). As predicted, these actions would indeed make the economic process (of value creation) less like its depiction (resulting in value depletion).

And so, even in the case of counter-performativity, Callon's (1998) statement - '*what the Agents do depends on the form and structure of the relations in which they interact*' – still holds up to inspection. Counter-performativity, rather than being seen as a failure or weakness of Agency, is a perfect example of the negative outcome of the underlying performative processes of CEO Pay (theory/models and discourse) have on the Agency relationship - that is inseparable from the inherent weaknesses and assumptions detailed in Agency Theory. Mackenzie et al (2007, pp. 326) confirms this by stating that '*economics does not alternate between prescriptivity and performativity; it is always performative.*

4.1.2.2. Felicity Conditions of Agency Theory

Performative conditions do not describe a pre-existing state but rather contribute to the depicted constitutive through felicity conditions, the conditions required for performativity to be effective (MacKenzie, 2006a, 43; 2006b; 2007, 68). Mackenzie elaborates that "theories and models bring about the very conditions that they attempt to explain" (MacKenzie, 2008, pp. 25). Bourdieu (1991) points out that felicity conditions are social conditions that must be compatible with the model and its world, and the model is given a new twist (volatility skew) that translates into an alteration of the socio-technical agencements' (Garud and Gehman, 2019). The felicity conditions that are driving the current outcome of the underlying performative processes of CEO Pay (theory/models and discourse) ("what is") are due to the alignment of the CEO with the narrow shareholder base and the CEO metrics that reward the CEO financially for the achievement of short-term shareholder returns. The felicity conditions needed to drive the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) that "ought to be" need to be profoundly transformed to align the CEO with sustainable long-term measures aligned with the stakeholder base through a revised model for CEO pay. We propose that the felicity conditions need to fulfil the following tests: have academic standing based on societal demand, have cognitive simplicity for structural integrity and have availability through reporting and transparency.

'If performance fails and the felicity conditions are not fulfilled then there is a need for existing agencements to be rearranged or transformed' (MacKenzie (2006a, 43; 2006b; 2007, pp. 68). Felicity conditions necessary for performance are crucial in the typology of types of performativity (MacKenzie (2006, 17; 2007, 55-56); namely, Generic performativity where an aspect of economics (a theory, model, concept, procedure, data set, etc.) is used by participants in economic processes, regulators, etc.; Effective performativity where the practical use of an aspect of economics has an effect on economic- processes; and Barnesian performativity where the practical use of an aspect of economics makes economic processes more like their depiction by economics . In the case of the outcome of the underlying performative processes of CEO Pay (theory/models and discourse), we posit that felicity conditions are necessary to enable Barnesian performativity to succeed. This requires the use of "felicity conditions" (conditions required for a performative to be effective) and that are social conditions. As Mackenzie (2007, pp. 6) states 'Use involves taking further action. Many kinds of further activities are needed, such as informing, learning, applying, arguing, implementing, predicting, calculating, estimating, negotiating, persuading, mobilising resources, investing, agreeing, solving problems, winning conflicts – by a variety of academic and non-academic agents in the course of time.' So, felicity conditions to be effective become constitutive rather than causal.

We suggest that Agency Theory has not failed and pay for performance models have not failed. Rather, the outcome of the underlying performative processes of CEO Pay (theory/models and

discourse) plays out as expected based on felicity conditions and outputs that have not been updated this century. CEO pay theories and pay for performance models have delivered exactly what they have been designed to deliver. However, the world has changed, societies expectations have changed, and the goals have changed, but the felicity conditions have not changed. Because models/theories and discourse are performative, and their felicity conditions are constitutive, they are unwittingly still delivering results that are no longer wanted - aligning the CEO (as Agent) with a narrow base of shareholders (as Principals) and rewarding the CEO financially for the delivery of shareholder value.

The performative statements are true for delivering the goal of shareholder returns - which is what the goal was in the age of manufacturing in the last century. This was a successful performance in the mid to late 20th century. As this performativity played out weaknesses and flaws began to show, and we started to see the assumptions of Agency Theory appearing and the arrival of pay for performance models. Incentives for CEOs began to soar, and goals began to shift as the digital age, and the age of activism, appeared and changed our world. Society has demanded that the end goal of CEO pay theory and models now change to that of sustainability and long-term value creation - and as the felicity conditions have not yet changed, the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) does not deliver sustainable long term value creation. This is now an unsuccessful performance.

4.1.3 A Revised Model for CEO Pay

The good news is that the felicity conditions are entrenched in Agency Theory and pay for performance models and could be altered to result in an outcome of sustainable long term value creation. As the world transforms and goals change, as they inevitably will, the felicity conditions will need to be continually updated, and the agencements fine-tuned to fit the rapidly changing world we find ourselves in. Doing this will put the power to change back in the hands of those who are at the receiving end of change - the broader stakeholder base. As Mayer (2021, pp. 895) state "Its most recent manifestation is in the form of what is termed 'enlightened shareholder interests' according to which, as the UK Companies Act 2006 states, boards of directors promote the success of the company for the benefit of its shareholders and have regard to the consequences for other parties, including customers, employees, suppliers, communities, and environment. The focus should, therefore, be on 'long term value creation' and the promotion of interests of other parties as far as they are associated with enhancing long term value for the benefit of shareholders."

As sustainable long term value creation is driven by both economic (financial) objectives and environmental and social (non-financial) objectives, it is essential that the felicity conditions include both financial and non-financial indicators. Currently used financial indicators are limiting as they do not address long term value creation and sustainability (other economic, social, and environmental

issues). By entrenching measures in the CEO compact that are based on new principal felicity conditions, the organisation's long-term value will increase - satisfying the shareholders who are looking for both long term value and short-term financial returns.

There is a need for a revised model, a model based on KPIs that include economic, social, and environmental metrics, and a broader base of stakeholders (or principals) who fall within these categories. Scientists, environmentalists, some global corporates, and other interested bodies have been responding to a changing world and leading us into a more sustainable future by example.

The Embankment Project for Inclusive Capitalism (EPIC) (2018) was based on the idea that "for society and economies to thrive, business needs to focus not only on the short term, but also the long term. This changing shape of business value has created clear problems for our economy – because the more it has evolved, the more it has contributed to a growing disconnect between players along the investment chain." They gathered a wide team of stakeholders together to find and create new metrics to measure and prove long term value to financial markets, and to stakeholders to rebuild trust. One of the major headaches, in a service-focused, digital age, is finding metrics for measuring the financial value of intangible assets (human capital, culture, technology, loyalty, trust, advertising) which in some industries, make up to 80% of the company's market value. Mayer (2021, pp.896) is in support of this is saying that a growing proportion of companies' assets are intangible rather than tangible, human, social and natural rather than physical assets, outside as well within the legal boundaries of the firm. The EPIC reporting system was simplified to enable all stakeholders to make informed decisions on long term value, such as who to invest in, who to do business with or who to work for. The metrics fall into one of four categories: financial value; consumer value; human value; and societal value. A good example of a company defining its purpose and incorporating new principals is Unilever. Unilever introduced the "Unilever Sustainable Development Living Plan", motivating employees to reduce their environmental footprint of selling two billion products a day worldwide. The renewed purpose of 'doing well by doing good 'has been integrated into a new employee value proposition in the firm, resulting in target recruitment groups now rating Unilever as the number one employer of choice in 32 countries.

JUST Capital (2020) describe themselves as being "the only independent non-profit that tracks, analyses, and engages with large corporations and their investors on how they perform on the public's priorities. Our research, rankings, indexes, and data-driven tools empower all market participants to help build a more just economy. We are capitalists committed to stakeholder capitalism. We believe that business can and must be a greater force for good and that markets must be part of the solution". Very importantly, Just Capital's Just Alpha research explores the connection with just corporate behaviour and investor returns. Their comprehensive polling (more than 96 000 people has surveyed the public on what they believe US companies should prioritise when it comes to just business behaviour and have filtered the results by stakeholder group: workers;

customers; communities; environment; and shareholders. They are thus recognised as principals themselves whilst introducing new principals in the Agency model. The Fair Trade movement has introduced new principals into doing business and are represented by non-governmental organisations (NGOs) around the world like TransFair USA, TransFair Canada, Fairtrade Labelling Organisation International, Oxfam International, International Federation for Alternative Trade (IFAT), Fair Trade Federation, Fair Trade Original, and Equal Exchange.

Many of these organisations supported the notion that shareholders are not the only Principals of the business - and that the Principals should also include the wider stakeholders. Arguably then, we could define the various stakeholders in the contract (both tacit and non-tacit) as Principals. Principals are generally understood to be those who contract with - and are dependent on - the actions of the manager (the Agent). It has been widely accepted that the Principal is the shareholder or owner, and that the Agent is the management, made up of CEOs and managers. The current definition of 'Principal' does not consider the other stakeholders that have a legitimate claim in influencing the long-term value creation of the organisation. In recent years, many traditional shareholders (or Principals) are being usurped by a wider base of involved stakeholders, some of whom vote on the reward structure and its implementation. [Pepper \(2018\)](#) challenged the premise that shareholders own firms and that directors are their Agents and rather describes the managers as controlling corporations and being placed explicitly in the position of trustees. Furthering this argument, the "contract" details the agreement between the Principal and the Agent, including the rights of the parties, and performance measurement and reward ([Fama & Jensen, 1983](#)).

The boundaries of the definition of Principal are not necessarily noticeably clear, depending on the type of organisation, e.g., in State Owned Enterprises the Agency problem may exist because it may not be clear who exactly it is that represents the Principal ([Toninelli, 2000](#)). In the case of State-Owned Enterprises, the Government is usually the Principal, but it is not clear who the representatives of Government may be - and therefore it is also unclear who the representatives of the Principals are ([Mwaura, 2007](#); [Fudanga & Mwaba, 2006](#). [Bower & Paine \(2017\)](#) also challenged [Jensen and Meckling's \(1976\)](#) shareholder value theory by stating that shareholders are not the owners of the organisation - even though their capital funds the business, they do not have a unitary objective, they do not manage the organisation, they are not accountable for protecting the organisation's interests - and therefore it follows that the CEOs/management are not the Agents. They argue that attempting to align CEOs/managements' interests to shareholders' interest will narrow management's field of vision. They posit a Company-Centred Model - *"With the right leadership, they can be managed to serve markets and society over long periods of time"* ([Bower & Paine, 2017](#)). Amongst its other characteristics, it creates value for multiple constituencies. However, they do not provide a model of *how* the company would achieve this and to elaborate on what "create value for multiple constituencies" means.

The term stakeholders refer to groups of people who have a legitimate claim on the company (Freeman, 1984; Pearce, 1982). An organisation is essentially a nexus of implicit and explicit contracts (exchange relationships) amongst numerous participants that may include (amongst others): owners, institutional investors, information providers, employees, managers, financiers, suppliers, community, government, environmental bodies, etc. (Jensen & Meckling, 1976; Fama & Jensen, 1983); who all make contributions to the organisation and in return receive payments or services from it (Stinchcombe, 1965; Eisenhardt, 1985); Eisenhardt, 1989; White, 1985; Backoff & Mitnick, 1986). These contributions are in the form of assets and liabilities that are detailed on the balance sheet. Although shareholders' equity or capital is differentiated on the balance sheet, shareholders are the last in the line of creditors when it comes to winding up a business.

Callon (1998) states *“that both the natural and life sciences, along with the social sciences, contribute towards enacting the realities that they describe (Law and Urry, 2004) and that economics is performative”*. The outcome of the underlying processes of CEO Pay (theory/models and discourse) are performative. If the felicity conditions to ensure sustainability include a new taxonomy of Principals - made up of an expanded base of stakeholders (Agent-network) - their performativity will naturally result in positive sustainability – long term value creation. The outcome of the underlying processes of CEO Pay (theory/models and discourse) would act performatively on both the wider stakeholder interests of sustainability - economic, social, and environmental - and the narrower (and equally performative) interests of the shareholders - total shareholder return driven through profit after tax - who would be included in the network.

This would then be in alignment with the King Code (2016) that states *“Should these contracts be given the weight of legitimate inclusion in the decision-making process, then the very nature of these contracts would cause gravitation towards integrated thinking and Integrating Reporting”*, and with other governance codes (UK Corporate Governance Code, Basel III, Dodd Frank, SOX, etc.). Walker (2009, pp. 32) states this eloquently *“First, the aim has been to develop proposals for best practice which, when adopted, would be likely to add value over time to the benefit of shareholders, other stakeholders and for society more widely”*.

This is further supported by the Provisions under the UK Companies Act 2006 which extends the duties of directors to include the interests of other stakeholders more explicitly in their decision taking to reduce the risk brought about by serious information asymmetry and complexity in organisations. (Walker, 2009, pp. 136).

This flies in the face of the critique by Inkpen & Sudarem (2022, pp.564) who still posit that the shareholder is the corporate objective *“The call for more attention to stakeholders comes regularly from scholars who continue to demonstrate an unwillingness to appreciate that Shareholder Value Maximisation should be the preferred corporate objective that enhances outcomes for multiple*

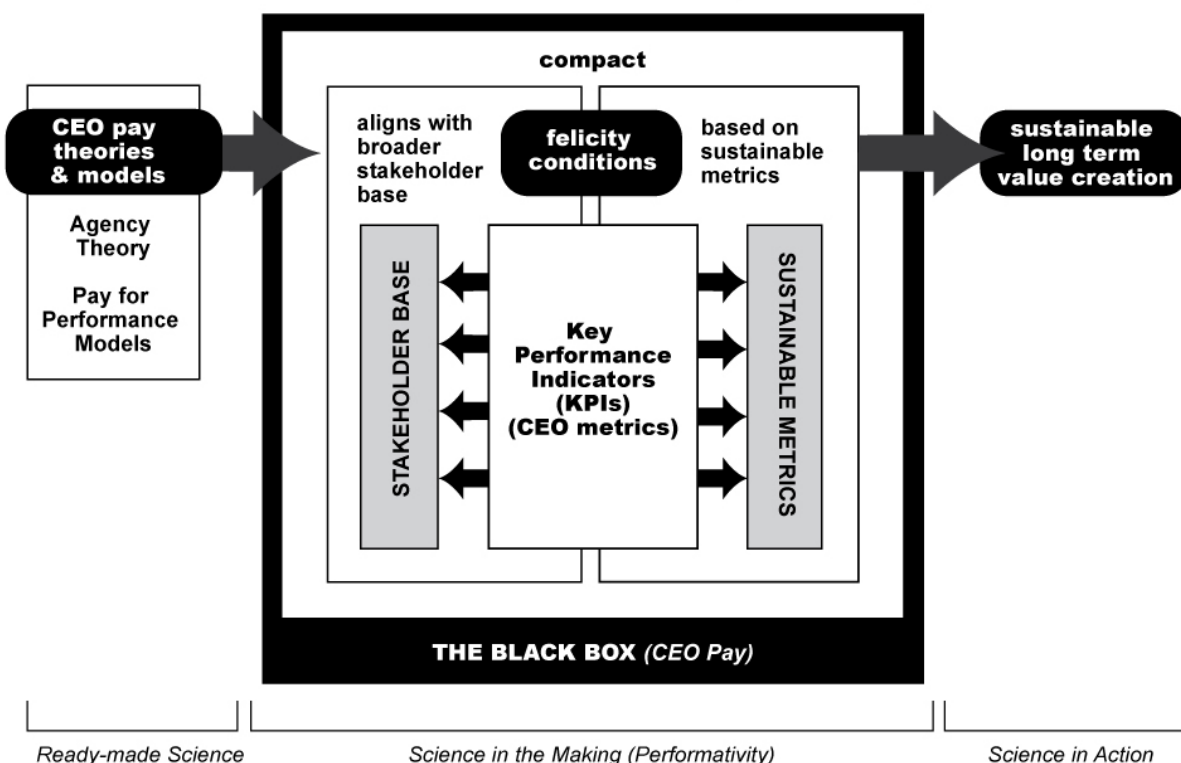
stakeholders and not just the shareholders.” They do however align with Goranova & Ryan (2021) in stating that “We do not disagree since, after all, Sundaram and Inkpen (2004a) is solely about SVM for the long term; If anything, Goranova and Ryan’s (2021) proposed solution of ‘strategic corporate governance’ can be viewed as an endorsement of the relevance and enduring primacy of SVM for the long term.”

The shift from short term value (shareholder value transfer) to long term value (stakeholder value creation) is a long overdue change that is being demanded by society. It is for this reason that measures around the wider stakeholder value creation may prove to be an effective way of approximating economic, social, and environmental factors.

4.1.3.1. A revised theoretical framework and future research

We propose a revised model that reconciles the tensions inherent in recognising additional principals and CEO incentives. Our model shifts the focus from CEO short-term incentives that maximise shareholder value to sustainable long term value creation as its end goal, this fundamental shift is proposed in a revised sustainable normative economic performative model as shown in figure 5.

Figure 5: Sustainable Normative Economic Performative Model



The model is governed by two felicity conditions; namely, they must align with a broad base of stakeholders (Principals) and be based on sustainable metrics. This socially responsible model will not only consume but will create value - and will benefit shareholders in as much as they are

representatives of the wider stakeholder. All CEO metrics (or KPI's) fall within (are based on) these two felicity conditions for the outcome of the underlying processes of CEO Pay (theory/models and discourse) to become normatively economically performative. Each chosen KPI will have two of its own performativity statements - with its own felicity conditions to test itself against – one with the end goal of aligning with the broader stakeholder base, and the other with the end goal of being based on sustainable metrics. The academic standing of the felicity conditions proposed are underpinned by the literature research detailed in this research; they have cognitive simplicity and should be reported transparently in corporate reports to be available to society.

The CEOs compact with the board is based on key performance areas and indicators that are selected specifically to drive the felicity conditions of sustainable long term value creation that underpin the vision and mission of the organisation. Key performance indicators for the achievement of targets will be aligned with the strategy and mission of the organisation, within the bounds of the felicity conditions needed for sustainability. Financial economic goals will define the economic sustainability of the organisation and limit CEO pay whilst societal and environmental goals will moderate or modify CEO pay and define the social and environmental value creation. This could be addressed by setting a maximum limit on financial performance and then setting additional incentives (through management control) to reward the CEO for the achievement of economic, social, and environmental goals and drive stakeholder interests. These incentives could be modifiers or multipliers of the financial incentive.

We posit a revised taxonomy of Principals. The Agents have an expanded set of Principals consisting of all stakeholders who are represented in a sustainable organisation. Widening the net of stakeholders from the financially and economically interested stakeholders (usually the shareholders) to include all these relevant and significant contracted parties, will assist in moving the focus from pure financial measures (such as profit after tax and total shareholder return) to sustainable long term value creation. The expanded set of Principals, with which the Agents need to interact, will fall naturally within the three pillars of sustainability (People, Planet and Profit) and the six areas of sustainable capital as shown in Appendix 6. Value (positive or negative) is inherent in these structures. Each element contributes or destroys value through practices and the summation of these results in value creation or destruction. We would need to address the balance between the capitals of sustainability since they may not all be equal – this would form a new empirical basis for exploration.

We have argued that the structure of governance that we already have is fit for purpose. The critical issue here is that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) should describe and enact the reality of sustainable performance of the organisation without legislative restrictions that hamper this reality. There is a need for regulatory intervention, but deftness should be used rather than by overt force. The way the Agents interact with the

expanded set of Principals, and the form and structure of these relations, will be the discourse of a revised normative economic agency model. Goranova & Ryan (2022, pp. 256) capture the point well “Our critique draws out the challenges that contemporary shareholder practices pose for corporate governance and highlights the need for strategic corporate governance, or governance policies and practices that prioritise the sustainable competitive advantage of the firm”

4.1.4 Conclusion

In recent years, the world has demanded that organisations move their purpose from shareholderism to stakeholderism in a quest to protect the planet (environment) and people (society) through long term value creation. The outcome of the underlying performative processes of CEO Pay (theory/models and discourse) has been found wanting in this regard whilst CEOs continue to be servants to shareholder value. A revised model of agency in which the felicity conditions (MacKenzie (2006a, 43; 2006b; 2007, 68)) include the wider stakeholders and sustainable aims become part of the company purpose and are obligatory, will over time alter the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) where the world starts to resemble the predictions of the model to result in long term value creation and organisation sustainability.

The governance frameworks are necessary but cannot on their own drive sustainable performance through Agency Theory. The era of shareholders being the company purpose (Inkpen & Sudarem, 2022) is over, and a stakeholder approach (Mayer, 2021) is becoming company purpose with the sustenance of strategic corporate governance through governance policies and practices that prioritise the sustainable competitive advantage of the organisation (Goranova & Ryan, 2022).

Future research needs to be undertaken to interrogate “what ought to be” in terms of sustainable CEO metrics and to answer the following questions. What is the balance between tangible and intangible metrics? What is the aim of the company’s purpose? Who are the stakeholders and what metrics would align best with their needs? What metrics are most relevant for the company’s strategic capabilities in key areas? Is there alignment with standards or frameworks for wider stakeholders? Are metrics aligned to long term value creation? Does it capture conditions in a desired outcome over a specific time frame? Does the metric allow peer-to-peer comparisons? Does the metric inform internal or external decision-making? Does it help direct the company’s target-setting? Does the metric measure multiple outcomes and/or related capabilities?

