

The Role of Corporate Sustainability and Its Consistency on Firm Financial Performance: Canadian Evidence*

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ABSTRACT

This paper investigates the impact of corporate sustainability and the consistency of corporate sustainability efforts on firm financial performance in Canada. Using data on 266 Canadian companies over the 2007–2017 period, we find a significantly positive association between corporate sustainability performance and firm financial performance. In addition, we find that companies that perform consistently well on sustainability (i.e., consistent performers) achieve better financial performance compared to inconsistent performers. Thus, far from their being net costs/expenses, our results indicate that corporate sustainability performance and consistency in sustainability performance both provide net benefits and significantly impact financial performance positively, implying that corporate sustainability not only helps address the needs of the current and future generations but also has a positive effect on the corporate bottom line. Taken together, our results suggest that not only does corporate sustainability have a positive effect on firm performance, but better financial performance may be achieved through a committed—rather than a “tokenism”—approach to corporate sustainability.

Keywords: corporate sustainability, environmental social and governance, firm performance, financial performance, profitability

INFLUENCE DU DÉVELOPPEMENT DURABLE ET DE SA CONSTANCE SUR LE RENDEMENT FINANCIER DES ENTREPRISES : DONNÉES PROBANTES DU CANADA

RÉSUMÉ

La présente étude se penche sur l'impact du développement durable et de la constance des efforts qui y sont consacrés sur le rendement financier des entreprises au Canada.

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À l'aide de données provenant de 266 entreprises canadiennes couvrant la période de 2007 à 2017, nous établissons une association positive significative entre le rendement en matière de développement durable d'une entreprise et son rendement financier. De plus, nous montrons que les entreprises qui obtiennent constamment des résultats positifs sur le plan du développement durable présentent un meilleur rendement financier que les entreprises inconstantes à cet égard. Ainsi, nos résultats indiquent que le rendement et la constance en matière de développement durable, loin de représenter uniquement des coûts et dépenses nets, offrent des avantages nets et ont un impact positif considérable sur le rendement financier, ce qui laisse entendre que le développement durable non seulement aide à répondre aux besoins des générations actuelles et futures, mais a également un effet positif sur les bénéfices des entreprises. Globalement, nos résultats portent à croire que le développement durable a un effet positif sur le rendement des entreprises, et qu'une entreprise peut améliorer son rendement financier en adoptant une approche résolue en matière de développement durable plutôt qu'en mettant en place des mesures de pure forme.

Mots-clés : développement durable, environnement, social et gouvernance, rendement des entreprises, rendement financier, rentabilité

1. INTRODUCTION

The increasing recognition that sustained long-term profitability requires action and performance on multiple fronts, including governance, environmental, and social (UN 2004), coupled with clarion calls for organizations to become good corporate citizens, is putting corporate sustainability at the forefront of global business and finance. From relative obscurity prior to the 2000s, corporate sustainability—alternatively referred to as environmental, social, and governance (ESG) performance—has become mainstream since the 2000s and has spawned metrics wars among data providers (e.g., CSRHub, ASSET4 ESG, etc.), leading to an alphabet soup of measures and indices of corporate sustainability. From the first coining and usage of ESG in the UN (2004) study “Who Cares Wins,” ESG has made significant inroads into a number of areas, including the investment arena, where ESG investing is estimated to account for over \$20 trillion in assets under management—about one-quarter of worldwide assets under management (Kell 2018). The CFA Institute Centre for Financial Market Integrity (2008) noted that prudent investors need to consider ESG because it can have an impact on investment performance, and it appears that investment professionals are heeding the calls to consider ESG in their analyses, with 73% of portfolio managers and research analysts taking corporate sustainability performance into account in their investment analyses and decisions (CFA Institute 