There is scope for an empirical study to develop a normative economics model using identified CEO metrics/KPIs in a mixed method of research (including existing frameworks and standards, Sustainability Accounting Standards Board (SASB), credible surveys and databases like JUST Capital, EPIC, white papers and peer-reviewed literature, remuneration reports and direct interviews with industry leaders). Mayer (2021, pp.899) capture the way forward eloquently “Refocusing

corporate objectives on purpose is not simply a modest extension of conventional managerial tools but a profound reconceptualisation about the nature of economic activity and the way in which economies can contribute to human wellbeing.”

4.2. Paper 2



Paper 2: How Green is Green? How ESG Factors are shaping the outcomes of the underlying performative processes of CEO Pay

by

Christopher Francis Blair

Thesis

SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

Doctor Philosophiae

IN

Organisation, Work and Technology

IN THE

Faculty of Management
Department of Organisation, Work and Technology

AT THE

University of Lancaster

Supervisor: Anthony Hesketh
Co-supervisor: Claire Leitch

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Abstract

This paper reveals the analytical tensions released when executive remuneration packages attempt to balance the adoption of ESG-related factors with CEO pay. The introduction of ESG measures introduces wider stakeholder interests which effectively compete with wider shareholders' incentives. This creates a tension with Agents (CEOs) who are conventionally incentivised and motivated by a different set of financially driven short-term objectives. Tensions we identify include the trade-off between Agents being rewarded simply for the inclusion of ESG metrics as opposed to additional incentives being wrapped around and released by progress in ESG factors deemed by wider stakeholders as now worthy of shaping executive financial packages. Far from triggering additional rewards for positive traction against ESG-related performance indicators, our analysis reveals how executive remuneration committees in the world's largest organisations are retrospectively deploying performative processes to perform, shape and format the relationship between ESG factors and executive reward (c.f. Callon, 1988: 2). Despite little identifiable traction against ESG-related criteria (momentum, growth, material impact) an emergent discursive-based factors are, in Barnesian terms (when the effects of using a theory bring social reality closer to the assumptions or predictions of that theory), performatively deployed to construct the "objective" case for ESG-related progress and subsequent executive reward. The paper discusses the theoretical tensions in Agency Theory released when societal stakeholders are introduced as additional principals whose interests may lie in direct opposition to those of shareholders, creating dilemmas for aligning CEO interests and related incentives. The net effect of this ongoing performativity is to question the continued ability of Agency Theory to sustain a balance between shareholder primacy and ESG-related measures. These can only be resolved with the deployment of the distorting discursive techniques of performativity.

The final sample consisted of 517 companies reported in Financial Year FY2021 (99,4% of 520 total sample) of which 382 (74%) had ESG measures and 478 companies reported in Financial Year FY2020 (99,6% of 480 total sample) of which 310 (65%) had ESG measures; from eight stock exchanges. A multi-dimensional measurement scale was developed consisting of seven groups of 42 factors for critically examining the extent of ESG in Corporate annual reports or integrated reports and the influence on the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse).

We found that large increases in the use of ESG metrics in on-target CEO Total Remuneration KPIs challenge the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) and that ESG metrics may dilute the centrality of shareholders as primary principals. This is not consistent with Agency Theory in its current form and would require a substantial review of Agency Theory.

Keywords: long term value creation, sustainable performance, CEO pay, performativity, principal Agency Theory, shareholder, stakeholder, Environmental, Societal and Governance

4.2.1 Introduction

Modern companies are under increasing pressure to recognise and respond to a broader set of stakeholders than shareholders. Institutional shareholders and governments under pressure from broad groups of stakeholders are increasingly compelling companies to report on their Environmental, Social and Governance (ESG) impact and activities (Gatti, Vishwanath & Cottier, 2019). Companies are expected to be socially responsible have an ethical responsibility to contribute towards the social good of the societies in which they operate (Sheehy, 2015, pp. 273-312). Institutional investors and governments are important stakeholders that are driving this trend, but compliance is still largely discretionary, and companies can decide how much profit they wish to spend on ESG activities. The ESG decision requires a broader perspective from the managers of the company and may even require shareholders to sacrifice returns for corporate social spend.

Industry groupings and governments are introducing mandatory ESG reporting, and companies are expected to report ESG non-financial measures together with traditional financial measures. Environmental factors are those factors that negatively impact the environment, social factors are relationships with employees, suppliers, and communities, while governance factors include transparency in accounting methods, diversity in leadership and accountability to shareholders. The increased focus on ESG has been accompanied by a focus on CEO pay. Sustainability and long-term value creation is the overriding theme and stated intention of all executive pay governance codes around the world (UK Corporate Governance Code, King IV, Basel III, Dodd Frank, SOX, etc.) and wider society is placing a great deal of pressure on organisations - and in particular, their leadership - demanding greater transparency, accountability, and responsibility with regards to CEO pay (Chatterji and Toffel, 2018).

The setting of CEO Fixed pay is driven by many factors of strategic level and complexity – appendix 8 shows the factors used when setting CEO Fixed pay. Financial measures dominate the setting of CEO variable pay and the dominant discourse used to explain CEO pay has been Agency Theory, which assumes that if the Agent (Management) is incentivised, then the Agents' interest will be aligned to the Principals' (shareholders') interests. The mandate and the core performance objective of every CEO is to deliver on the organisation's business strategy. Capital and investors set the purpose (and the strategy) of the company. This process is described as "Performativity". Performativity is described as the power of theories and discourse to remake observable reality (to act or consummate an action, or to construct and perform an identity) in their own image (Callon, 1998). The outcomes of the underlying performative processes of CEO Pay (theory/models and

discourse) is evident when the CEO perceives a reality wherein economic incentives to meet financial goals drive CEO and Executive behaviour (Callon, 1998; Roberts & Ng, 2012).

However, this reality is at odds with ESG trends where stakeholders may have conflicting interests and sustainability may require a short-term sacrifice by providers of capital and shareholders. This has been evident from the increase in ESG reporting and attempts to align CEO total remuneration with non-financial ESG measures. The introduction of ESG measures introduce stakeholder interests that may compete with those of shareholders and may dilute the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse). ESG measures introduce societal stakeholders as additional principals in Agency Theory, but the interests of these additional principals may sometimes be in direct opposition to those of shareholders, which creates a dilemma for aligning CEO interests and related incentives (Sheehy, 2015, pp. 273-312). The effect of ESG factors on CEO pay is not clear and the continued outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) where the shareholder is the primary principal and is challenged by the introduction of ESG measures. This conundrum is the focus of this paper.

We first look at the literature review of Agency Theory and the performativity and CEO pay followed by a description of the methodology used in the research. The results are then presented with a discussion and finally conclusions from the discussion.

4.2.2 Literature Review

4.2.2.1. Agency Theory

Agency Theory was initially theorised by Jensen and Meckling (1976), who defined an agency relationship as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen & Meckling, 1976, p. 311). Two distinct set of actors emerge; the principal (who is a shareholder in the corporation) and the agent (who acts as a manager for the principal (Berle and Means, 1991). Agency Theory posits that the size of the reward - which may be linked to the level of complexity (amongst other factors) - offered by the principal to the agent defines the relationship between the principal and the agent (Perkins & White, 2016). However, this relationship has not been an easy one. It is common cause, in all the nascent literature on Agency Theory, that there is a contracting problem between the Principal and Agent (Fama & Jensen, 1983) because of competing interests.

Jensen and Meckling (1976) detailed the key issues around the agency model as costs arising from the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss. Even though this seminal piece of work was researched 50 years ago, Jensen and Meckling (1971, pp. 7) had already identified the main problem plaguing Agency Theory:

“That literature focuses almost exclusively on the normative aspects of the agency relationship; that is, how to structure the contractual relation (including compensation incentives) between the principal and agent to provide appropriate incentives for the agent to make choices which will maximize the principal’s welfare, given that uncertainty and imperfect monitoring exist. We focus almost entirely on the positive aspects of the theory.”

Firstly, according to [Jensen & Meckling \(1976\)](#) and [Singh \(1985\)](#), monitoring is the direct or indirect observation of the agent's effort, or behaviour, over some period using tools like budgets, responsibility accounting, rules, and policies. To try to solve the moral hazard problem, ‘pay for performance’ models have been adopted but complexity factors, which affect long term value, have arisen that result in conflicting measurements between establishment and delivery. These models require the writing of sufficiently detailed contracts ex ante as well as measurement and verification of results ex post. This has exacerbated the problem of creating long term value.

The reward structure is designed to incentivise managers to make decisions that are in the best interests of Principals. However, the Agents natural conflict of interest causes them to desire less monitoring and lower their risk whilst maximising reward for the least effort ([Harris & Raviv, 1979](#)). [Demski, Patetl, and Wolfson \(1984\)](#) state that Agents would choose courses of action that are in their own self-interest - even if they conflict with the well-being of the Principals.

Secondly, this is further complicated by the informativeness principle ([Holmström, 1979](#)) and multi-tasking ([Holmström, and Milgrom, 1991](#)). Information asymmetry and multitask problems arise when the Principal can observe some outcomes, but not others. This makes monitoring more difficult. The problem is that Agents (management) are usually the party proposing the reward structure to the Principals (via Remuneration Committees and Boards) and they have better information at their disposal than the Principals. According to [Callon \(1998\)](#), what the agents do depends on the form and structure of the relations in which they interact – in this case, the Principal-Agent relationship. This does not preclude the risk-averse agent from abusing their power through asymmetry of information and bounded rationality, thus giving them the opportunity to ignore social and environmental - and even economic - stakeholder interests.

Thirdly, contracts are traditionally allocated to Agents in four steps ([Fama & Jensen, 1983: 302](#)). The first two steps fall under ‘decision management’ and include initiation (alternative ways to use resources and structure contracts) and ratification (the choice of decision alternatives). Steps three and four, implementation (executing the choices) and monitoring (measuring and rewarding performance), fall under ‘decision control’. These last two critical steps monitor the agent's actions and determine the reward structure - including how well managerial incentives are aligned with the interests of owners ([Fama & Jensen, 1983](#)). If the Principals’ decision control is effective, they will

succeed in reducing Agency costs (Shavell, 1979; Holmstrom, 1979). However, asymmetry of information means that it is extremely difficult to monitor accurately.

Lastly, the allocation of decision rights generates bargaining power, which in turn determines incentives. The executives have more power and influence than the non-executive directors who are not willing to exert their power (Bebchuk, Fried and Walker 2002; Bebchuk, 2009; Roberts, McNulty and Stiles, 2005).

CEOs (agents who function as managers for the Principal) are in the position to make decisions that may not be in the best interest of the Principals and stakeholders (Laffont and Martimort, 2002). Agents may choose to maximise their own remuneration by focusing on short term gains and observable outcomes that translate to incentive payouts, instead of focusing on long term decisions (that may only realise after their tenure) that will enhance the sustainability of the organisation. These actions may also be unobserved by the principal, who has no access to the direct actions of the agent. This allows the agents to consistently act in a manner that promotes self-interest and is said to be 'rent seeking' (Jensen, 2001; Jensen and Meckling, 1976), claiming greater pay for constrained delivery or by claiming pay based only on meeting shareholder expectations.

These actions then reduce the overall surplus of the relationship for equitable distribution to the stakeholders (value creation), whilst increasing the cost of the Agent. This is in direct conflict to shareholders' desire to maximise profit (O'Reilly & Main, 2010) and *stakeholders'* expectation of sustainability through long term value creation. The tension between the agendas of the Principal and the Agent, and the inflated agency costs that result from this tension, can reduce the company value, and consequently reduce shareholder wealth (Otieno, 2011) as well as challenge the long-term sustainability of the organisation.

However, current Agency Theory has failed to take into account the crucial outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) that drives the CEO to act in his/her own interest first (Mustapha, 2013; Cooper, Gulen & Rau, 2009; Laux & Laux, 2009; Krauter & de Sousa, 2013; Bradley 2011; Merino & Banegas, 2011; Core et al, 1999) and to focus primarily on financial value transfer at the expense of long term organisational sustainability.

4.2.2.2. Performativity and CEO Remuneration

The mandate and the core performance objective of every CEO is to deliver on the organisation's business strategy. Capital and investors set the purpose (and the strategy) of the company. The CEO then uses the performative potential of strategy to transform theory into desired reality (Clegg et al, 2006) - in this case the desired reality is the organisation's mission and vision. This premise is supported by Mackenzie (2006) who suggests that strategy is an engine rather than a camera in its

effects - in other words, the CEO is contributing to enact the reality (the mission and vision) that the discourse (the strategy) describes.

Performativity is described as the power of theories/discourse to remake observable reality (to act or consummate an action, or to construct and perform an identity) in their own image, with the involvement of a 'sociology of translation' (Callon, 1998). Callon posits that performativity of economics (incentives) becomes a reality of the fiction of the 'rational' individual. Roberts & Ng (2012) go on to deduce that traditional incentive pay practices have therefore resulted in the very self-interested opportunism that they strove to avoid. This is the fiction enacted by the Agent – driven by the economic incentives to meet financial goals. This means that the Agent focuses on delivering the performance that is required to drive his/her incentive. Callon (1998) states that material arrangements and investments create a taken-for-granted boundary within which actors' interactions occur, the CEO (and executives) being the main actor/s.

Callon and Muniesa (Araujo, 2007) advance this notion by stating that the actors are cognitively embedded in economic principals to perform market mechanisms and related economic activities. Companies are adopting calculative models and technologies, known as market devices, which are integral to CEO remuneration and incentives (Callon, Millo & Muniesa, 2007a; Callon, 1998a; MacKenzie & Millo, 2003; Muniesa, Millo & Callon, M., 2007; Preda, 2006).

While these calculative models and technologies have driven CEO pay, they are normative economic devices that have framed (affected) the social interaction in these market settings so that society (stakeholders) interpret or evaluate CEO pay as being *only* financial and focused on shareholder returns. The devices have served to change the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) only in relation to economic theory. Latour (1987) calls this the power of science in action, as opposed to science in the making. As Barnesian (Marti, & Gond, 2018) discourse states - performativity describes a situation in which the world starts to resemble the predictions of a theory or a model (Svetlova, 2012). Thus, the outcomes of the underlying performative processes of Agents' (CEOs') pay (theory/models and discourse) is that of alignment to the normative financial goals that drive his/her incentive - and not that of sustainable performance or what the wider stakeholder sees as sustainable performance (Tosi et al, 2000).

Current Agency Theory is centred around normative economics and executive reward¹ (what the outcome of the economy or goals of public policy ought to be), and the vast amount of research on the topic is focused on financial economics - i.e., incentives - and its relationship to company

¹ The difference between **pay** and **reward** is that **pay** is money given in return for work; salary or wages while **reward** is something of value given in return for an act e.g., shares that may translate into pay at some point

performance. This focus has come about chiefly because normative quantitative economics can be seen easily and objectively correlated (or not) to CEO pay. Economists can focus on what they can measure – and they argue that they are measuring what matters. (Beckley, 2018). This economic argument is applied to individual decision making - we count the thinking we can (allegedly) ‘see’. ‘Seeing’ this means applying a quantum approach to it. There is currently a heavy bias towards measuring ‘economic foundations’ by valuing shareholder returns. CEOs spend an enormous amount of effort meeting shareholder return demands, often at the expense of the long-term sustainability of the organisation. We will call this “shareholderism”.

Current research reveals that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is driving shareholder interests through typical CEO currencies of EBIT (profit), TSR (total shareholder return), ROCE (return on capital employed) (Carpenter, 2002), – all financial measures but with the move to driving the wider stakeholder interests (catapulted through the Covid pandemic from 2020), there has been a move to align CEO pay with non-financial measures of Environmental, Societal and Governance disclosure (ESG). The dominance of Agency Theory is challenged by ESG factors, but the strength of those challenges is not understood. Companies will respond by either ignoring ESG factors and continuing as if these are unimportant, or they will accept these but reduce their impact, as companies do when they engage in “greenwashing” (De Vries, 2015), or they integrate ESG factors in the determination of CEO pay. The last option would indicate a reduced outcome of the underlying performative processes of CEO Pay (theory/models and discourse).

4.2.3 Research Design Data and Methods

The data used in this study are from Annual Financial reports and Integrated reports across the top indexes of the following eight stock exchanges: Australia (ASX 100), Canada (TSX 60), UK (FTSE 100), France (CAC 40), Germany (DAX 30), South Africa (JSE top 40), Singapore (SMI 20) and the USA (S&P 100). The Annual Financial Reports and Integrated Reports were examined for FY2020 and FY2021 to develop a multi-dimensional measurement scale consisting of 42 factors for critically examining the extent of ESG in Corporate annual reports or integrated reports (using the GECN Group of Companies database - spanning five continents) (GECN Group, 2021) and the influence on the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). The final sample consisted of 517 companies reported in Financial Year FY2021 (99,4% of 520 total sample) of which 382 (74%) had ESG measures and 478 companies reported in Financial Year FY2020 (99,6% of 480 total sample) of which 310 (65%) had ESG measures. Only companies that did not report all the elements of CEO total remuneration were omitted from the sample.

The influence of ESG metrics on the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is driven through the reporting of these factors in the Corporate annual reports or integrated reports and their link to CEO short-term and/or long-term incentives. This is the discourse of remuneration committees, HR departments, Finance departments and external consultants that gets documented or reported in the Corporate annual reports or integrated reports and so observable reality is remade/constructed through the power of the discourse that are used to justify it. This performativity aligns to but is not the same discourse arising through other ESG initiatives; namely, the Green New Deal (GND) (Pettifor, 2020); the United Nations 2020 Sustainable Development Goals (United Nations, 2019); Davos World Economic Forum; the Paris Agreement Accord (European Commission, 2021) and Global Reporting Initiatives (GRI) standards that are a modular system comprising the GRI Universal Standards; the GRI Sector Standard; and the GRI Topic Standards (GRI, 2022). We have attempted to align the United Nations Sustainable Development Goals and World Economic Forum goals with corporate reporting as shown in Table 6 and Table 7.

Table 6: The United Nations 17 sustainable development goals (SDGs) for 2030

Environmental	Health & Safety	People & Culture	Customer Performance	Community Performance	Sustainability	Governance
GOAL 7: Affordable and Clean Energy	GOAL 9: Industry, Innovation, and Infrastructure	GOAL 5: Gender Equality		GOAL 6: Clean Water and Sanitation	GOAL 11: Sustainable Cities and Communities	GOAL 16: Peace and Justice Strong Institutions
GOAL 13: Climate Action	GOAL 9: Industry, Innovation, and Infrastructure	GOAL 10: Reduced Inequality		Goal 1: No poverty		GOAL 17: Partnerships to achieve the Goal
GOAL 15: Life on Land		GOAL 8: Decent Work and Economic Growth		GOAL 3: Good Health and Well-being		
GOAL 14: Life Below Water				Goal 2: Zero hunger		
				Goal 4: Quality Education		

The World Economic Forum Manifesto is stated as “The purpose of a company is to engage all its stakeholders in shared and sustained value creation. In creating such value, a company serves not only its shareholders, but all its stakeholders – employees, customers, suppliers, local communities, and society at large” (World Economic Forum, 2019. pp. 1).

Table 7: World Economic Forum Manifesto Goals

Environmental	Health & Safety	People & Culture	Customer Performance	Community Performance	Sustainability	Governance
		A company treats its people with dignity and respect. It honours diversity and strives for continuous improvements in working conditions and employee well-being. In a world of rapid change, a company fosters continued employability through ongoing upskilling and reskilling.	A company serves its customers by providing a value proposition that best meets their needs. It accepts and supports fair competition and a level playing field. It has zero tolerance for corruption. It keeps the digital ecosystem in which it operates reliable and trustworthy. It makes customers fully aware of the functionality of its products and services, including adverse implications or negative externalities.	A company serves society at large through its activities, supports the communities in which it works, and pays its fair share of taxes. It ensures the safe, ethical, and efficient use of data. It acts as a steward of the environmental and material universe for future generations. It consciously protects our biosphere and champions a circular, shared and regenerative economy. It continuously expands the frontiers of knowledge, innovation, and technology to improve people's well-being.	A company provides its shareholders with a return on investment that considers the incurred entrepreneurial risks and the need for continuous innovation and sustained investments. It responsibly manages near-term, medium-term, and long-term value creation in pursuit of sustainable shareholder returns that do not sacrifice the future for the present.	A company considers its suppliers as true partners in value creation. It provides a fair chance to new market entrants. It integrates respect for human rights into the entire supply chain.

The Green New Deal (GND) calls for public policy to address climate change through renewable energy and resource efficiency as well as other social aims like job creation and reduction of economic inequality (Chohan, 2019). Although the attempt to get legislation passed for the Green New Deal failed in the USA in 2019, it was supported by the European commission in 2019 and European Parliament in 2020 (Benakis, 2020). There are continuing calls for adopting a Green New Deal with a new future way of work post Covid changes and a renewed focus on social and climate issues (Battistoni, 2022; Walker, 2022).

Corporate reporting has its own narrative that is more granular than the United Nations and World Economic Forum and this discourse was used to select the ESG metrics in this research based on the global GECN project that agreed on these classifications against emergent contested factors based on international remuneration expert experience gained through serving thousands of clients across more than 35 countries. The GECN Group works with boards, C-Suite executives, heads of public authorities, and other decision-makers on enhancing value through governance and the right use of Executive remuneration.

The reports provided ESG data in addition to CEO pay and financial information including EBIT (profit), TSR (total shareholder return), Market Capitalisation (Market cap), % institutional investment and Enterprise Value (EV). These are the most common financial measures that are used to set CEO pay both the guaranteed and variable pay (Bower & Paine, 2017; Li and Young, 2016; Roberts & Ng, 2011). We measured the presence of ESG factors by whether these were reported in either

Annual Financial or Integrated reports. These factors could be categorised into seven categories: Environmental, Health and Safety, People and Culture, Customer Performance, Community Performance, Sustainability, and Governance. We used a Boolean (O'Donnell, 2014) variable (0 or 1) to denote the presence of each of the following 7 ESG factors. Within each of these factors there were sub points, however, these are meant to allow for different industries to “tick the box”. For example, a bank will not focus on GHG emissions but may focus on using renewable energy. These seven factors were further grouped into three factors: Environmental – (Environmental & Health & Safety); Social – (People & Culture, Customer Performance, Community Performance); and Governance (Sustainability & Governance). A Likert measurement scale was used to determine the extent of ESG disclosure by scoring the presence of items in the annual report with either 1 for disclosed or 0 for not disclosed (Cardi, Mazzoli & Severini, 2019; Nielsen, Rimmel & Yosano, 2015).

We performed a Principal Component Analysis (PCA) to determine how many factors should be used. PCA is a multivariate technique that analyses a data table in which observations are described by several inter-correlated quantitative dependent variables – in this case the 42 ESG factors in the 7 elements. We extract the data to form a new set of principal components, selected from the pattern of similarity of the observations and of the variables (Abdi & Williams, 2010). PCA can handle multiple factor analysis to handle the heterogenous sets of variables. The Eigenvalues calculated represent the total amount of variance that can be explained by each principal component. We then calculated the sum of the square loadings of each ESG area per factor as a measure of how influential each variable is within each factor. We then interrogated the uniqueness of the factors and grouped the variances. This reduced the seven factors (with the subfactors) into three pillars; Environment, Society and Governance reported in corporate Reports Integrated reports These three factors together with Market Cap (to control for company size– explained below) were then regressed against the total on-target remuneration of the CEO per company. Finally, we ran a panel regression for FY2020 to FY2021 to determine the growth and momentum of ESG factors and their effect on the outcome of the underlying performative processes of CEO Pay (theory/models and discourse).

The seven factors were grouped into the ESG reported factors as follows; Environment including environmental factors, health, and safety (0, 1, or 2); Society including people and culture, community performance and customer performance (0, 1, 2, or 3); and Governance and sustainability measures (0, 1, or 2). Each of the 7 ESG factors was assigned to one of the 3 PCA factors and these PCA factors were assigned as being part of Environmental, Social or Governance using the decision-making rules. Firstly, majority rules – if sustainability and customer were in the same factor then sustainability represents 50% of the governance variables and customer represented 33% therefore it would be assigned to governance. Secondly, cross loadings functioned as disqualifiers – If an individual metric appeared in more than one factor, it could only be assigned to one metric. In other words, Social could not be assigned to more than one factor. Lastly, if the

majority rules and there was a tie, then the ESG Factor that the factor had been assigned to would be the one with the largest impact on the Factor.

Example: The below illustrates this process across all industries. Rules 1 and 3 ensure that Factor 1 is assigned to Governance, Factor 2 Environmental (Rule 1) and Factor 3 is Social (Rule 2 and 3).

ESG Factor	Factor 1	Factor 2	Factor 3
Environmental		0.49	
Health & Safety		0.62	
People & Culture			0.66
Customer		-0.34	
Community			
Governance			0.42
Sustainability	1.00		

Regression analysis was performed on the three factors of ESG against the independent variable of on-target CEO total remuneration reported for the whole database, by Industry and by Country. The on-target CEO total remuneration was adjusted for purchasing power parity (PPP) for each Country to remove the effects of Country economies. Because CEO total remuneration is strongly correlated to company size (Ndzi, 2015; Ndayisaba & Ahmed, 2015; Conyon & Murphy, 2000; Cho & Pucik, 2005; Bell & Van Reenen, 2011), Market Capitalisation (Market Cap) is used to control for this across the dataset. The correlation between Market Cap and Enterprise Value (EV) is 0.84 which is why Market Cap is not used as an independent (control) variable when Enterprise Value is the dependent variable.

The linear regression equation used was:

Without Market Cap:

$$Y_i = + X1_i + X2_i + X3_i$$

Y_i = On-target remuneration (Or EV)

$X1_i$ = Environmental aggregate score

$X2_i$ = Social aggregate score

$X3_i$ = Governance aggregate score

With Market Cap:

$$Y_i = Z_i + X1_i + X2_i + X3_i$$

Y_i = On-target remuneration (Or EV)

Z_i = Market-cap

$X1_i$ = Environmental aggregate score

$X2_i$ = Social aggregate score

$X3_i$ = Governance aggregate score

4.2.4 Results and Discussion

The correlation between CEO on-target remuneration, TSR, Market Capitalisation, Institutional Shareholding, EBIT and Enterprise Value was calculated for FY2020 and FY2021 as shown in table 8.

Table 8: Financial Measure Correlations with CEO on-target Remuneration

	On-Target Rem	TSR	Market Cap	Institutional %	EBIT	FY2021 EV
On-Target Rem	1.00	-0.05	0.49	0.36	0.41	0.46
TSR	-0.05	1.00	0.09	0.04	0.12	0.09
Market Cap	0.49	0.09	1.00	0.22	0.74	0.84
Institutional %	0.36	0.04	0.22	1.00	0.17	0.17
EBIT	0.41	0.12	0.74	0.22	1.00	0.64
EV	0.46	0.09	0.84	0.17	0.64	1.00

	On-Target Rem	TSR	Market Cap	Institutional %	EBIT	FY2020 EV
On-Target Rem	1.00	0.02	0.38	0.34	0.32	0.36
TSR	0.02	1.00	0.13	-0.01	0.14	0.11
Market Cap	0.38	0.13	1.00	0.16	0.74	0.91
Institutional %	0.34	-0.01	0.16	1.00	0.16	0.16
EBIT	0.32	0.14	0.74	0.16	1.00	0.65
EV	0.36	0.11	0.91	0.16	0.65	1.00

There is a strong correlation between CEO on-target remuneration and Market Capitalisation, Institutional Shareholding, EBIT and Enterprise Value but a poor correlation with TSR. There is also a strong correlation between Market Capitalisation, EBIT and Enterprise Value as these are all measures of company size.

However, when the correlations are done with ESG factors, the correlations are very poor and, in many cases, a negative correlation as shown in table 9.

Table 9: Financial Measure Correlations with Non-Financial ESG Measures by Number and Quartile for FY2021 for both Industry and Exchange

INDUSTRY		Environment metrics	Health and safety metrics	People and culture metrics	Social metrics	Customer metrics	Community metrics	Governance metrics	Sustainability index metrics
Number	TSR	0.023	0.158	0.042	0.153	-0.136	0.137	0.036	-0.078
Number	Market Cap	-0.025	-0.030	-0.032	-0.077	-0.064	0.009	-0.054	-0.034
Number	Institutional Shareholding	-0.165	-0.134	-0.157	-0.215	-0.163	-0.087	-0.249	-0.008
Quartile	TSR	-0.062	0.044	0.036	0.023	-0.113	0.046	-0.025	-0.135
Quartile	Market Cap	0.100	0.039	-0.064	-0.062	-0.073	0.148	-0.072	0.029
Quartile	Institutional Shareholding	-0.121	-0.088	-0.161	-0.175	-0.090	-0.045	-0.244	-0.039
EXCHANGE		Environment metrics	Health and safety metrics	People and culture metrics	Social metrics	Customer metrics	Community metrics	Governance metrics	Sustainability index metrics
Number	TSR	0.023	0.158	0.042	0.153	-0.136	0.137	0.036	-0.078
Number	Market Cap	-0.025	-0.030	-0.032	-0.077	-0.064	0.009	-0.054	-0.034
Number	Institutional Shareholding	-0.165	-0.134	-0.157	-0.215	-0.163	-0.087	-0.249	-0.008
Quartile	TSR	-0.007	0.073	0.048	0.068	-0.161	0.095	0.023	-0.121
Quartile	Market Cap	0.064	0.055	0.079	0.072	-0.008	0.148	0.126	-0.024
Quartile	Institutional Shareholding	-0.070	-0.007	-0.083	-0.078	-0.150	-0.066	-0.073	0.053

There is no significant relationship between any of the non-financial ESG metrics and financial metrics. There is also no correlation between E and G or S and G across country or industry as shown in table 10.

Table 10: Correlations between the ESG factors by Country and Industry for FY2021

Country	Correlation E & G	Correlation S & G
England	-0.16	0.06
SA	-0.22	-0.04
France	-0.23	-0.38
Germany	-0.26	0.51
Canada	-0.02	-0.21
Australia	0.05	0.31
USA	0.06	-0.11

Industry	Correlation E & G	Correlation S & G
Communication Services	-0.08	0.44
Consumer Discretionary	0.33	0.38
Consumer Staples	0.10	-0.03
Energy	0.18	0.52
Financials	-0.06	-0.03
Health Care	-0.17	-0.12
Industrials	0.21	-0.02
Information Technology	0.12	0.12
Materials	-0.07	0.35
Real Estate	0.61	0.38
Utilities	0.34	0.03

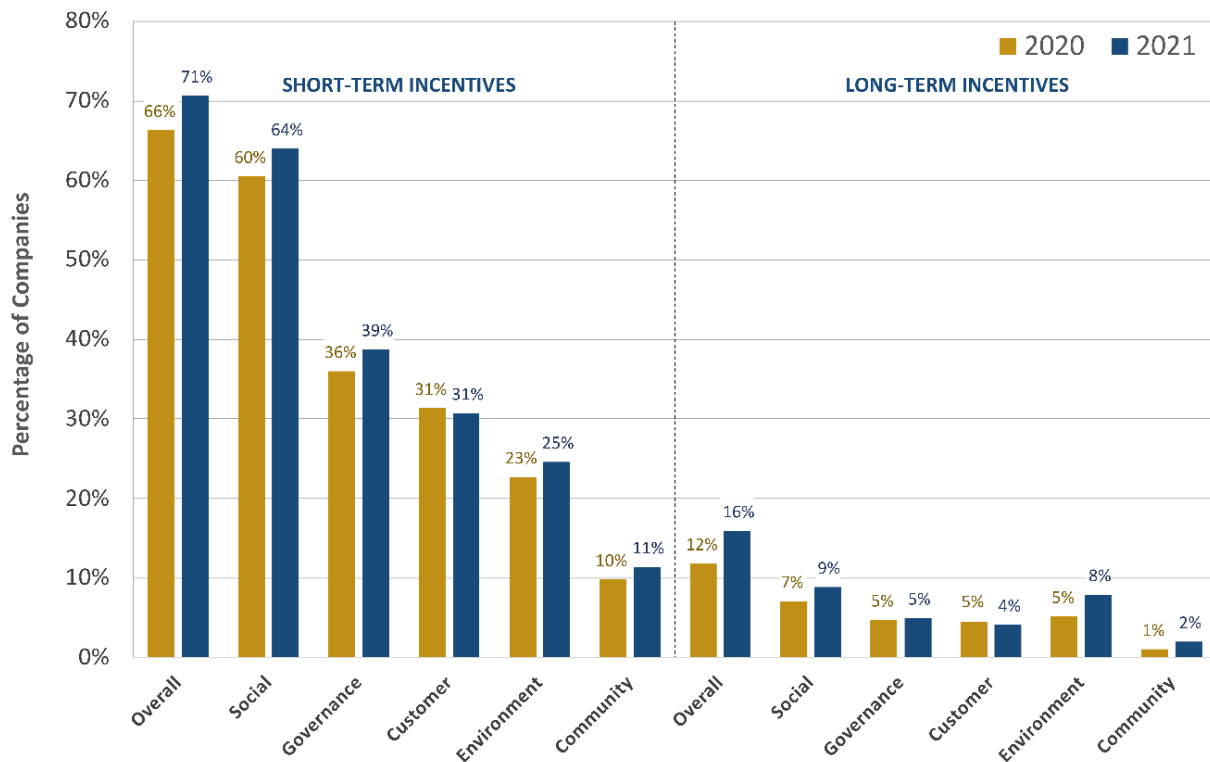
We compared the prevalence of reported ESG factors across countries and industries (detailed in Appendix 2). A comparison across countries of companies including ESG metrics in deciding CEO pay showed that Australia leads the charge followed by South Africa, Canada, France, UK, Germany, and USA. From an industry comparison we found that Health Care, Consumer Staples, and Materials are leading the way in driving the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) with Financials and Real Estate having little significance to date. The descriptive statistics in Appendix 2 shows that the prevalence by country for FY2021 ranges significantly across all ESG factors with the lowest prevalence at 18% for Governance in Germany and the highest prevalence at 100% for Environment in France. The highest prevalence across all countries is the Social factor with an average of 79% whilst Environment factors are second most prevalent (average of 64%) and Governance factors least prevalent with an average of 44%. The prevalence by industry also ranged significantly by factor with the lowest prevalence of 7% for Environment and Governance factors in the Communication Services industry. The highest prevalence of 100% was in the Communication Services industry for the Social factor as well as for the Environment factor in the Energy industry. The highest prevalence across all industries was Social factors with an average of 85% whilst Environment factors are second most prevalent (58%) and Governance factors least prevalent with an average of 41%.

Use of ESG metrics in CEO Pay

The types of ESG metrics used as incentives varied according to type of metric and whether it was a short-term or long-term incentive. We compared FY2020 data to FY2021 and found that there was a material increase in the use of ESG metrics to FY2021 with more than 70% of the sampled

companies including these metrics. The dominant metric by far was the Social metric and the ESG metrics were mainly used for short-term incentives (see figure 3 below).

Figure 3: Percentage of companies using ESG metrics in incentives by short- (left hand column) and long-term (right hand column) incentives by type of measure for FY2020 analysis and FY2021



Blair, 2022.

The Impact of Financial Factors and ESG Factors on CEO Pay

The impact of ESG factors on the financial performance of a company is an important consideration for CEO pay. ESG factors may require the diversion of financial and management resources, which in turn could impact on shareholder returns. We conducted a regression analysis to measure whether ESG metrics had any influence on financial performance. As can be seen from the results in table 11, there was a poor correlation between ESG metrics and financial performance (TSR), across all industries for both number and quartile of factors. In fact, there was often a negative correlation between ESG metrics and TSR, which is likely due to the costs associated with ESG and the demands from stakeholders that are not shareholders.

Table 11: FY2021 Correlation/relationship of non-financial ESG metrics with TSR by Industry by number of factors and quartile of factors and the weighting of the non-financial factors

Industry			Number of non-financial metrics (num)	Total non-financial % weight (num)	Number of non-financial metrics (Quartile)	Total non-financial % weight (Quartile)	Factor_E	Factor_S	Factor_G
OVERALL	Number	TSR	0.054	0.081	0.025	0.062	0.111	0.044	-0.002
Communication Services	Number	TSR	-0.108	-0.040	-0.123	-0.091	-0.121	0.035	-0.215
Consumer Discretionary	Number	TSR	0.023	0.165	0.038	0.238	-0.201	0.017	-0.085
Consumer Staples	Number	TSR	0.395	0.140	0.269	0.272	0.350	0.297	0.400
Energy	Number	TSR	-0.446	-0.228	-0.555	-0.160	-0.162	0.032	-0.368
Financials	Number	TSR	-0.245	-0.258	-0.287	-0.294	-0.030	-0.192	-0.297
Health Care	Number	TSR	-0.392	0.123	-0.435	0.078	-0.405	-0.180	-0.264
Industrials	Number	TSR	-0.223	-0.220	-0.274	-0.218	-0.037	-0.272	-0.135
Information Technology	Number	TSR	-0.013	0.187	-0.067	0.103	0.066	0.046	-0.138
Materials	Number	TSR	0.135	0.121	0.237	0.140	0.085	0.134	0.205
Real Estate	Number	TSR	-0.095	-0.203	-0.188	-0.351	-0.542	0.024	0.149
Utilities	Number	TSR	-0.349	-0.199	-0.395	-0.230	-0.513	-0.218	-0.258

Industry			Number of non-financial metrics (num)	Total non-financial % weight (num)	Number of non-financial metrics (Quartile)	Total non-financial % weight (Quartile)	Factor_E	Factor_S	Factor_G
OVERALL	Quartile	TSR	-0.037	-0.088	-0.040	-0.038	-0.005	-0.022	-0.082
Communication Services	Quartile	TSR	0.022	0.054	0.011	-0.006	-0.138	0.183	-0.158
Consumer Discretionary	Quartile	TSR	0.065	0.116	0.022	0.155	-0.048	0.028	-0.020
Consumer Staples	Quartile	TSR	0.194	-0.058	0.162	0.121	0.109	0.162	0.174
Energy	Quartile	TSR	-0.468	-0.213	-0.593	-0.158	-0.125	-0.042	-0.377
Financials	Quartile	TSR	-0.259	-0.341	-0.304	-0.371	0.048	-0.206	-0.342
Health Care	Quartile	TSR	-0.299	0.089	-0.361	0.061	-0.415	-0.117	-0.138
Industrials	Quartile	TSR	-0.183	-0.193	-0.210	-0.186	-0.003	-0.250	-0.144
Information Technology	Quartile	TSR	-0.030	0.162	-0.135	0.063	0.032	-0.037	-0.046
Materials	Quartile	TSR	0.226	0.150	0.239	0.121	0.169	0.205	0.351
Real Estate	Quartile	TSR	-0.297	-0.370	-0.375	-0.484	-0.544	-0.180	-0.072
Utilities	Quartile	TSR	-0.110	0.042	-0.090	0.037	-0.231	0.037	-0.253

The same results played out for both Industry and Exchange (country) shown in table 12.

Table 12: F2021 Correlation/relationship of non-financial ESG metrics with TSR by Exchange by number of factors and quartile of factors and the weighting of the non-financial factors

Exchange			Number of non-financial metrics (num)	Total non-financial % weight (num)	Number of non-financial metrics (Quartile)	Total non-financial % weight (Quartile)	Factor_E	Factor_S	Factor_G
OVERALL	Number	TSR	0.054	0.081	0.025	0.062	0.111	0.044	-0.002
ASX 100	Number	TSR	-0.057	0.184	-0.099	0.132	-0.015	-0.082	-0.077
CAC 40	Number	TSR	-0.117	-0.327	-0.122	-0.418	-0.232	0.029	-0.031
DAX 30	Number	TSR	0.038	0.155	0.007	0.185	-0.224	0.184	0.000
FTSE 100	Number	TSR	0.000	0.018	-0.028	-0.043	0.097	-0.057	0.057
JSE Top 40	Number	TSR	0.179	0.083	0.232	0.269	0.274	0.130	0.026
S&P 100	Number	TSR	-0.095	0.091	-0.113	0.128	-0.111	-0.005	-0.087
SMI 20	Number	TSR	0.015	0.137	0.099	0.016	0.154	-0.272	-0.140
STI 30	Number	TSR	-0.112	-0.178	-0.215	-0.218	-0.199	-0.105	-0.070
TSX 60	Number	TSR	-0.219	-0.133	-0.106	-0.099	-0.074	-0.041	-0.258

Exchange			Number of non-financial metrics (num)	Total non-financial % weight (num)	Number of non-financial metrics (Quartile)	Total non-financial % weight (Quartile)	Factor_E	Factor_S	Factor_G
OVERALL	Quartile	TSR	-0.037	-0.088	-0.040	-0.038	-0.005	-0.022	-0.082
ASX 100	Quartile	TSR	-0.046	0.088	-0.108	0.021	-0.004	-0.089	0.017
CAC 40	Quartile	TSR	0.012	-0.195	-0.010	-0.289	-0.146	0.142	-0.009
DAX 30	Quartile	TSR	-0.022	0.004	-0.061	0.069	-0.278	0.327	0.328
FTSE 100	Quartile	TSR	-0.004	0.015	-0.078	-0.063	0.135	0.452	0.099
JSE Top 40	Quartile	TSR	0.184	0.049	0.065	0.094	0.402	0.674	0.251
S&P 100	Quartile	TSR	-0.103	0.107	-0.144	0.148	-0.110	0.682	0.245
SMI 20	Quartile	TSR	-0.080	0.245	0.074	0.191	0.040	0.106	0.403
STI 30	Quartile	TSR	-0.100	-0.105	-0.278	-0.159	-0.268	-0.284	0.298
TSX 60	Quartile	TSR	-0.083	0.003	0.025	0.066	-0.041	0.396	0.076

Following the analysis of the extent of ESG metrics, we tested for relationships between on-target CEO pay and ESG factors. We compared the extent of ESG factors in FY2020 to FY2021 to CEO on-target total remuneration and controlled for Market Capitalisation. On-target remuneration is the incentive-based remuneration a CEO will receive for achieving the financial and non-financial measures agreed upon with the board (who represent shareholders). Tables 13 to 15 show the summary of significant factors by industry for the panel of data for FY2020 and FY2021 as well as the correlation for both years. We equated the growth (positive or negative) in significant ESG factors from FY2020 to FY2021 as the direction of travel of ESG factors as they become more prevalent in on-target CEO total remuneration KPIs. We call this the growth in ESG, and the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). The improved

correlation of the ESG factors with on-target CEO total remuneration was termed the momentum of ESG factors and the outcome of the underlying performative processes of CEO Pay (theory/models and discourse).

There is high significance (<0.05) across both industries and exchanges of ESG factors and CEO on-target total remuneration. There is also high correlation between ESG factors and CEO on-target total remuneration across all countries and industries (>0.6 when controlled for Market Cap). The results are shown in detail in appendix 5.

Table 13: Growth and Momentum of ESG factors and outcomes of the underlying performative processes of CEO on-target total remuneration without Market Cap by Industry change from FY2020 to FY2021

Without Market Cap - On Target total remuneration

Industry	Factor E	Factor S	Factor G	Market Cap	Significant Factors	Momentum
Overall	No Change	No Change	-	N/A	E & S	+
Communication Services	-	+	-	N/A	S	-
Consumer Discretionary	+	+	-	N/A	S	+
Consumer Staples	-	No Change	+	N/A	S	-
Energy	No Change	-	-	N/A	E	+
Financials	+	No Change	+	N/A	S	+
Health Care	-	No Change	-	N/A	S	+
Industrials	+	No Change	+	N/A	E & S	+
Information Technology	+	+	+	N/A	E & S	-
Materials	No Change	-	+	N/A	E	+
Real Estate	-	No Change	+	N/A	S	-
Utilities	+	-	+	N/A	E	-

Table 14: Growth and Momentum of ESG factors and outcomes of the underlying performative processes of CEO on-target total remuneration with Market Cap by Industry change from FY2020 to FY2021

With Market Cap - On Target total remuneration

Industry	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square (Momentum)
Overall	No Change	No Change	+	No Change	E & S	+
Communication Services	+	+	+	-	S	-
Consumer Discretionary	+	+	-	-	S	-
Consumer Staples	+	-	-	No Change	S	-
Energy	+	-	-	+	E	+
Financials	+	+	-	-	None	-
Health Care	+	-	-	-	S	-
Industrials	+	-	-	-	E	No Change
Information Technology	-	+	-	+	S	+
Materials	No Change	-	+	-	E	+
Real Estate	+	-	+	-	None	-
Utilities	-	-	-	No Change	S	-

Table 15: Growth and Momentum of ESG factors and outcomes of the underlying performative processes of CEO on-target total remuneration without Market Cap by Country change from FY2020 to FY2021

Without Market Cap - On Target total remuneration

Country	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square (Momentum)
Overall	No Change	No Change	-	N/A	E & S	+
Australia	No Change	No Change	+	N/A	E & S	-
Canada	No Change	No Change	+	N/A	E & S	-
France	-	-	-	N/A	S	-
Germany	-	No Change	-	N/A	E & S	-
UK	No Change	+	-	N/A	E	-
Swiss	+	+	-	N/A	E	-
South Africa	+	+	+	N/A	N/A	+
USA	+	No Change	+	N/A	S	-

Table 16: Growth and Momentum of ESG factors and outcomes of the underlying performative processes of CEO on-target total remuneration with Market Cap by Country change from FY2020 to FY2021

With Market Cap - On Target total remuneration

Country	Factor E	Factor S	Factor G	Market Cap	Significant Factors	2020 to 2021 Change R Square
Overall	No Change	No Change	+	No Change	E & S	+
Australia	-	No Change	+	+	E & S	-
Canada	-	+	-	No Change	E, S & G	-
France	+	-	-	+	S	-
Germany	-	-	+	+	E & S	-
UK	-	+	+	-	E & G	-
Swiss	+	+	-	-	E	-
South Africa	+	+	+	+	N/A	+
USA	+	No Change	+	+	S	-

There has been a general growth (direction of travel of factors) in varying ESG factors and on-target CEO total remuneration from FY2020 to FY2021. When Market Cap is included the Financial and Real Estate sectors show no growth in ESG factors and on-target CEO total remuneration. However, there is little improvement in the correlation across industries if Market Cap is controlled for. Whilst there is a growth in ESG factors across countries, the regressions across countries have declined showing that the momentum of ESG factors and the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) are losing ground.

4.2.5 Conclusions

In this paper we have interrogated the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) and its relationship to non-financial ESG factors, company size and financial performance factors. We have shown that there is a strong correlation between CEO on-target remuneration and Market Capitalisation, Institutional Shareholding, EBIT and Enterprise Value but a poor correlation with TSR. There is also a strong correlation between Market Capitalisation, EBIT and Enterprise Value as these are all measures of company size. However, when the correlations are done with non-financial ESG factors and financial factors, the correlations are very poor, particularly with TSR and, in many cases, a negative correlation. The correlations for on-target CEO total remuneration and its relationship to non-financial ESG factors show satisfactory outcomes with high significance and good R square correlations. The results are significant even though ESG only started to be part of corporate scorecards in the last few years and become linked to CEO on-target Total Remuneration even more recently. In addition, both industry and country have a highly significant impact on the E, S, G factors used by each company. What this means is that the financial measures typically used by Agency Theory are constructing the outcomes of the underlying performative processes of CEO Pay (theory/models and discourse) but that this is not happening with non-financial ESG measures because it is not translating to financial performance. The problem becomes magnified in that whilst this is not improving firm performance, on-target CEO total remuneration correlates highly with the inclusion of non-financial ESG measures. In other words, CEOs are at best greenwashing without any real value creation or sustainability whilst being rewarded for it.

The importance of ESG factors is going to increase due to societal pressure and the backlash to corporate scandals and wrongdoing (Kamalnath, 2022; Ho et al, 2021). We found that large increases in the use of ESG factors in Annual Financial and Integrated Reports from FY2020 to FY2021 and this was accompanied by an increased use of ESG metrics in on-target CEO total remuneration KPIs. The implications are that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is being challenged. The challenges are driven by ESG metrics that invite additional principals to shareholders. These principals are not represented at board level and do not determine CEO pay; however, companies are under increasing pressure to deal with them and mandatory CSR and engagement with broader stakeholders is a reality (Gatti, Vishwanath, Seele & Cottier, 2019).

The continued outcome of the underlying performative processes of CEO Pay (theory/models and discourse) will lead to an increased disconnect between society and companies that are shocked by CEOs of companies defending their large remuneration in the face of changing social values. The shaping of ESG factors on the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is science in the making (Latour, 1987) as the world embarks on

including ESG factors into corporate scorecards and linking them to on-target CEO total remuneration. This ontological phenomenon should result in the sustainability of business in the future - these companies are sustainable by doing well by doing good. Whilst good correlation exists between ESG factors and CEO total on-target earnings, these are leading indicators that need to translate into lagging factors like sustainable financial performance, company size and institutional involvement. This could be the subject of future research.

Our results have shown that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is eroding as ESG metrics become more mainstream, this creates an uneasy co-existence between financial and ESG metrics caused by Agency Theory. Companies can respond to this trend in three ways, they can continue to remain focused in shareholder return above all else (as per traditional Agency Theory and Agent Principal alignment), they can react to these pressures and limit costs as much as possible (green washing is this type of response), or they can embrace the ESG demands and change the way that CEOs are measured and rewarded. The first option is likely to create confusion for both CEOs and those setting their incentives. The co-existence of financial and non-financial incentives set by financially vested shareholders is a paradox that may encourage CEOs to devalue ESG factors. The second option is close to the first option in that ESG factors are seen as cost of doing business or, as tactical competitive activities that are pursued if they have a positive financial impact. The latter option is not consistent with Agency Theory in its current form and would require a revised theory, or at the very least a substantial revision of Agency Theory. We believe this is inevitable.

4.3. Paper 3



Paper 3: It's the ESGs: Aligning the performativity of CEO pay with sustainable business

by

Christopher Francis Blair

Thesis

SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

Doctor Philosophiae

IN

Organisation, Work and Technology

IN THE

Faculty of Management
Department of Organisation, Work and Technology

AT THE

University of Lancaster

Supervisor: Anthony Hesketh
Co-supervisor: Claire Leitch

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Abstract

Is there an analytical basis for integrating executive reward with shareholder value and Environmental, Social and Governance (ESG) factors? CEOs are incentivised by means of a combination of short-term and long-term incentives that reward them primarily for share price performance in the short-term, and through long-term value creation via the execution of the firm's strategy. Recently firms have been under pressure to introduce non-financial measures to incentivise executives to improve their ESG metrics through CSR activities, but these non-financial activities threaten the pay for performance financial incentives that are the reason that shareholders invested in the firm in the first place.

Remuneration committees struggle with incentivising Environmental, Social and Governance (ESG) factors for CEOs because ESG factors are non-financial measures and are difficult to link to financial performance. Despite this, institutional investors increasingly expect firms to adopt ESG metrics, as there is evidence that ESG factors may impact the long-term success of firms. When companies neglect ESG factors, they become risk factors that may negatively impact the share price. High risk ESG factors may be linked to short-term incentives (STIs) and overcome the problem of CEOs who are focused on maximising their remuneration in the short term at the cost of sustainable growth.

We collect data from Annual Financial reports and Integrated reports across the top indexes of the following eight stock exchanges: Australia (ASX 100), Canada (TSX 60), UK (FTSE 100), France (CAC 40), Germany (DAX 30), South Africa (JSE top 40), Singapore (SMI 20) and the USA (S&P 100) for FY2020 and FY2021. We examine how CEOs are incentivised to each ESG factor. We find that ESG factors are widely used to incentivise CEOs, but that the use of STIs and LTIs differ according to the factor, industry, and jurisdiction. We find that there is a negative correlation for ESG factors and STIs, and a positive correlation between ESG factors and LTIs. This shows that CEOs are overwhelmingly incentivised to avoid or reduce risk through short term incentives but that longer term incentives for ESG investment is relatively insignificant.

We propose that specific non-financial STIs that limit risk to the organisation for ESG factors are identified and need to be linked to long term outcomes in the LTI design payouts to ensure that long term value creation and sustainability targets are met. Our research contributes to the debate about ESG incentives with a novel approach to dealing with incentivisation of ESG metrics, and the debate over shareholder value maximisation versus sustainability.

Keywords: short term risk, long term value creation, sustainable organisation, sustainability, CEO incentives, STI design pay-out, LTI design pay-out.

4.3.1 Introduction

Firms have come under increased scrutiny for their Environmental, Social and Governance (ESG) activities, and there has been a corresponding increase in Corporate Social Responsibility (CSR). As a result, however, firms have been slow to incentivise CEOs to implement CSR programs that improve their ESG metrics (Reda, 2020). ESG is an indicator of how integrated Environmental, Social and Governance factors are in a firm's business strategy, while CSR is the action plan or framework of socially responsible activities that the firm plans to engage in (Gillan, Koch & Starks, 2021).

Recent literature has shown that firms that engage in sustainable investments are able to manage shocks better than those that do not, and there is evidence that they provide greater shareholder returns over the longer term than those firms that do not (Sajko, Boone & Buyl, 2021). Stakeholders could expect then that the increased attention on a firm's ESG activities is expected to reflect in the incentivisation of CEOs.

However, CSR investment requires some sacrifice of shareholder returns in the short term to address the interests of a broader group of stakeholders, who may or may not directly interact with the firm (Sajko et al, 2021; Bebchuk & Tallarita, 2020). Despite this, current governance models assume the primacy of the shareholder, and are designed to align the interests of the CEO closely to that of shareholders (Edmans, Fang, & Huang, 2022) and to CEO incentivisation and remuneration, which encourages a focus on short term financial results at the cost of long-term value. Sajko et al (2021) argue that CEO greed will be negatively correlated with CSR because of the CEOs' myopic behaviours, and that they neglect investment in CSR. They also adopt a person-pay interactionist logic to theorise that the willingness of greedy executives to invest in CSR will be especially sensitive to diverse types of pay models. Lastly, they theorise that stakeholder engagement is a defining issue for resilient organisations.

CEOs are incentivised by means of a combination of short-term and long-term incentives that reward them for share price performance in the short term, and through long term value creation in the execution of the firm's strategy (Edmans, Fang, & Huang, 2022; van Wyk & Wesson, 2021). Business regards this as the 'pay for performance' approach that links shareholder and CEO interests (Reda, 2020). Recently firms have been under pressure to introduce non-financial measures to encourage firms to incentivise CEOs to improve their ESG metrics through CSR activities, but these non-financial activities threaten the pay for performance financial incentives that are the reason that shareholders invested in the firm in the first place (Reda, 2020). Despite this, a small minority of firms has successfully attempted to structure incentives to encourage CSR (Flammer, Hong & Minor, 2019; Reda, 2020). Business terms incentivising CEOs to improve ESG metrics or engage in CSR as 'CSR contracting' and can be distinguished from traditional models

that pay for financial performance and those that pay for social and environmental performance. [Flammer et al \(2019\)](#) found that CSR performance requires non-financial metrics and a long-term orientation. They found that CSR contracting leads to an increase in long term orientation, an increase in firm value, an increase in social and environmental initiatives, a reduction in emissions, and an increase in green innovation. This orientation is long term and focuses management on the wider stakeholder, thereby enhancing corporate governance.

Complicating the problem of CSR contracting is Agency Theory, which is shown to induce a short-term orientation by the CEO towards increasing the share price in the short term to maximise remuneration ([Edmans et al, 2022](#)). This focus on short-term incentives is termed 'short termism' ([Edmans et al, 2021](#)) and undermines the adoption of long term non-financial incentives, including CSR and the improvement of ESG metrics. Attempts to reduce short termism have included regulations that extended share option vesting to five or ten years. However, these longer-term incentives have had negligible effect on reducing short termism, which has been found to negatively correlate to CSR investment and long-term value creation ([Sajko et al, 2021](#)).

But what if CSR investment can be linked to short-term incentives? This becomes possible when the consequences of not paying attention to ESG factors directly affects the share price and remuneration of the CEO. When ESG factors are categorised as either risk (or defensive), or as business sustainability factors, then they would assume a short term or long-term orientation, and incentives can be aligned accordingly.

We define Defensive or Risk-type factors are those factors where the company is penalised due to non-compliance or stakeholder action. We categorise Sustainability factors as those (non-financial) factors that lead to long term value creation for the company and benefit to society, but often require short term sacrifices in shareholder value or profits. The categorisation of these factors will differ according to industry and jurisdiction. Countries impose regulations to drive some ESGs, which then become risk (and STI factors). Industry context also plays a role, as industries have different societal and environmental impacts, which also shifts some ESGs from risk to sustainability. This paper examines the extent of the alignment (or misalignment) of ESG factors and incentives and draws conclusions and makes recommendations as a result thereof. The data set used is the most extensive that we are aware of, and the paper makes an important contribution to the debate about CEO and ESG incentivisation, as it is the first paper to link ESG factors defensive (risk) or sustainable typographies to short- and long-term incentive pay for CEOs.

We first look at the literature review of ESG and CEO pay including STI and LTI metrics followed by a description of the methodology used in the research. The results are then presented with a discussion of the results.

4.3.2 Literature Review

4.3.2.1. The Rise of CSR and ESG

CSR and ESG have become more prominent across the world due to institutional investors' demand for sustainable and responsible governance, which gains momentum with increased publicity of corporate scandals and the perception of CEOs pursuing unbridled wealth at the cost to society (Árnadóttir Gunnarsdóttir, 2020). As ESG became part of the corporate purpose, greenwashing became a widespread practice in various industries (Lorincz, 2021; Hossai, 2022; Huang et al, 2022; Zharfpeykan, 2021; Kwak et al, 2022). This has led to much research to determine whether ESG reporting is merely risk aversion, or whether the reporting of ESG metrics is effective (Menzies, 2015; Zyznarska-Dworczak, 2020). Silk et al (2022) developed an international comparative set of ESG law across 24 countries and recommended the role of the board in ESG disclosures, goal setting and shareholder and stakeholder engagement. Each jurisdiction, however, has its own substantive ESG-related regulations, ESG disclosure regulations and voluntary ESG disclosures beyond those required by law or regulation.

The evolving role of ESG priorities around the world include Climate Change; Net Zero and Say on Climate; Diversity, Equity, and Inclusion; Supply Chain Management; Human Capital Management; and Cybersecurity Risks. There have been proposals to reform various codes around the world e.g., EU (Tsagas, 2020) and USA (O'Hare, 2022). Tamimi and Sebastianelli (2017) found that the highest transparency of ESG reporting in the S&P 500 was in governance, followed by society, and lastly environmental.

Pawliczek et al (2021) found that the improvements in ESG performance are concentrated in countries with greater increases in ESG contracting and is mainly due to the size of the company. However, there are initiatives to standardise ESG reporting (Pronobis and Venuti 2021). The effectiveness of firms reporting on their ESG has been questioned, and Jeriji (2022) raises the question of the usefulness of CSR reporting from the perspective of the various stakeholders, given that information asymmetry exists with frequent greenwashing. Similarly, Jonsdottir et al (2022) addresses the issue from an investor point of view and concludes that the quality of ESG data is limited, despite the Global Reporting Initiative (GRI). The debate about the impact of ESG reporting on the performance of companies is brought into question and seems to be inconclusive, at least in the short term (Clementino & Perkins, 2020). Negative research findings by Cornell (2020) were that investors need to recognise that companies with high ESG scores (and lower cost of capital) deliver lower expected returns for investors, and that highly rated ESG companies are not indicative of expected returns eventually. It is argued that ESG/CSR spending forces firms to subsidise stakeholders that have no relationship with the firm, thereby creating a cost to society by diverting resources incorrectly (Cornell & Shapiro, 2020).

The uncertainty of the effectiveness of ESG reporting has not dissuaded institutional investors, who are increasingly concerned about ESG metrics. Barzuza et al (2019) found that whilst index fund owners have been criticised as ineffective stewards, they have engaged in competitive escalation in ESG policies. The competition to attract millennial investors who are committed to social issues is escalating in the face of management retaliation. Management has historically served the shareholder through wealth maximisation (SVM) (Leins, 2020; Matos, 2020). In addition to asset managers' views, are the views and perspectives of other stakeholders that are exerted through engagement with management and the actions of regulators. The enforcement action of ESG issues (such as fraud in connection with environmental and health and safety laws, societal pressure regarding the management of climate change risks, and racial and gender diversity) have the potential to materially affect the financial performance of the firm and shareholder returns. Since the advent of ESG and its adoption (or lack of adoption), non-financial measures have been introduced in the corporate scorecard, and companies have moved from whitewashing – using misleading information to gloss over bad behaviour – to greenwashing, where they exaggerate their claims or the benefits to mislead customers, employees, interested groups and the public (Jonsdottir, et al 2022).

The debate about whether ESG enhances shareholder value is insufficient, and whether ESG factors, either defensive/risk (short term) or sustainable (long term), are driven through the outcome of the underlying performative processes of CEO Pay (theory/models and discourse); and there is a need to differentiate or categorise them according to their financial impact. The literature is split on whether ESG enhances shareholder value, as investors weigh in on the debate, and demand ESG measures in the corporate scorecards (Piu, 2020). The SEC has been cautioned by Mahoney and Mahoney (2021) in the debate on whether companies should serve social purposes at the expense of shareholder returns. This study states that ESG goals are not aligned to the SEC's mission of protecting Main Street investors, including the beneficiaries of retirement savings. Halliday (2016) pre-empted this and posits that investors should choose the ESG factors that will result in earnings growth to the shareholder in that industry, specifically cyber security, human rights, and gender diversity.

4.3.2.2. ESG metrics and CEO Remuneration

Despite the increased attention to ESG factors and CSR contracting, remuneration committees still struggle to capture the long term and short-term nature of ESGs and CSR. This is due to the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) that shapes remuneration practice. The outcome of the underlying processes of CEO Pay (theory/models and discourse) is performative when the power of theories and discourse to remake observable reality (to enact or consummate ESG goals) in corporate behaviour (Callon, 2007).

The concern of proponents of Agency Theory is the decoupling of pay-for performance. [Bebchuk, and Tallarita \(2022, p.2\)](#), posit that the use of ESG-based compensation delivers a “questionable promise and may pose significant perils”. They further the narrative to say that expanding the use of ESG-based compensation may encourage executives to increase their own payouts without creating stakeholder value - and may in fact lower their desire to deliver shareholder value. They posit that there are two structural flaws in the use of ESG metrics to incentivise CEOs. Firstly, the focus is limited to a restricted subset of relevant stakeholders. Secondly, the shareholders are then unable to effectively assess whether the incentives are in fact beneficial, or whether they are used merely to enhance the executives’ payouts.

The decoupling that [Bebchuk and Tallarita \(2022\)](#) explain is further complicated when the nature of the incentive is considered. [Dardour and Husser \(2016\)](#) focused on short-term incentive compensation and total incentive compensation. They found that these two components are not correlated with the total CSR disclosure score (comprising environmental, social, and governance factors). Only the environmental disclosure score is correlated with short-term and total executive incentive compensation, and social and governance disclosure is not correlated. [Derchi et al, \(2021\)](#) studied the effectiveness of the use of executive remuneration linked to Corporate Social Responsibility (CSR) goals across US firms of 746 listed companies for the period 2002–2013. They found that the use of CSR-linked remuneration contracts promotes CSR performance and that linking executives’ remuneration to CSR goals produces positive effects in the 3rd year after adoption. This is long term value creation at the expense of short-term value transfer. According to a study done by [Detemple and Xing \(2020\)](#), ESG investment helps to mitigate the production externality and fosters conditions for long term growth of cashflows, both of which improve the welfare of the principal and the agent - thereby also improving the welfare of the local community. They posit that ESG investment is negatively related to traditional pay for performance measures and conclude that ESG contracts are less sensitive to traditional performance measures than contracts that preclude rewards based on ESG measures. This would imply that when designing incentives, ESG measures should be moderating measures. Expertly designed contracts based on these measures could help focus ESG investment towards value creating activities and align the objectives of managers and stakeholders.

Not all ESG factors are equally relevant and need to be differentiated. An interesting study by [Dikolli \(2022\)](#) determined that mutual votes are likely to be 19.1% higher for proposals that aim to align executive compensation with Environmental and Social (ES) objectives and that this drops to 6.3% for compensation proposals that focus on Governance (G) objectives. [Dikolli \(2022\)](#) found that ESG funds are 13.7% more likely than non- ESG funds to support proposals that aim to improve the transparency of executive compensation. [Dumitrescu and Zakriya \(2021\)](#) found that social factors have a mitigating effect on the risk of stock price crash, whilst environment and governance factors

do not. Meanwhile Eklund and Stern (2021) posit a measurement system that will enact the outcome being a relative (indexed) performance measure, which they say has more benefits than its costs, as it neutralises the factors that are not under the direct control of the CEO, maintains the intrinsic rewards in the CEO compensation contracts, and is flexible and adaptable to the unexpected changes in the technology, market, economy, and the globe.

4.3.2.3. Short-term and long-term ESG Metrics

These attempts to differentiate between ESG factors do not solve the short-termism conundrum. There is a need to differentiate between ESG/CSR factors and align them directly to CEO incentives without decoupling the pay for performance mechanism (Eklund, & Stern, 2021). We argue that ESG metrics be differentiated according to their impact on shareholders equity. It is common cause that using the implicit cost of equity is a better estimate of shareholder requirements in the context of socially responsible businesses, as the cost of equity is reduced for companies that embrace ESG measures (Chouaib et al, 2021). ESG measures that are linked to short term measures are often defensive (risk) factors, or risk mitigating factors, in the companies 'greenwashing' claims (Andriosopoulos, 2022; Dammert, 2021; Huang, 2022). O'Hare (2022) names the risk relationship between governance, and environmental and social risks as fourth of the top five global risks in 2019 (World Economic Forum 2019). ESG measures that are linked to long term value creation are sustainable measures that are shaping the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) for long term value creation and benefit to society. Furthermore, short-term incentives exhibit trade-off behaviours under earnings pressure to deliver Shareholder Value Maximisation. Boeger (2020) found evidence that investors take interest in environmental, social and governance (ESG) issues, but frequently this appears linked to possibilities of continued wealth, or as a strategy to avoid risk. Many studies have tried to demonstrate that ESG factors result in value creation, but it has been shown that ESG measures have a statistically significant and negative relationship with the level of real earnings management (Chouaibi and Zouari, 2022). In other words, ESG measures increase the cost to the shareholders in the short term. The careful/balancing inclusion of ESG measures in STI and LTI incentive design for CEOs has been an attempt to avert these issues. Variable pay design has incorporated STIs for risk management/mitigation (loss of STI if risk actualises) whilst it uses LTIs to align to shareholder interests. However, ESG requires the shareholder to sacrifice profits or shareholder value in the short term for ESG, particularly the Environmental and Societal factors, but not at the expense of Governance (Nguyen, et al, 2022; Tarmuji et al, 2016).

Whilst the research done in this area is voluminous and comprehensive, it fails to dissect the defensive or risk ESG factors from the sustainable factors – which is what our paper attempts to do. For example, [Gadinis and Miaza \(2020\)](#) identify the wide range of issues nurtured under the sustainability movement - including environment and climate, diversity and other employee

concerns, privacy, and supply chain management - but they do not connect these to sustainability outcomes, as they say that they do not always lend themselves readily to a profit-maximising logic and are often costly in the short term. This goes against the objective of long-term value creation and sustainability measures. Their solution is that companies are looking primarily for safeguards against downside risks (risk mitigation in the short term) – this is not an appropriate solution. They believe that social risk is highly destructive for corporate value even when the company's key failure is not violating laws. They use Facebook and Uber as examples. They contrast sustainability with compliance and note that while compliance's reach is tied to legal violations, sustainability is more normative and does not require legislation. This supports our argument that ESG should be differently rewarded for both compliance and sustainability in the long term. The market seems to have intuitively accepted this distinction as shown in a study on carbon emissions by Haque and Ntim's (2020) that found that the market tends to reward firms with superior process-oriented carbon performance instead of actual-carbon emissions. This means that companies are using incentive targets based on process (STIs) rather than output (LTIs).

It becomes common cause that remuneration policy and incentives schemes should also be linked to the stakeholder expectations, should reflect the understanding for their values, and should respect the mutual obligations that organisation has towards society, its shareholders, employees, and other stakeholders (customers, suppliers) and corporate performance (Klimkiewicz, 2017; Klimkiewicz and Beck-Krala, 2015). Reda (2020) found that a small minority of companies were including ESG metrics in remuneration decisions for CEOs but even then, the differentiation between LTI and STI was limited. Reda (2020) did however speculate that this was driven by compliance.

Linking ESG factors to LTIs is a different proposition, as the adoption of ESG practices may not lead to an immediate increase in performance, and that there needs to be a strong CSR/ESG strategy in place to adopt ESG practices (Serafeim, 2022). This was also shown by Flammer et al (2019) where they found that CSR contracting leads to an increase in long term orientation and an increase in CSR. This clearly indicates the utility of LTIs for CSR contracting, but with the prevalence of short-termism, actual investment in ESG is exceptional rather than the norm. According to Walker, (2022) in most cases of explicit ESG incentives - even when they are explicit and incorporated in annual bonus plans - they are economically insignificant relative to financial measures that maximise remuneration. However, this will change when an ESG metric becomes a risk to both CEO and shareholder alike.

4.3.3 Methodology

The data used in this study are from Annual Financial reports and Integrated reports across the top indexes of the following eight stock exchanges: Australia (ASX 100), Canada (TSX 60), UK (FTSE 100), France (CAC 40), Germany (DAX 30), South Africa (JSE top 40), Singapore (SMI 20) and the

USA (S&P 100). The Annual Financial Reports and Integrated Reports were examined for FY2020 and FY2021 (using the GECN Group of Companies' database that spans five continents) to explore the extent of ESG metrics and linkages to short-term and long-term incentives. The GECN Group consists of six international independent companies that specialise in compensation/remuneration and governance advice - specifically in the more challenging aspects that organisations face both locally and globally. Senior advisors in multiple strategic locations offer advice (based on in-depth local knowledge) that helps companies enhance value creation by addressing the complex compensation, tax, and regulatory landscape.

The results of 42 ESG factors were captured by highly skilled compensation advisors in each member firm; namely, Carrots Consulting (Asia), Farient Advisors (U.S.), Guerdon Associates (Australia), HCM (Europe and the Gulf countries), MM&K (U.K.), and 21st Century (Africa).

4.3.3.1. Categorisation of ESG Factors

The 42 factors were categorised into seven categories: Environmental, Health and Safety, People and Culture, Customer Performance, Community Performance, Sustainability, and Governance. We used a Boolean (O'Donnell, 2014) variable (0 or 1) to denote the presence of each of the following 7 ESG factors. Within each of these factors there were sub points, however, these were meant to allow for different industries to make specific choices. For example, a bank will not focus on GHG emissions but may focus on using renewable energy. These seven factors were Environmental, Health & Safety), People & Culture, Customer Performance, Community Performance, Sustainability and Governance. We scored the presence of items in the annual report with either 1 for disclosed or 0 for not disclosed (Cardi, Mazzoli & Severini, 2019; Nielsen, Rimmel & Yosano, 2015).

Each of the 42 ESG factors captured have been classified as Risk or Sustainability factors. Governance is used to manage risk so that the sustainable factors can lead to long term value creation and sustainability.

Table 17 represents all 42 ESG factors that were consolidated into the 7 factors measures in this paper. The correlations were performed on all 42 factors to demonstrate that the results are consistent and comprehensive.

Table 17: ESG factors considered with Risk/Sustainability classification

Environmental	Health & Safety	People & Culture	Customer Performance	Community Performance	Sustainability	Governance
Scope 1 GHG Emissions (Risk)	Fatalities (Risk)	Gender Balance (Sustainability)	Customer Satisfaction (Sustainability)	Community Incidents (Risk)	Sustainability Index Target (Sustainability)	Governance at the Board of Directors' level (Risk)
Scope 2 GHG Emissions (Risk)	Injuries (Risk)	Diversity & Inclusion (Sustainability)	Customer Net Promoter Score (Sustainability)	Community Complaints (Risk)		Governance at the Executive Boards' level (Risk)
Scope 3 GHG Emissions (Risk)	Illnesses (Risk)	Employee Engagement (Sustainability)	Customer Complaints and Resolutions (Risk)	Community Investment (Sustainability)		Risk management (Risk)
GHG Emissions (scope not specified) (Risk)	Exposure to Harmful Substances (Risk)	Training and Development (Sustainability)	Product Quality and Safety (Risk)	Community Not Disclosed (Risk)		Compliance (Risk)
Non-Renewable Energy (Risk)	Workplace Policies (Risk)	Behaviours, Ethics, Values, and Culture (Risk)	Customer Not Disclosed (Risk)	Other Community (State Measure) (Risk)		Other Governance (State Measure) (Risk)
Renewable Energy (Sustainability)	Health & Safety Not Disclosed (Risk)	Employee Voluntary Turnover (Risk)	Other Customer (State Measure) (Risk)			
Environmental Incidents (Risk)		People & Culture Not Disclosed (Risk)				
Air Quality (Risk)						
Land Management (Risk)						
Water & Wastewater Management (Risk)						
Waste & Hazardous Materials Management (Risk)						
Environment Not Disclosed (Risk)						

4.3.3.2. Correlations

We collected STI and LTI data from the GECN Group for common industries across the eight exchanges. The data was further dissected by the following industries in each country/exchange namely: Overall Industry; Communications Industry; Consumer; Discretionary; Consumer Staples; Energy; Financials; Health Care; Industrials; Information; Technology; Real Estate and Utilities (11 industries). The final sample consisted of 517 companies reported in Financial Year FY2021 (99,4% of 520 total sample) of which 382 (74%) had ESG measures and 478 companies reported in Financial Year FY2020 (99,6% of 480 total sample) of which 310 (65%) had ESG measures. Only companies that did not report all the elements of CEO total remuneration were omitted from the sample. Correlations were performed on the data in the local exchange currency and then also after conversion to US\$. The correlation results (positive or negative) were then coded into a positive or negative correlation for $<0,1$; $>0,1<0,5$; $>0,5<1,0$ and $>1,0$.

Lastly regression analysis was used to determine the strength and significance of the relationships in both the exchanges and industries. Market capitalisation was used as a control variable to remove the effect of size of company across jurisdictions and industry. The regression analysis equation are as follows:

On-Target STI = Factor E + Factor S + Factor G + Market Cap

On-Target LTI = Factor E + Factor S + Factor G + Market Cap

Where:

E is Environmental factors

S = Societal factors

G = Governance factors

Market cap = market capitalisation

4.3.4 Results

4.3.4.1. Prevalence of ESG metrics

ESG measures have been introduced differently across the different regions across the globe. Table 18 shows the prevalence across the different regions.

Table 18: Number of Companies sampled by Country and Industry for FY2021

Total Companies	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Utilities	5	4	4	4	1	4	0	22
Financials	15	19	14	10	4	14	10	86
Energy	7	2	1	9	0	3	0	22
Materials	18	14	9	10	0	3	13	67
Industrials	12	15	17	5	9	12	1	71
Health Care	7	4	9	2	0	15	1	38
Consumer Staples	5	10	6	5	3	11	5	45
Real Estate	9	3	3	2	10	2	1	30
Communication Services	6	7	5	4	1	9	3	35
Information Technology	8	5	7	4	1	16	0	41
Consumer Discretionary	8	15	15	5	1	11	5	60
Overall	100	98	90	60	30	100	39	517

Table 19 shows the number and prevalence of Companies with ESG measures by Country and Industry for FY2021.

Table 19: Number and prevalence of Companies with ESG measures by Country and Industry for FY2021

ESG Measures	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Number of companies with ESG measures fir FY2021								
Utilities	5	4	3	3	1	4	0	20
Financials	14	19	12	8	4	13	8	78
Energy	6	2	1	8	0	2	0	19
Materials	17	12	8	9	0	3	12	61
Industrials	11	11	14	3	3	5	0	47
Health Care	5	4	6	1	0	9	1	26
Consumer Staples	5	7	5	4	0	6	2	29
Real Estate	8	2	3	1	7	0	0	21
Communication Services	3	5	5	3	1	4	2	23
Information Technology	3	4	5	0	1	10	0	23
Consumer Discretionary	7	9	9	2	0	5	3	35
Overall	84	79	71	42	17	61	28	382

Proportion of companies with ESG measures								
Utilities	100%	100%	75%	75%	100%	100%	-	91%
Financials	93%	100%	86%	80%	100%	93%	80%	91%
Energy	86%	100%	100%	89%	-	67%	-	86%
Materials	94%	86%	89%	90%	-	100%	92%	91%
Industrials	92%	73%	82%	60%	33%	42%	0%	66%
Health Care	71%	100%	67%	50%	-	60%	100%	68%
Consumer Staples	100%	70%	83%	80%	0%	55%	40%	64%
Real Estate	89%	67%	100%	50%	70%	0%	0%	70%
Communication Services	50%	71%	100%	75%	100%	44%	67%	66%
Information Technology	38%	80%	71%	0%	100%	63%	-	56%
Consumer Discretionary	88%	60%	60%	40%	0%	45%	60%	58%
Overall	84%	81%	79%	70%	57%	61%	72%	74%

The Mean, Quartiles and Standard Deviation of ESG Factors of All Companies with the different 7 ESG measures by Industry are shown in appendix 3 (FY2021) and 4 (FY2020).

4.3.4.2. Use of ESG metrics in CEO Pay

The types of ESG metrics used as incentives varied according to type of metric, and according to whether it was a short-term or long-term incentive. We compared FY2020 data to FY2021 data and found that there was a material increase in the use of ESG metrics in FY2021 with more than 70% of the sampled companies including these metrics. As shown in Figure 6 (GECN, 2021), Australia (84%) is leading the charge in the use of ESG measures with USA (62%) and Singapore (57%) lagging. Singapore is the only region that did not increase their inclusion of ESG measures from FY2020 to FY2021.

Figure 6: Percentage of companies using ESG measures in incentives by region

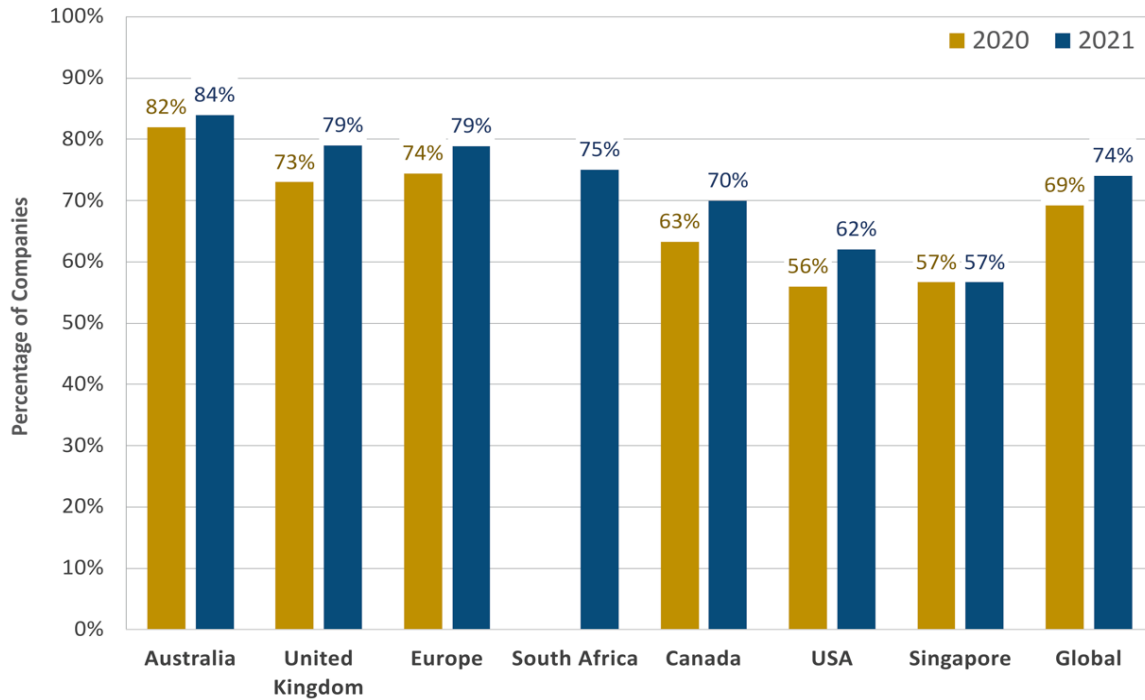
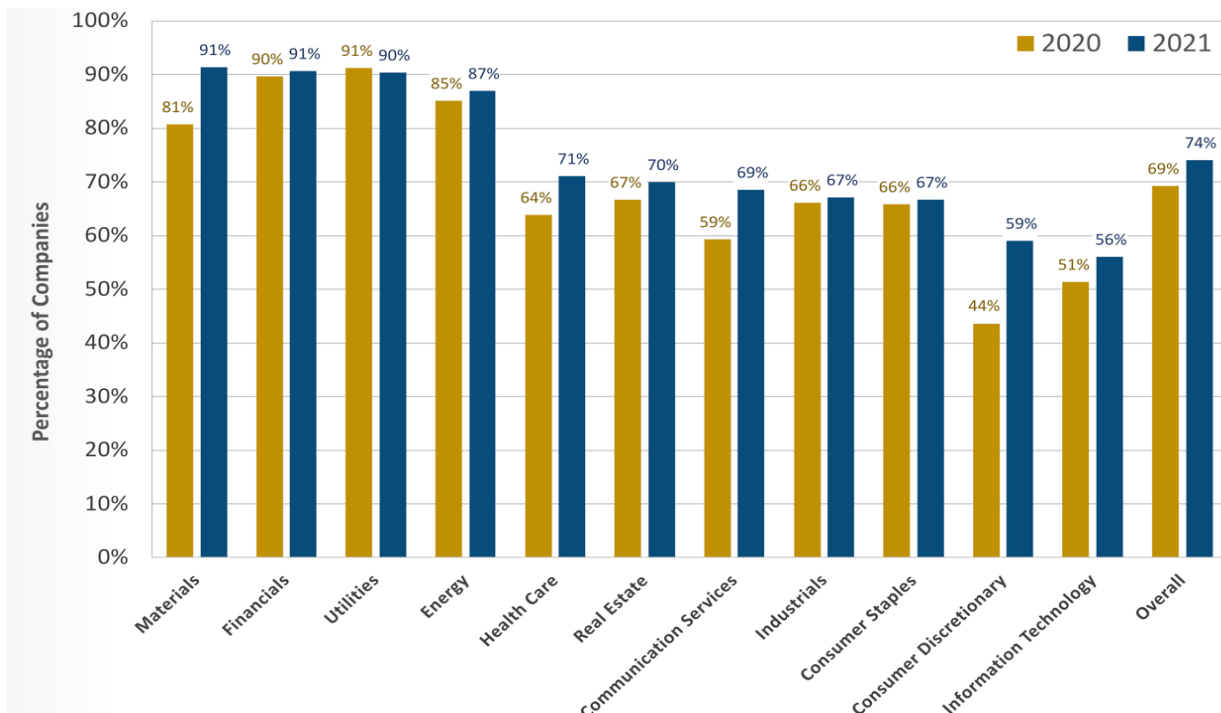


Figure 7 shows the prevalence of ESG factors used by industry (GECN, 2021). The use of ESG measures differs by industry, with the greatest adoption by the Materials and Financial Industries at 91%, followed closely by the Utilities and Energy sectors. This is primarily driven by legislation around environmental and social requirements in these industries. Noticeably, the IT and Consumer Discretionary Industries are the laggards with below 60% adoption in 2021. All other industries make use of ESG measures around the 70% mark but with increases between FY2020 and FY2021.

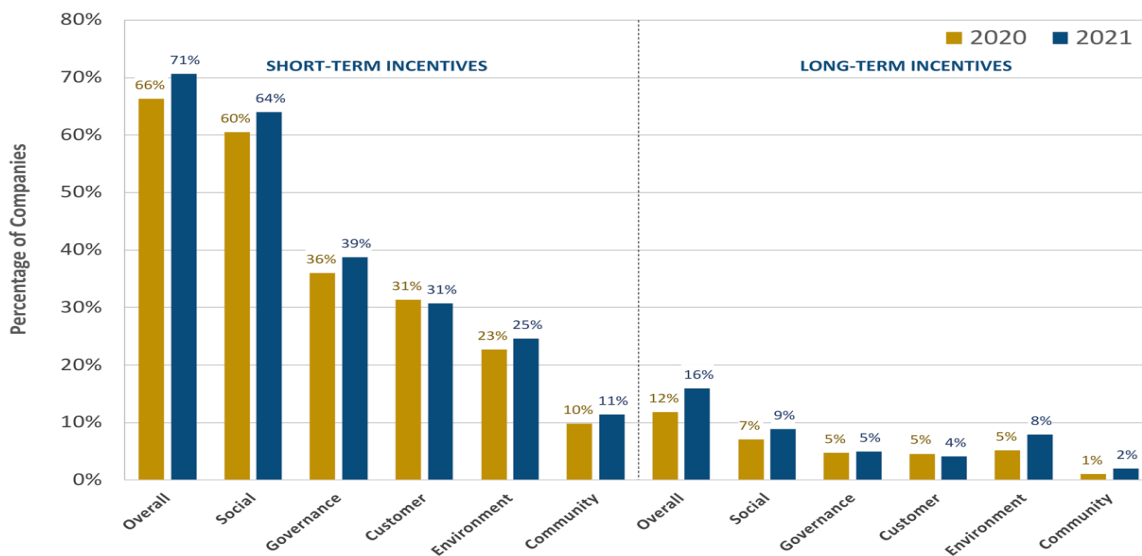
Figure 7: Percentage of companies using ESG metrics in incentives by industry



ESG metrics were linked to either STI or LTI incentives and the results of their relative weightings are shown in figures 8 and 9 below (GECN, 2021).

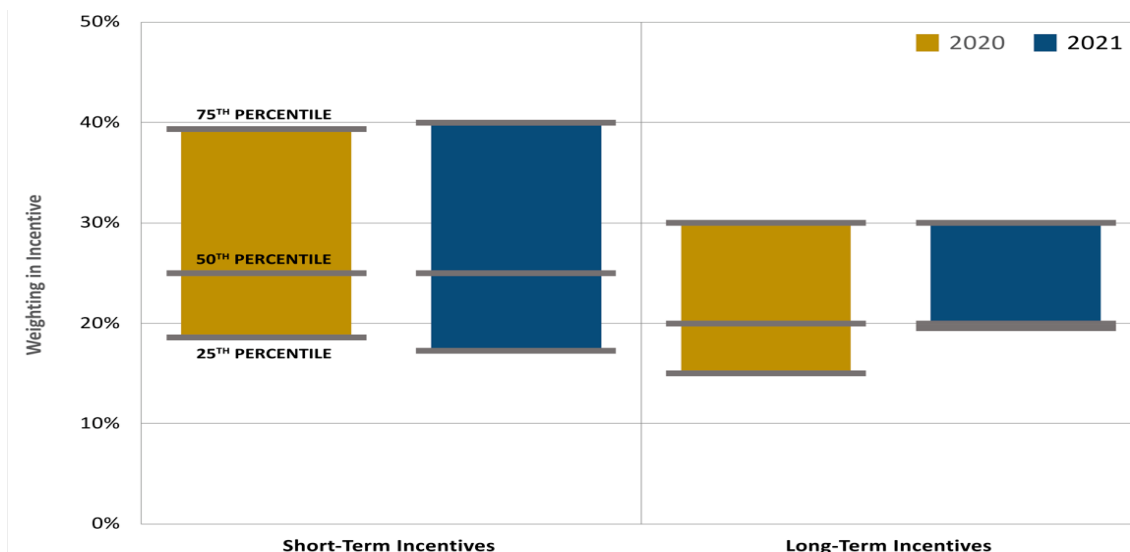
Whilst the correlation for the overall industry remains positive for LTI factors and negative for STI factors, it is significant to note that although there is enough data by industry to find a relationship and correlation for nearly all STI factors for different industries, there are a limited number of industries for LTI factors. Different industries have introduced ESG measures for short term outcomes but are only now introducing ESG measures for long term outcomes. This is shown in figure 8 where the prevalence of STI measures (71%) is significantly more than the prevalence of LTI measures (16%).

Figure 8: Percentage of companies using ESG measures in STIs and LTIs



This is exacerbated by the weightings used in STIs (25%) versus 20% weighting used in LTIs as shown on figure 9 (GECN, 2021).

Figure 9: Percentile weightings of ESG measures used by STIs and LTIs



4.3.4.3. Results of Correlation Analysis

The results using the local currencies for each exchange (jurisdiction) are shown in Table 20.

Table 20: Correlations of ESG factors by Exchange for LTI and STI measures excluding Guaranteed Pay for FY2021

STI factors and STI Design Pay-out	Environmental	Health & Safety	People & Culture	Customer	Community	Governance	Sustainability	Total Number of factors	Total Weighting of factors
Overall	-0.088	-0.101	-0.053	-0.014	-0.040	-0.128	0.165	-0.130	-0.043
ASX 100	0.105	0.240	0.154	0.263	0.158	0.130	0.125	0.309	0.157
CAC 40	-0.032	-0.069	-0.348	-0.116	-0.095	-0.281	0.075	-0.302	-0.165
DAX 30	-0.054	-0.004	0.045	0.028	N/A	-0.014	N/A	0.015	0.086
FTSE 100	0.020	0.015	-0.031	-0.021	0.029	0.060	N/A	0.012	0.024
JSE TOP 40	-0.250	-0.360	-0.269	0.420	-0.201	-0.124	0.318	-0.304	0.175
S&P 100	0.030	-0.053	0.082	-0.031	-0.106	-0.156	N/A	-0.050	0.172
SMI 20	0.077	-0.050	0.511	0.378	0.048	0.363	0.057	0.479	0.083
TSX 60	-0.040	0.148	0.070	-0.177	-0.194	0.029	N/A	0.044	0.049

LTI factors and LTI Design Pay-out	Environmental	Health & Safety	People & Culture	Customer	Community	Governance	Sustainability	Total Number of factors	Total Weighting of factors
Overall	0.182	0.174	0.183	-0.092	0.368	0.411	0.079	0.386	-0.141
ASX 100	-0.200	0.521	0.703	0.150	N/A	0.229	N/A	0.431	-0.454
CAC 40	-0.452	N/A	-0.093	-0.291	-0.291	N/A	0.235	-0.189	-0.444
DAX 30	-0.187	-0.094	-0.143	-0.029	N/A	-0.070	N/A	-0.177	0.131
FTSE 100	-0.019	-0.104	-0.057	-0.067	0.023	-0.068	N/A	-0.118	-0.107
JSE TOP 40	0.098	0.060	0.041	0.032	0.527	0.692	0.136	0.421	0.009
S&P 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.107	0.132
SMI 20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TSX 60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.151	-0.092

4.3.5 STI design pay-out

Overall, there is a negative correlation on all ESG factors, except sustainability, for STI design factors. There is a correlation of less than 0.5 for all ESG factors as well as the number of factors and total weighting of the factors for STI design pay-out overall. There is a positive correlation for all ESG factors for the ASX 100 exchange, including the total number of factors and the total weighting of the factors. The correlation is highest in all factors across the exchanges. For the JSE Top 40 exchange there is a negative correlation for all ESG factors - apart from Customer and Sustainability - including the total weighting of the factors. However, correlation is also present across all factors. The SMI 20 exchange has a positive correlation for all STI factors except Health & Safety, with a strong correlation for People & Culture, Customer, the total number of factors and the total weighting

of factors. All other exchanges have mixed positive and negative correlations with low correlation. Comparable results are present when the Guaranteed pay is added to the STI design payouts for each exchange, but the correlation is diluted.

4.3.6 LTI design pay-out

Overall, there is a positive correlation on all ESG factors except customer for LTI design factors. There is a correlation of less than 0.5 for all factors including total number of factors and the total weighting of the factors. For the ASX 100 exchange, there is a positive correlation for all ESG factors - except Environment, Community and Sustainability - including the total number of factors. The correlation is greater than 0.5 for Health & Safety and People & Culture factors. There is a positive correlation for all ESG factors for the JSE Top 40 exchange as well as the number of factors and the total weighting of the factors. The correlation is greater than 0.5 for Community and Governance. All other exchanges have mixed positive and negative correlations with low correlation. The S&P 500, TSX 60 and SMI 20 do not have enough LTI factors to form any relationship. Comparable results are present when the Guaranteed pay is added to the LTI design payouts, but correlation is diluted.

4.3.7 Results of the Regression Analysis

Table 21 shows the correlation of STI and LTI design pay-out factors for the 7 ESG pillars. There is negative correlation with STI design pay-out for all factors except sustainability and strong positive correlation with all LTI design pay-out for all factors except Customer.

Table 21: Correlation of STI and LTI design pay-out factors for the 7 ESG pillars for FY2021

Description of Correlation	Environmental	H&S	People & Culture	Customer	Governance	Sustainability
STI factors and STI Design Pay-out	-0.09	-0.10	-0.05	-0.01	-0.13	0.16
LTI factors and LTI Design Pay-out	0.18	0.17	0.18	-0.09	0.41	0.08
STI factors and Total Rem Design Pay-out	-0.10	-0.14	-0.08	-0.05	-0.18	0.09
LTI factors and Total Rem Design Pay-out	0.18	0.17	0.21	-0.08	0.34	0.12

The results of the regression analysis are represented in table 22 and 23.

Table 22: Regression analysis of strength and significance of ESG factors on STI and LTI design pay-out by industry

Industry - STI	ESG Factor	t-value	Pr (> t)	Adjusted r-squared	Significance
Overall	S	6.161	4.48E-09	0.6117	***
IT	S	3.410	0.00775	0.8766	**
Health Care	S	4.633	0.000469	0.8766	***
Utilities	S	1.506	0.17038	0.9027	
Consumer Staples	S	3.686	0.00274	0.8218	**
Financial	S	1.646	0.1182	0.5485	
Real Estate	S	2.838	0.0657	0.9458	.
Communication Services	S	0.823	0.4341	0.5798	
Industrials	E	3.043	0.00578	0.8034	**
Materials	E	3.095	0.00392	0.593	**
Consumer Discretionary	G	1.893	0.07666	0.7388	.

Industry - LTI	ESG Factor	t-value	Pr (> t)	Adjusted r-squared	Significance
Overall	S	4.676	5.96E-06	0.4255	***
IT	S	2.190	0.0647	0.308	.
Health Care	E	0.904	0.38726	0.7288	
Utilities	S	1.549	0.16624	0.8778	
Consumer Staples	S	1.711	0.1128	0.545	
Financial	E	-1.95	0.068882	0.602	.
Real Estate	G	2.056	0.109	0.9091	
Communication Services	S	1.835	0.109183	0.8976	
Industrials	E	1.086	0.29	0.651	
Materials	G	2.253	0.03124	0.6687	*
Consumer Discretionary	S	1.007	0.329	0.2484	

Significance codes: 0 = "****"; 0.001 = "***"; 0.01 = "**"; 0.05 = "."; 0.1 = " "; 1

The strength of the STI relationship with ESG factors and their significance is mostly prevalent for Societal factors in all industries except Industrials and Materials where Environmental factors are most significant; and the Consumer Discretionary industry where Governance is most significant. This is shown by the high adjusted r-squared results that are greater than 0,55 in all cases but even account for over 80% of the variability where high significance occurs (0,1%). Five out of the 10 industries have high significance of 1% and the overall result for all industries is highly significant (0,1%).

The strength and significance of the LTI design pay-out relationship with ESG factors becomes much more diluted with still a high overall significance (0.1%) but with all industries having poor significance except for the Materials industry, which is significant at the 1% level. Adjusted r-squared results for the ESG factor are still high in many of the industries. The Societal factor becomes less dominant

across all industries with the highest significance in five of the 10 industries. Environmental factors are significant in Health Care, Financial and Industrials whilst Governance is significant in Real Estate and Materials. This weaker relationship with LTI design pay-out shows that companies have not aligned long term value creation successfully with ESG factors of 'sustainable' measures. It also highlights that those long-term measures are much less prevalent and have lower weightings in remuneration design pay-out.

A deliberate move from whitewashing to greenwashing (Jonsdottir, et al 2022, 14(9), p. 5157) has been seen in many companies with the societal focus on sustainable measures. The current focus on defensive/risk short term measures and the limited focus on sustainable long-term measures outlined in this research supports the greenwashing allegations that are made by journalists and the wider public. This needs to be addressed through a new configuration of LTI design pay-out that alters the outcome of the underlying performative processes of CEO Pay (theory/models and discourse).

The overall strength and significance of the STI and LTI design pay-out and ESG factors for the Exchanges (different geographical locations) show little significance with the ESG factors at above the 10% significance level. This shows that region does not influence the use (or lack of use) of either defensive/risk ESG factors (STI) or sustainable factors (LTI). The country analysis does not have the same strength of relationship with STI and LTI design. This makes sense, as the country is made up of diverse companies and their competitors are from around the world. Therefore, in their STI and LTI design choice, the individual companies are more influenced by their competitors than their local legislation. Governance is the most significant, albeit it at just above the 10% significance level.

Despite the introduction of ESG measures to both STI and LTI design, Market cap remains the most significant factor in determining the quantum of STI and LTI design in most Industries and Exchanges as shown in Table 23.

Table 23: Regression analysis of strength and significance of Market Cap on STI and LTI design pay-out by Exchange

Exchange - STI	Market Cap			
	t-value	Pr (> t)	Adjusted r-squared	Significance
Overall	8.435	9.76E-15	0.7357	***
USA	5.341	1.09E-05	0.6776	***
South Africa	0.168	0.873	- 0.0030	
Canada	3.062	0.00641	0.6784	**
Swiss	5.782	0.00218	0.5873	**
Australia	4.819	1.91E-05	0.3953	***
England	7.384	1.26E-07	0.2643	***

Exchange - LTI	t-value	Market Cap		Significance
		Pr (> t)	Adjusted r-squared	
Overall	5.651	6.63E-08	0.5502	***
USA	3.514	0.00147	0.5993	**
South Africa	-0.115	0.913	0.0498	
Canada	3.792	0.00134	0.6512	**
Swiss	5.782	0.00218	0.3928	**
Australia	6.12	3.89E-07	0.2989	***
England	7.11	2.38E-07	0.2058	***

Significance codes: 0 = "****"; 0.001 = "***"; 0.01 = "**"; 0.05 = "."; 0.1 = " "; 1

Market cap remains a prominent factor (1% significance) in determining the quantum of STI and LTI design all countries except South Africa. This may be due to the smaller sizes of companies in South Africa relative to the other countries. Market cap is also a strong prominent factor in determining the quantum of STI and LTI design for most industries (overall significance 0.1%) except Real Estate where no significance is found. The IT industry only shows significance for STI design and none for LTI design. The industry results are shown in Appendix 7.

4.3.8 Discussion

The adoption of ESGs and social contracting through the adoption of ESG and CSR measures has been a growing trend in corporate strategy, but to date it has had mixed results. Recent research has shown that CEOs focus on short term financial based incentives at the cost of longer term non-financial incentives, despite evidence that these create longer term value and sustainability (Sajko et al 2021; Bebchuk & Tallarita, 2020). This short-termism (defensive behaviour or risk aversion in meeting short term needs) is often driven by the shareholder (Edmans et al, 2022). ESG and CSR is thought to be driven by long term incentives (Flammers et al, 2019 and Sajko et al, 2021) and these are sacrificed to short term financial incentives at the expense of long-term value creation. However, our evidence has shown that ESG factors can be contracted through STIs when they have a direct impact on the remuneration of the CEO. This happens because these factors create risk for firms when not dealt with and are defensive factors mitigated by the CEO. Our research demonstrates this relationship by the negative relationship in the correlations for all ESG factors except sustainability. Thus, by mitigating risk through linking short term ESG factors to CEO pay design, the sustainability of the organisation improves. The significance of ESG factors in STI design payouts is still in its infancy (1%) but improving every year.

The risk differs across different industries and countries. As the adoption of the factors most pertinent in each industry or country increases, these negative correlations swing to be positive and

significance increases. For example, some industries in South Africa are undergoing a social transition and so the Social factor becomes more important. Societal factors explain more than 60% of the variance. In other countries governments have increasingly adopted environmental legislation and this shifts the focus to Environmental factors. It is expected that Industrials and Materials would have STI design pay-out focused more on Environmental factors, since these industries are environmentally polluting, and most countries have legislation to control this. The focus on Societal factors for the other seven industries comes as no surprise since most companies have introduced STI measures to meet customer expectations and look after their staff (Diversity, Equity & Inclusion (DEI) and Employee Value Propositions (EVP)) and to engage their communities in which they operate. These short-term measures could be 'defensive or risk' measures that give companies the legitimacy to do business.

It is also interesting to note that different ESG factors are most prevalent in different countries. For example, In Canada the Environment factor is most influential for both STI and LTI design. This may be because of the focus on nature conservation in this vast, green country with National parks that are protected. Society is most influential for Australia's STI design, a country that focuses on societal issues. In countries like USA, South Africa and Switzerland, Governance is the most prevalent for both STI design pay-out.

The results for ESG rating are important too. The differentiation of ESG factors as Risk or Sustainable is shown to be context-specific, but ESG reporting and ratings always include all ESG aspects, whilst disregarding specific factors for each industry and their relationship to the short term (defensive/risk) or long term (sustainable) factors. Potentially, ESG ratings provide a good mechanism to overcome information asymmetries, but this is not the desired outcome as the ex-ante contracts do not address the short term (defensive/risk) or long term (sustainable) factors concerns. These incentive contracts need to be aligned to the short term and long-term outputs to achieve the desired result. [Kimmerle's \(2019\)](#) study builds on literature on the Principal-Agent problem by [Akerlof \(1970\)](#); [Jensen and Meckling \(1976\)](#) and [Arrow \(1985\)](#). The study focuses on the information asymmetry between the executive (agent) and the principals (shareholders) and recommends implementing standardised and transparent ESG reporting systems and ratings which are independent from jurisdiction.

The ESG factors that are driving LTI design pay-out are more mixed by industry, but the relationships are weaker than the STI design pay-out relationships, as this is a growing area in corporate strategy world-wide. The positive correlations in the LTI design pay-out across all ESG factors are encouraging, even though significance is low across all industries and countries. Overall, Society is the main ESG factor, accounting for 43% of the variation.

We have the following recommendations from the research:

There is a need to determine specific non-financial STIs that limit risk to the organisation for ESG factors. This can be done through risk management metrics which need to include ESG, and CSR spend. These short-term measures need to be linked to long term outcomes in the LTI design payouts to ensure long term value creation and sustainability targets are met.

Society is the most prevalent ESG risk factor (STI) as well as long term sustainable factor (LTI), therefore regular stakeholder engagement by shareholder representatives may sensitise them to ESG risks and sacrifices necessary for long term value creation and sustainability.

STI and LTI design payouts need to be researched to determine the most beneficial quantum for the risk and sacrifice in the short term, to create long term value and sustainability.

Further research needs to be undertaken into the tenure of CEOs, and into tying this variable to ESG metrics in LTI design payouts, with applicable vesting periods.

Finally, we do not recommend shifting the focus to Governance by adding regulations that increase the risk of non-compliance to ESG, as this can lead to unintended consequences and can be open to manipulation. We recommend that STI and LTI design payouts are constructed in a way that mitigates short term risk of ESG factors whilst creating long term value and sustainability.

Our research has found the principle of differentiating ESG factors and metrics according to risk and impact on share price. Future research is needed to develop metrics that measure ESG risk management or mitigation. We are certain that this will become more pressing as corporate scandals about environmental damage and governance continue to occur.

[End of Paper 3]

5. Final Conclusions

5.1. Research problem

The thesis set out to examine how CEO incentives influence the ESG landscape and the adoption thereof. This overall research problem is an important problem from both an academic and practical perspective. The practical need to understand this problem is that the adoption of ESG and sustainability are the exception rather than the rule despite public pressure and increasing corporate scandals. At the same time CEOs appear to continuously increase their remuneration and shrug off the public relations problems. Public pressure has mounted, and climate change and social issues continue to become central to business need for business continuity and sustainability. Yoon and Serafeim (2022) developed a framework that assesses the business relevance of ESG issues from implications to the emerging stream of literature. Lokuwaduge and Heenetigala (2017) also reveal that there is an increased demand for more empirical research on integration of sustainability into strategic business planning processes – this is becoming a business imperative to ensure long term success of the business. There are 3 main players influencing business to adopt meaningful ESG measures - consumers, investors, and policymakers. Changing consumer preferences are driving improvements in ESG performance, institutional investors are changing capital market allocations e.g., Blackrock (Van Duuren, 2016) and policymakers are introducing legislation in both environmental and societal elements to affect ESG performance (Arvidsson and Dumay, 2022). In addition, ESG indexes have proliferated to give investors, consumers, and society the ability to benchmark businesses against each other and their adoption of ESG (Pagano, 2018). Howard-Grenville (2021) says that it is not just about measurement of ESG but that companies need to understand the outcomes and impacts of their ESG strategy by doing three things; namely, develop insights on ESG processes, look at the broader systems, and value curiosity and learning. Integrated sustainability reporting is used to bring improved environmental, social, and governance (ESG) practices to mainstream business through defining materiality that is in line with society's interest in societal and environmental issues (Jebe, 2019). Finally, Henisz (2019) believes that value creation is strongly linked to ESG through top-line growth, cost reduction, legal and regulatory interventions, increased productivity and investment and asset optimisation.

The academic need for the research conducted in this thesis is more pressing and the overall research problem has implications for three areas of theoretical debate and theory development. The first is the adoption of ESG and alignment of CEO remuneration. The second academic area is the enduring dominance of Agency Theory and the primacy of shareholders over other stakeholders. The third area is CEO remuneration design, which is about STI and LTI configurations or the problems related to short termism and how to moderate or mediate that effect without abandoning the pay for performance principle inherent in Agency Theory.

5.2. Main Findings

CSR investment requires some sacrifice of shareholder returns in the short term to address the interests of a broader group of stakeholders, who may or may not directly interact with the firm (Sajko et al, 2021; Bebchuk & Tallarita, 2020). Despite this, current governance models assume the primacy of the shareholder, and are designed to align the interests of the CEO closely to that of shareholders (Edmans, Fang, & Huang, 2022) and to CEO incentivisation and remuneration, which encourages a focus on short term financial results at the cost of long-term value. Recently firms have been under pressure to introduce non-financial measures to encourage firms to incentivise CEOs to improve their ESG metrics through CSR activities, but these non-financial activities threaten the pay for performance financial incentives that are the reason that shareholders invested in the firm in the first place (Reda, 2020). This focus on short-term incentives is termed 'short termism' (Edmans et al, 2021) and undermines the adoption of long term non-financial incentives, including CSR and the improvement of ESG metrics. Attempts to reduce short termism have included regulations that extended share option vesting to five or ten years. However, these longer-term incentives have had negligible effect on reducing short termism, which has been found to negatively correlate to CSR investment and long-term value creation (Sajko et al, 2021).

But what if CSR investment can be linked to short-term incentives? This becomes possible when the consequences of not paying attention to ESG factors directly affects the share price and remuneration of the CEO. When ESG factors are categorised as either risk (or defensive), or as business sustainability factors, then they would assume a short term or long term orientation, and incentives can be aligned accordingly. We define Defensive or Risk-type factors are those factors where the company is penalised due to non-compliance or stakeholder action. We categorise Sustainability factors as those (non-financial) factors that lead to long term value creation for the company and benefit to society, but often require short term sacrifices in shareholder value or profits.

In these 3 papers, we investigated the outcome of the underlying performative processes of CEO Pay (theory/models and discourse), with a specific focus on Agency Theory in economic matters on CEO on-target total remuneration.

Paper 1 explains that the tension identified in the literature review and how the dominance of Agency Theory is an obstacle to the adoption of ESG measures and addresses this substantial review of the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). The paper joins the current debate about purpose of the company and the tension between Shareholder Value Maximisation and shareholder management. This tension is explained as due to the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) and the conditions that sustain the performativity. Proposals are made to adjust those (felicity) conditions of performativity and adjust Agency Theory accordingly. A revised model of Agency Theory in which

two obligatory felicity conditions (the conditions required for performativity to be effective) are introduced into the CEO scorecard; namely aligning with a wider stakeholder base and adoption of non-financial measures of Environment, Society and Governance (ESG) that are part of the organisation's purpose. The revised agency model that refocuses corporate aims on purpose that is aligned to the wider stakeholder and long-term value creation will result in a sustainable organisation and the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) that will contribute to the way in which organisations can contribute to environmental and societal wellbeing.

Paper 2 researches how ESG factors are shaping the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). Paper 2 describes the pressures on remuneration committees to include non-financial (ESG) factors in CEO remuneration. The paper found that there is an increase in the use of ESG metrics, but that this did not translate into increased performance for the company. The paper explains that this is due to the outcome of the underlying performative processes of CEO Pay (theory/models and discourse), in other words the centrality of shareholders and alignment of CEO remuneration to shareholder interests primarily, creates a disconnect between ESG factors and actual CEO pay. In other words, there is extensive greenwashing due to the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). This creates a tension between ESG and Shareholder Value Maximisation. We find that companies have three options in the face of this tension: continue to focus on Shareholder Value Maximisation while paying lip service to ESG demands, they can react to ESG pressures to dilute shareholder value and manage risk as much as possible, or they can embrace ESG and change the way that CEOs are remunerated. The implications are that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is being challenged and that ESG metrics may dilute the centrality of shareholders as primary principals as are currently the case in Agency Theory. This is not consistent with Agency Theory in its current form and would require a substantial review of Agency Theory.

Paper 3 builds on the two previous papers and describes why ESG factors are adopted but not implemented. This is due to the well-described phenomenon known as "Short termism" where CEOs are incentivised to focus on short term share price inflation to maximise shareholder value. This phenomenon can be ascribed to the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) that align shareholder and CEO financial interests at the cost of longer term non-financial factors. This problem is overcome to some extent when ESG factors are differentiated between those that carry a high risk and directly impact the share price, and those that have a longer-term impact on the sustainability of the firm. We study the specific non-financial STIs that limit risk to the organisation for ESG factors and the link to long term outcomes in the LTI design payouts to ensure that long term value creation and sustainability targets are met. The paper makes

practical recommendations for CEO incentives and opens a potential new area for research evaluating ESG risk and CEO remuneration.

The main theory bases challenged in the 3 papers are that with the introduction of ESG measures that include stakeholder interests that compete with those of shareholders and dilute the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). ESG measures introduce societal stakeholders as additional principals in Agency Theory, but the interests of these additional principals may sometimes be in direct opposition to those of shareholders, which creates a dilemma for aligning CEO interests and related incentives (Sheehy, 2015, pp. 273-312). The effect of ESG factors on CEO pay is not clear and the continued outcome of the underlying performative processes of CEO Pay (theory/models and discourse) where the shareholder is the primary principal is challenged by the introduction of ESG measures. The limitations and potential contradictions of Agency Theory have become clear and are challenged and reviewed in these papers. Finally, the design of STI and LTI CEO pay is questioned, and we make an important contribution to the debate about CEO and ESG incentivisation, as it is the first paper to link ESG factors defensive (risk) or sustainable typographies to short- and long-term incentive pay for CEOs.

In this research we have interrogated the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) and its relationship to non-financial ESG factors, company size and financial performance factors. The correlations for on-target CEO total remuneration and its relationship to non-financial ESG factors show satisfactory results with high significance and good R square correlations. We found that large increases in the use of ESG factors in Annual Financial and Integrated Reports from FY2020 to FY2021 and this was accompanied by an increased use of ESG metrics in on-target CEO total remuneration KPIs. This is ground-breaking in the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is being challenged. This results in revising existing Agency Theory, driven by ESG metrics that invite additional principals to shareholders. These principals are not represented at board level and do not determine CEO pay; however, companies are under increasing pressure to deal with them and mandatory CSR and engagement with broader stakeholders is a reality (Gatti, Vishwanath, Seele & Cottier, 2019).

5.3. Contributions and Future Research

Without revising existing theory, the continued outcome of the underlying performative processes of CEO Pay (theory/models and discourse) will lead to an increased disconnect between society and companies that are shocked by CEOs of companies defending their large remuneration in the face of changing social values. The shaping of ESG factors on the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is science in the making (Latour, 1987) – converting theory into practice - as the world embarks on including ESG factors into corporate

scorecards and linking them to on-target CEO total remuneration. This ontological phenomenon should result in the sustainability of business in the future - these companies are sustainable by doing well by doing good. Whilst good correlation exists between ESG factors and CEO total on-target earnings, these are leading indicators that point to new areas for research to translate to lagging factors like sustainable financial performance, company size and institutional involvement.

Our results have shown that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is eroding as ESG metrics become more mainstream, this creates an uneasy co-existence between financial and ESG metrics caused by Agency Theory. Companies can respond to this trend in three ways, they can continue to remain focused in shareholder return above all else (as per traditional Agency Theory and Agent Principal alignment), they can react to these pressures and limit costs as much as possible (green washing is this type of response), or they can embrace the ESG demands and change the way that CEOs are measured and rewarded. We open new debates in which the first option is likely to create confusion for both CEOs and those setting their incentives since the co-existence of financial and non-financial incentives set by financially vested shareholders is a paradox that may encourage CEOs to devalue ESG factors. The second debate could revolve around viewing ESG factors as cost of doing business or, as tactical competitive activities that are pursued if they have a positive financial impact. The last debate is about extending existing Agency Theory from its current form to a completely new theory, or at the very least a substantial revision of Agency Theory. These 3 debates could stimulate new areas of research in this field.

In recent years, the world has demanded that organisations move their purpose from shareholderism to stakeholderism in a quest to protect the planet (environment) and people (society) through long term value creation. Our contribution has shown that the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) is found wanting in this regard and opened new debates around CEOs continuing to be servants to shareholder value. Revising existing Agency Theory in which the felicity conditions (MacKenzie, 2006a, 43; 2006b; 2007, 68) include the wider stakeholders and sustainable aims become part of the company purpose and are obligatory, will over time convert theory to practice altering the outcome of the underlying performative processes of CEO Pay (theory/models and discourse) where the world starts to resemble the predictions of the model to result in ground-breaking long term value creation and organisation sustainability.

Our contribution demonstrates that the governance frameworks are necessary but cannot on their own drive sustainable performativity through the outcome of the underlying performative processes of CEO Pay (theory/models and discourse). We have opened the new debate where the era of shareholders being the company purpose (Inkpen & Sudarem, 2022) is over, and a stakeholder approach (Mayer, 2021) is becoming company purpose with the sustenance of strategic corporate governance through governance policies and practices.

New areas of research interrogate “what ought to be” in terms of sustainable CEO metrics to open new debates like what the balance between tangible and intangible metrics is; what the aim of the company’s purpose is; who the stakeholders in the extended existing Agency Theory are and what metrics would align best with their needs; what metrics are most relevant for the company’s strategic capabilities in key areas; the alignment with standards or frameworks for wider stakeholders; whether CEO metrics align to long term value creation; whether it captures conditions in a long term value creation outcome over a desired time frame; whether the metric allows peer-to-peer comparisons; whether the metric informs internal or external decision-making; whether it helps direct the company’s target-setting; and whether the metric measures multiple outcomes and/or related capabilities.

There is scope for a ground-breaking empirical study to develop a normative economics model using identified CEO metrics/KPIs in a mixed method of research (including existing frameworks and standards, Sustainability Accounting Standards Board (SASB), credible surveys and databases like JUST Capital, EPIC, white papers and peer-reviewed literature, remuneration reports and direct interviews with industry leaders). This could result in a profound reconceptualisation about the nature of economic activity and the way in which firms can contribute to environmental and social wellbeing.

Our further contribution was to show that the adoption of ESGs and social contracting through the adoption of ESG and CSR measures has been a growing trend in corporate strategy, but to date it has had mixed results. Recent research has shown that CEOs focus on short term financial based incentives at the cost of longer term non-financial incentives, despite evidence that these create longer term value and sustainability (Sajko et al 2021; Bebchuk & Tallarita, 2020). Our contribution has been to show that ESG and CSR (thought to be driven by long term incentives) are sacrificed to short term financial incentives at the expense of long-term value creation. However, our evidence has shown that ESG factors can be contracted through STIs when they have a direct impact on the remuneration of the CEO. This happens because these factors create risk for firms when not dealt with and are defensive factors mitigated by the CEO. Our ground-breaking contribution is to confirm this relationship by the negative relationship in the correlations for all ESG factors except sustainability. We demonstrate that by mitigating risk through linking short term ESG factors to CEO pay design, the sustainability of the organisation improves.

Extending existing theory, we show that the risk differs across different industries and countries. As the adoption of the factors most pertinent in each industry or country increases, these negative correlations swing to be positive and significance increases. Our contribution shows how this differs by industry like in South Africa that is undergoing a social transition and so the Social factor becomes more important. In other countries governments have increasingly adopted environmental legislation and this shifts the focus to Environmental factors. The focus on Societal factors for most industries comes as no surprise since most companies have introduced STI measures to meet customer

expectations and look after their staff (Diversity, Equity & Inclusion (DEI) and Employee Value Propositions (EVP)) and to engage their communities in which they operate. These short-term measures could be 'defensive or risk' measures that give companies the legitimacy to do business and open new areas of research to quantify risk or defensive measures versus long term sustainable measures.

It is also interesting to note that different ESG factors are most prevalent in different countries. For example, in Canada the Environment factor is most influential for both STI and LTI design. This may be because of the focus on nature conservation in this vast, green country with National parks that are protected. Society is most influential for Australia's STI design, a country that focuses on societal issues. In countries like USA, South Africa and Switzerland, Governance is the most prevalent for STI design pay-out. This opens new debates regarding the importance of the different ESG factors by jurisdiction and stimulate new areas of research to extend existing theory regarding this.

The contribution for ESG rating is important too. The differentiation of ESG factors as Risk or Sustainable is shown to be context-specific, but ESG reporting and ratings always include all ESG aspects, whilst disregarding specific factors for each industry and their relationship to the short term (defensive/risk) or long term (sustainable) factors. New areas for research to explore that while ESG ratings provide a good mechanism to overcome information asymmetries, why they do not deliver the desired outcome as the ex-ante contracts do not address the short term (defensive/risk) or long term (sustainable) factors concerns. Converting theory to practice as to how incentive contracts need to be aligned to the short term and long-term outputs to achieve the desired result. New areas of research could be to extend Kimmerle's (2019) study that builds on literature on the Principal-Agent problem by Akerlof (1970); Jensen and Meckling (1976) and Arrow (1985) to identify standardised and transparent ESG reporting systems and ratings which are independent from jurisdiction.

Our final contribution is that ESG factors that are driving LTI design pay-out are more mixed by industry, but the relationships are weaker than the STI design pay-out relationships, as this is a growing area in corporate strategy world-wide. The positive correlations in the LTI design pay-out across all ESG factors are encouraging, even though significance is low across all industries and countries. Overall, Society is the main ESG factor, accounting for 43% of the variation. This opens new debates and subsequent new areas of research to determine how to strengthen the LTI relationship and the importance of each ESG factor in the relationship.

We have recommended the following future research:

1. Determination of specific non-financial STIs that limit risk to the organisation for ESG factors. This can be done through risk management metrics which need to include ESG, and CSR

spend. These short-term measures need to be linked to long term outcomes in the LTI design payouts to ensure long term value creation and sustainability targets are met.

2. Society is the most prevalent ESG risk factor (STI) as well as long term sustainable factor (LTI), therefore future research into the sensitisation through regular stakeholder engagement by shareholder representatives to ESG risks and sacrifices necessary for long term value creation and sustainability.
3. Quantify the STI and LTI design payouts that determine the most beneficial quantum for the risk and sacrifice in the short term, to create long term value and sustainability.
4. Determine the relationship between the tenure of CEOs and tie this variable to ESG metrics in LTI design payouts, with applicable vesting periods.
5. Determine whether increased Governance by adding regulations that increase the risk of non-compliance to ESG, leads to unintended consequences and the subsequent development of the metrics that are an optimal balance of governance legislating short term risk ESG factors and long-term value creation and sustainability.

The recommended future research will also lead to new methods of evaluating CEO remuneration as extant research does not utilise granular CEO remuneration in the same way that this thesis and the associated three papers have done.

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Appendices

Appendix 1: PCA Factors and by Industry for FY2021

FY2021				
Industry	SS Loading			Cumm. Var
	Factor 1	Factor 2	Factor 3	
Overall	1.02	1.01	1.00	0.43
Health Care	1.20	1.20	1.19	0.51
Utilities	1.45	1.27	1.19	0.65
Consumer Staples	1.47	1.30	1.28	0.58
Financials	1.06	0.98	0.94	0.42
Real Estate	1.63	1.42	1.07	0.59
Energy	1.72	1.30	1.04	0.58
Industrials				
Materials	1.28	1.05	0.80	0.52
Consumer Discretionary	1.25	1.21	0.79	0.46
Information Technology	1.58	0.90	0.66	0.52
FY2021 Overall				
LOADINGS	Factor 1	Factor 2	Factor 3	
	G	E	S	
Environmental		0.49		
Health & Safety		0.62		
People & Culture			0.66	
Customer		-0.34		
Community				
Governance			0.42	
Sustainability	1.00			
FY2021 IT				
LOADINGS	Factor 1	Factor 2	Factor 3	
	G	E	S	
Environmental		0.35		
Health & Safety		0.99		
People & Culture	0.6			
Customer			0.32	
Community				
Governance	0.68			
Sustainability	-0.95			
FY2021 Health care				
LOADINGS	Factor 1	Factor 2	Factor 3	
	G	S	E	
Environmental	0.5			
Health & Safety				

People & Culture		0.98	
Customer		-0.51	
Community			0.98
Governance			
Sustainability	0.95		
FY2021		Utilities	
LOADINGS	Factor 1	Factor 2	Factor 3
	E	S	G
Environmental	0.61	0.51	0.36
Health & Safety	0.94		
People & Culture		0.98	
Customer			0.52
Community		0.39	0.54
Governance	0.47		
Sustainability			
FY2021		Consumer staples	
LOADINGS	Factor 1	Factor 2	Factor 3
	E	S	G
Environmental	0.77	0.6	
Health & Safety	0.47		
People & Culture		0.58	
Customer			
Community	0.81	-0.58	
Governance		-0.33	0.74
Sustainability			0.66
FY2021		Financials	
LOADINGS	Factor 1	Factor 2	Factor 3
	S	G	E
Environmental			0.68
Health & Safety		0.37	
People & Culture		0.57	
Customer	0.78		
Community	0.3		
Governance		0.35	
Sustainability			
FY2021		Real Estate	
LOADINGS	Factor 1	Factor 2	Factor 3
	S	G	E
Environmental			0.57
Health & Safety		0.42	0.54
People & Culture			
Customer	0.8		

Community Governance Sustainability	-0.9	0.99	0.76
FY2021 LOADINGS	Communication Services		
	Factor 1	Factor 2	Factor 3
	S	G	E
Environmental Health & Safety		0.54	0.8
People & Culture	-0.62		0.69
Customer	0.99		
Community Governance Sustainability		0.58	
		0.9	
FY2021 LOADINGS	Energy		
	Factor 1	Factor 2	Factor 3
	G	S	E
Environmental Health & Safety		-0.53	0.95
People & Culture	0.58		
Customer		0.97	
Community Governance Sustainability	0.55		
	0.95		
FY2021 LOADINGS	Industrials		
	Factor 1	Factor 2	Factor 3
	G	E	S
Environmental Health & Safety		0.99	0.67
People & Culture	0.58		-0.34
Customer			
Community Governance Sustainability	0.84		0.53
			0.34
FY2021 LOADINGS	Materials		
	Factor 1	Factor 2	Factor 3
	E	G	S
Environmental Health & Safety	0.99		
People & Culture		0.49	
Customer			-0.43
Community Governance			0.56
		0.78	

Sustainability	Consumer Discretionary		
	Factor 1	Factor 2	Factor 3
	E	S	G
FY2021 LOADINGS			
Environmental	0.82		
Health & Safety			0.77
People & Culture	0.36	0.93	
Customer	-0.31		
Community	0.32		
Governance			0.37
Sustainability			

Appendix 2: Number and Prevalence of ESG Factors by Industry and Exchange for FY2021

Environment Measures	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Number of companies with Environment measures for FY2021								
Utilities	3	3	1	1	0	3	0	10
Financials	2	6	8	1	0	1	2	20
Energy	6	2	1	7	0	2	0	18
Materials	10	10	5	6	0	1	10	40
Industrials	5	3	9	0	0	1	0	18
Health Care	0	2	3	0	0	0	1	6
Consumer Staples	1	3	4	0	0	2	0	10
Real Estate	6	1	1	0	2	0	0	10
Communication Services	0	1	3	0	1	1	0	6
Information Technology	0	1	4	0	0	2	0	7
Consumer Discretionary	1	2	6	0	0	2	0	11
Overall	34	34	45	15	3	15	13	156
Proportion of companies with Environment measures								
Utilities	60%	75%	25%	25%	0%	75%	-	45%
Financials	13%	32%	57%	10%	0%	7%	20%	23%
Energy	86%	100%	100%	78%	-	67%	-	82%
Materials	56%	71%	56%	60%	-	33%	77%	60%
Industrials	42%	20%	53%	0%	0%	8%	0%	25%
Health Care	0%	50%	33%	0%	-	0%	100%	16%
Consumer Staples	20%	30%	67%	0%	0%	18%	0%	22%
Real Estate	67%	33%	33%	0%	20%	0%	0%	33%
Communication Services	0%	14%	60%	0%	100%	11%	0%	17%
Information Technology	0%	20%	57%	0%	0%	13%	-	17%
Consumer Discretionary	13%	13%	40%	0%	0%	18%	0%	18%
Overall	34%	35%	50%	25%	10%	15%	33%	30%
Social Measures								
Number of companies with Social measures for FY2021								
Utilities	5	4	3	3	1	3	0	18
Financials	14	17	11	5	4	11	8	70
Energy	6	2	1	8	0	2	0	19
Materials	17	11	8	9	0	3	11	57
Industrials	11	9	13	3	3	5	0	44

Health Care	5	3	6	1	0	7	1	23
Consumer Staples	5	6	4	2	0	6	2	25
Real Estate	8	2	2	1	6	0	0	19
Communication Services	3	3	4	2	1	4	0	17
Information Technology	3	2	3	0	1	10	0	19
Consumer Discretionary	7	8	8	2	0	4	3	30
Overall	84	67	63	36	16	55	25	341
Proportion of companies with Social measures								
Utilities	100%	100%	75%	75%	100%	75%	-	82%
Financials	93%	89%	79%	50%	100%	79%	80%	81%
Energy	86%	100%	100%	89%	-	67%	-	86%
Materials	94%	79%	89%	90%	-	100%	85%	85%
Industrials	92%	60%	76%	60%	33%	42%	0%	62%
Health Care	71%	75%	67%	50%	-	47%	100%	61%
Consumer Staples	100%	60%	67%	40%	0%	55%	40%	56%
Real Estate	89%	67%	67%	50%	60%	0%	0%	63%
Communication Services	50%	43%	80%	50%	100%	44%	0%	49%
Information Technology	38%	40%	43%	0%	100%	63%	-	46%
Consumer Discretionary	88%	53%	53%	40%	0%	36%	60%	50%
Overall	84%	68%	70%	60%	53%	55%	64%	66%

Customer Measures	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Number of companies with Customer measures								
Utilities	3	4	1	2	0	3	0	13
Financials	14	13	10	8	4	8	5	62
Energy	1	1	0	0	0	0	0	2
Materials	1	0	1	0	0	1	0	3
Industrials	5	5	1	0	3	2	0	16
Health Care	2	1	1	0	0	4	0	8
Consumer Staples	4	3	3	1	0	1	1	13
Real Estate	7	1	2	0	4	0	0	14
Communication Services	2	3	3	3	0	1	2	14
Information Technology	3	2	2	0	1	4	0	12
Consumer Discretionary	5	4	1	1	0	2	0	12
Overall	47	37	25	15	12	26	8	169
Proportion of companies with Customer measures								
Utilities	60%	100%	25%	50%	0%	75%	-	59%
Financials	93%	68%	71%	80%	100%	57%	50%	72%
Energy	14%	50%	0%	0%	-	0%	-	9%
Materials	6%	0%	11%	0%	-	33%	0%	4%
Industrials	42%	33%	6%	0%	33%	17%	0%	23%
Health Care	29%	25%	11%	0%	-	27%	0%	21%
Consumer Staples	80%	30%	50%	20%	0%	9%	20%	29%

Real Estate	78%	33%	67%	0%	40%	0%	0%	47%
Communication Services	33%	43%	60%	75%	0%	11%	67%	40%
Information Technology	38%	40%	29%	0%	100%	25%	-	29%
Consumer Discretionary	63%	27%	7%	20%	0%	18%	0%	20%
Overall	47%	38%	28%	25%	40%	26%	21%	33%

Community Measures	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Number of companies with Community measures for FY2021								
Utilities	2	1	1	0	0	1	0	4
Financials	2	2	4	1	2	3	2	16
Energy	1	0	0	0	0	0	0	1
Materials	4	5	0	5	0	1	6	20
Industrials	1	0	1	0	1	2	0	5
Health Care	0	0	2	0	0	1	0	3
Consumer Staples	1	1	3	0	0	2	0	7
Real Estate	1	0	1	0	4	0	0	6
Communication Services	0	0	1	0	1	0	0	2
Information Technology	0	0	0	0	0	1	0	1
Consumer Discretionary	1	2	2	0	0	0	0	5
Overall	13	11	15	6	8	11	8	70

Proportion of companies with Community measures								
Utilities	40%	25%	25%	0%	0%	25%	-	18%
Financials	13%	11%	29%	10%	50%	21%	20%	19%
Energy	14%	0%	0%	0%	-	0%	-	5%
Materials	22%	36%	0%	50%	-	33%	46%	30%
Industrials	8%	0%	6%	0%	11%	17%	0%	7%
Health Care	0%	0%	22%	0%	-	7%	0%	8%
Consumer Staples	20%	10%	50%	0%	0%	18%	0%	16%
Real Estate	11%	0%	33%	0%	40%	0%	0%	20%
Communication Services	0%	0%	20%	0%	100%	0%	0%	6%
Information Technology	0%	0%	0%	0%	0%	6%	-	2%
Consumer Discretionary	13%	13%	13%	0%	0%	0%	0%	8%
Overall	13%	11%	17%	10%	27%	11%	21%	14%

Governance Measures	Australia	United Kingdom	Europe	Canada	Singapore	USA	South Africa	Overall
Number of companies with Governance measures for FY2021								
Utilities	4	2	2	1	0	2	0	10
Financials	14	16	9	3	4	10	5	61
Energy	3	0	0	1	0	0	0	4
Materials	13	7	3	3	0	0	8	32
Industrials	10	5	10	2	1	2	0	30
Health Care	4	3	3	0	0	2	1	13
Consumer Staples	2	3	4	3	0	0	0	12
Real Estate	6	1	0	0	2	0	0	9
Communication Services	0	1	2	0	0	0	0	3

Information Technology	2	1	2	0	1	2	0	8
Consumer Discretionary	6	3	4	0	0	1	1	13
Overall	64	42	39	13	8	19	15	195
Proportion of companies with Governance measures								
Utilities	80%	50%	50%	25%	0%	50%	-	45%
Financials	93%	84%	64%	30%	100%	71%	50%	71%
Energy	43%	0%	0%	11%	-	0%	-	18%
Materials	72%	50%	33%	30%	-	0%	62%	48%
Industrials	83%	33%	59%	40%	11%	17%	0%	42%
Health Care	57%	75%	33%	0%	-	13%	100%	34%
Consumer Staples	40%	30%	67%	60%	0%	0%	0%	27%
Real Estate	67%	33%	0%	0%	20%	0%	0%	30%
Communication Services	0%	14%	40%	0%	0%	0%	0%	9%
Information Technology	25%	20%	29%	0%	100%	13%	-	20%
Consumer Discretionary	75%	20%	27%	0%	0%	9%	20%	22%
Overall	64%	43%	43%	22%	27%	19%	38%	38%

Appendix 3: Mean, Quartiles and Standard Deviation of ESG Factors of All Companies for FY2021

FY2021 42 metrics	Mean	Q0	Q1	Q2	Q3	Q4	Std deviation
Scope 1 GHG Emissions Measures	1.15	1	1	1	1	3	0.4
Scope 2 GHG Emissions Measures	1.14	1	1	1	1	2	0.4
Scope 3 GHG Emissions Measures	1.00	1	1	1	1	1	-
GHG Emissions (scope not specified) Measures	1.06	1	1	1	1	2	0.2
Non-Renewable Energy Measures	1.00	1	1	1	1	1	-
Renewable Energy Measures	1.04	1	1	1	1	2	0.2
Environmental Incidents Measures	1.00	1	1	1	1	1	-
Air Quality Measures	1.25	1	1	1	1	2	0.5
Land Management Measures	1.00	1	1	1	1	1	-
Water & Wastewater Management Measures	1.04	1	1	1	1	2	0.2
Waste & Hazardous Materials Management Measures	1.00	1	1	1	1	1	-
Environment Not Disclosed Measures	1.09	1	1	1	1	2	0.3
Fatalities Measures	1.24	1	1	1	1	3	0.5
Injuries Measures	1.24	1	1	1	1	6	0.7
Illnesses Measures	1.10	1	1	1	1	2	0.3
Exposure to Harmful Substances Measures	1.14	1	1	1	1	2	0.4
Workplace Policies Measures	1.15	1	1	1	1	3	0.4
Health & Safety Not Disclosed Measures	1.08	1	1	1	1	2	0.3
Gender Balance Measures	1.11	1	1	1	1	2	0.3
Diversity & Inclusion Measures	1.13	1	1	1	1	3	0.4
Employee Engagement Measures	1.14	1	1	1	1	3	0.4
Training and Development Measures	1.09	1	1	1	1	3	0.3
Behaviours, Ethics, Values, and Culture Measures	1.18	1	1	1	1	5	0.5
Employee Voluntary Turnover Measures	1.13	1	1	1	1	2	0.3
People & Culture Not Disclosed Measures	1.07	1	1	1	1	3	0.3

Customer Satisfaction Measures	1.26	1	1	1	1	6	0.6
Customer Net Promoter Score Measures	1.28	1	1	1	1	6	0.8
Customer Complaints and Resolutions Measures	1.76	1	1	1	2	10	2.2
Product Quality and Safety Measures	1.26	1	1	1	1	5	0.8
Customer Not Disclosed Measures	1.27	1	1	1	1	3	0.5
Other Customer Measures	1.00	1	1	1	1	1	-
Community Incidents Measures	1.00	1	1	1	1	1	-
Community Complaints Measures	1.00	1	1	1	1	1	#DIV/0!
Community Investment Measures	1.15	1	1	1	1	2	0.4
Community Not Disclosed Measures	1.17	1	1	1	1	2	0.4
Governance at the Board of Directors' level Measures	1.10	1	1	1	1	3	0.4
Governance at the Executive Boards' level Measures	1.18	1	1	1	1	3	0.5
Risk management Measures	1.24	1	1	1	1	3	0.5
Compliance Measures	1.15	1	1	1	1	3	0.4
Behaviours, Ethics, Values, and Culture Measures	1.18	1	1	1	1	5	0.5
Other Governance Measures	2.00	2	2	2	2	2	#DIV/0!
Measure Linked to Sustainability Index	1.39	1	1	1	1	4	0.8
DEI Measures	1.15	1	1	1	1	3	0.4
Workplace Safety Measures	1.47	1	1	1	2	7	0.9
FY2021 7 Pillars	Mean	Q0	Q1	Q2	Q3	Q4	Std deviation
ESG Measures	2.64	1	1	2	4	16	2.2
Environment Measures	1.45	1	1	1	2	8	1.0
Health and Safety Measures	1.58	1	1	1	2	7	1.1
People and Culture Measures	1.42	1	1	1	2	5	0.7
Social Measures	1.78	1	1	1	2	8	1.2
Customer Measures	1.54	1	1	1	2	11	1.2
Community Measures	1.18	1	1	1	1	3	0.5

Governance Measures	1.46	1	1	1	2	6	0.8
External Measures	2.13	1	1	1	3	13	1.7
Sustainability Index Measures	1.43	1	1	1	1	5	0.9

Appendix 4: Mean, Quartiles and Standard Deviation of ESG Factors of Companies with ESG Metrics for FY2020

FY2020 42 metrics	Mean	Q0	Q1	Q2	Q3	Q4	Std deviation
Scope 1 GHG Emissions Measures	1.24	1	1	1	1	4	0.8
Scope 2 GHG Emissions Measures	1.13	1	1	1	1	2	0.4
Scope 3 GHG Emissions Measures	1.00	1	1	1	1	1	-
GHG Emissions (scope not specified) Measures	1.20	1	1	1	1	3	0.5
Non-Renewable Energy Measures	1.00	1	1	1	1	1	-
Renewable Energy Measures	1.36	1	1	1	2	3	0.7
Environmental Incidents Measures	1.03	1	1	1	1	2	0.2
Air Quality Measures	1.00	1	1	1	1	1	-
Land Management Measures							
Water & Wastewater Management Measures	1.10	1	1	1	1	2	0.3
Waste & Hazardous Materials Management Measures	1.18	1	1	1	1	2	0.4
Environment Not Disclosed Measures	1.24	1	1	1	1	4	0.6
Fatalities Measures	1.30	1	1	1	2	3	0.5
Injuries Measures	1.20	1	1	1	1	4	0.5
Illnesses Measures	1.00	1	1	1	1	1	-
Exposure to Harmful Substances Measures	1.00	1	1	1	1	1	-
Workplace Policies Measures	1.35	1	1	1	1	4	0.8
Health & Safety Not Disclosed Measures	1.27	1	1	1	1	3	0.6
Gender Balance Measures	1.08	1	1	1	1	2	0.3
Diversity & Inclusion Measures	1.11	1	1	1	1	3	0.3
Employee Engagement Measures	1.17	1	1	1	1	4	0.5
Training and Development Measures	1.19	1	1	1	1	3	0.4
Behaviours, Ethics, Values, and Culture Measures	1.27	1	1	1	1	4	0.6
Employee Voluntary Turnover Measures	1.13	1	1	1	1	2	0.3

People & Culture Not Disclosed Measures	1.09	1	1	1	1	3	0.4
Customer Satisfaction Measures	1.18	1	1	1	1	4	0.5
Customer Net Promoter Score Measures	1.23	1	1	1	1	3	0.5
Customer Complaints and Resolutions Measures	1.29	1	1	1	2	2	0.5
Product Quality and Safety Measures	2.00	1	1	1	2	9	1.8
Customer Not Disclosed Measures	1.39	1	1	1	2	4	0.7
Other Customer Measures	1.33	1	1	1	2	2	0.6
Community Incidents Measures	1.00	1	1	1	1	1	-
Community Complaints Measures	1.00	1	1	1	1	1	-
Community Investment Measures	1.06	1	1	1	1	2	0.2
Community Not Disclosed Measures	1.18	1	1	1	1	3	0.6
Governance at the Board of Directors' level Measures	1.10	1	1	1	1	3	0.4
Governance at the Executive Boards' level Measures	1.15	1	1	1	1	4	0.5
Risk management Measures	1.38	1	1	1	2	3	0.5
Compliance Measures	1.29	1	1	1	1	3	0.5
Behaviours, Ethics, Values, and Culture Measures	1.27	1	1	1	1	4	0.6
Other Governance Measures	1.00	1	1	1	1	1	-
Measure Linked to Sustainability Index	1.30	1	1	1	1	3	0.6
DEI Measures	1.11	1	1	1	1	3	0.3
Workplace Safety Measures	1.40	1	1	1	2	4	0.8

FY2020 7 Pillars	Mean	Q0	Q1	Q2	Q3	Q4	Std deviation
ESG Measures	2.51	1	1	2	3	20	2.2
Environment Measures	1.42	1	1	1	2	5	0.8
Health and Safety Measures	1.55	1	1	1	2	5	1.0
People and Culture Measures	1.48	1	1	1	2	6	0.9
Social Measures	1.77	1	1	1	2	8	1.2
Customer Measures	1.61	1	1	1	2	12	1.3

Community Measures	1.18	1	1	1	1	3	0.5
Governance Measures	1.57	1	1	1	2	6	0.9
External Measures	2.07	1	1	1	3	16	1.7
Sustainability Index Measures	1.30	1	1	1	1	3	0.6

Appendix 5: Significance and Regression of ESG factors and CEO on-target total remuneration for FY2021 by Industry and Country

Without Market Cap						
Industry	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square
Overall	<0.01	<0.01	0.721	N/A	E & S	0.43
Communication Services	0.64	0.01	0.58	N/A	S	0.3
Consumer Discretionary	0.6	0.01	0.77	N/A	S	0.29
Consumer Staples	0.68	<0.01	0.63	N/A	S	0.59
Energy	<0.01	0.26	0.99	N/A	E	0.54
Financials	0.65	<0.01	0.17	N/A	S	0.47
Health Care	0.7	<0.01	0.87	N/A	S	0.49
Industrials	0.01	<0.01	0.14	N/A	E & S	0.55
Information Technology	0.09	0.04	0.54	N/A	E & S	0.55
Materials	<0.01	0.63	0.21	N/A	E	0.61
Real Estate	0.42	0.06	0.17	N/A	S	0.86
Utilities	0.02	0.8	0.18	N/A	E	0.61
With Market Cap						
Industry	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square
Overall	<0.01	<0.01	0.14	<0.01	E & S	0.5
Communication Services	0.67	0.06	0.38	<0.01	S	0.88
Consumer Discretionary	0.17	0.07	0.53	<0.01	S	0.77
Consumer Staples	0.36	<0.01	0.98	0.02	S	0.68
Energy	0.06	0.43	0.61	0.02	E	0.66
Financials	0.61	0.12	0.34	<0.01	None	0.72
Health Care	0.74	<0.01	0.99	<0.01	S	0.75
Industrials	0.01	0.22	0.57	0.02	E	0.61
Information Technology	0.78	0.04	0.35	0.19	S	0.59
Materials	<0.01	0.98	0.32	<0.01	E	0.66
Real Estate	0.37	0.64	0.141	0.45	None	0.86
Utilities	0.81	0.05	0.4	<0.01	S	0.85
Without Market Cap						
Country	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square
Overall	<0.01	<0.01	0.721	N/A	E & S	0.43
Australia	<0.01	<0.01	0.02	N/A	E, S & G	0.81
Canada	0.02	<0.01	0.15	N/A	E & S	0.61
France	<0.01	0.13	0.72	N/A	E	0.71
Germany	0.05	<0.01	0.51	N/A	E & S	0.85
UK	<0.01	0.03	0.17	N/A	E & S	0.53
Swiss	0.02	0.06	0.66	N/A	E & S	0.8
South Africa	0.38	0.03	0.82	N/A	S	0.35
USA	0.02	<0.01	0.14	N/A	E & S	0.67
With Market Cap						
Country	Factor E	Factor S	Factor G	Market Cap	Significant Factors	R Square
Overall	<0.01	<0.01	0.14	<0.01	E & S	0.5
Australia	<0.01	<0.01	0.03	0.14	E, S & G	0.81
Canada	<0.01	0.08	0.28	<0.01	E & S	0.78
France	0.02	0.21	0.77	0.87	E	0.66
Germany	0.09	<0.01	0.43	0.34	E & S	0.85
UK	<0.01	0.12	0.02	<0.01	E & G	0.81
Swiss	0.02	0.03	0.54	<0.01	E & S	0.92
South Africa	0.76	0.05	0.81	<0.01	S	0.74
USA	0.08	<0.01	0.24	0.06	E & S	0.69

Appendix 6: The six areas of sustainable capital (King, 2016) include:

The areas of sustainable capital*	
Financial capital	The pool of funds that is available to an organisation for use in the production of goods or the provision of services
Manufactured capital	Manufactured physical objects (as distinct from natural physical objects) that are available to an organisation for use in the production of goods or the provision of services, including buildings, equipment, and infrastructure
Intellectual capital	Organisational, knowledge-based intangibles, including intellectual property (such as copyrights) and organisational capital such as knowledge, systems, and procedures
Human capital	People’s competencies, capabilities and experience, and their motivations to innovate
Social and relationship capital	The institutions and the relationships within and between communities, groups of stakeholders and other networks, and the ability to share information to enhance individual and collective well-being
Natural capital	All renewable and non-renewable environmental resources and processes that supply goods or services that support the past, current or future prosperity of an organisation including air, water, land, minerals, forests, biodiversity, and eco-system health

International Integrated Reporting Council (IIRC), 2013

Appendix 7: Regression analysis of strength and significance of Market Cap on STI and LTI design pay-out by Industry for FY2021

Industry - STI	ESG Factor	t-value	Pr (> t)	Adjusted r-squared	Significance
Overall	S	6.161	4.48E-09	0.6117	***
IT	S	3.410	0.00775	0.8766	**
Health Care	S	4.633	0.000469	0.8766	***
Utilities	S	1.506	0.17038	0.9027	
Consumer Staples	S	3.686	0.00274	0.8218	**
Financial	S	1.646	0.1182	0.5485	
Real Estate	S	2.838	0.0657	0.9458	.
Communication Services	S	0.823	0.4341	0.5798	
Industrials	E	3.043	0.00578	0.8034	**
Materials	E	3.095	0.00392	0.593	**
Consumer Discretionary	G	1.893	0.07666	0.7388	.

Industry - LTI	ESG Factor	t-value	Pr (> t)	Adjusted r-squared	Significance
Overall	S	4.676	5.96E-06	0.4255	***
IT	S	2.190	0.0647	0.308	.
Health Care	E	0.904	0.38726	0.7288	
Utilities	S	1.549	0.16624	0.8778	
Consumer Staples	S	1.711	0.1128	0.545	
Financial	E	-1.95	0.068882	0.602	.
Real Estate	G	2.056	0.109	0.9091	
Communication Services	S	1.835	0.109183	0.8976	
Industrials	E	1.086	0.29	0.651	
Materials	G	2.253	0.03124	0.6687	*
Consumer Discretionary	S	1.007	0.329	0.2484	

Significance codes: 0 = "***"; 0.001 = "**"; 0.01 = "*"; 0.05 = "."; 0.1 = " "; 1

Appendix 8: Factors affecting the setting of CEO Fixed pay

Factors	Advantages	Disadvantages	References
Size of the organisation	Ranks pay by size Caters for public sector	Does not address performance	Jensen and Murphy (2010) Conyon, Peck, and Sadler (2009) Fernandes (2008)
Strategic level that the CEO operates in	Distinguishes between Global (e.g., Apple), International, Multi-country or single country	Does not address performance	Bebchuk (2009) Geletkanycz and Boyd (2001) Dow and Raposo (2005)
Complexity of the organisation	Takes complex industries, products, or services into account	Rewards unnecessary complex structures	Agarwal (1981) Adams and Mehran (2012) Bizjak, Lemmon and Nguyen (2011) Markarian and Parbonetti (2007) Dey (2008)
Industry	Relative to peer rated group	Human resources are mobile across industries	Edmans, Gabaix and Sadzik (2012) Berrone and Gomez-Mejia (2009) Conyon, Peck, and Sadler (2009) Faulkender and Yang (2010) DiPrete and Eirich (2010) Albuquerque, De Franco and Verdi (2013)
Regulation / Governance	Acknowledges risk factors	Rewards over-regulated industries	Kirkpatrick (2009) Qingquan, Bin and Yanchao (2007) Larcker, Ormazabal and Taylor (2011) Ozkan (2007) Sapp (2008)
Capital or people intensive	Acknowledges employees versus finance	Rewards empire building	Jensen and Murphy (2010) Peng, Sun and Markóczy (2015) Ortiz-Molina (2007) Chhaochharia & Grinstein, (2009) Nourayi and Daroca (2008) Faleye, Reis and Venkateswaran (2013)
Societal needs	Wider stakeholder	May be seen as CSI only	Young and Tsai (2008) Stevenson and Radin (2009) Haynes and Hillman (2010) Payne, Moore and Griffis (2011) Johnson and Schnatterly (2013) Stevenson and Radin (2009)
Environmental considerations	Wider stakeholder	May be seen as green initiative only	Berrone and Gomez-Mejia (2009) Cordeiro and Sarkis (2008) Kock, Santaló and Diestre (2012)
Competitiveness	Acknowledges market conditions	Rewards rising tides	Musteen, Datta and Herrmann (2009) GY Tian and Twite (2011) Harris and Bromiley (2007) Gomez-Mejia, Berrone and Franco-Santos (2014)

Shareholder structure	Governance and legal framework of operation	Drives shareholder focus	Sanders and Carpenter (2011) Matolcsy and Wright (2011) Barontini and Bozzi (2011) Tirole (2010) Gong, Li and Shin (2011) Musteen, Datta and Herrmann (2009)
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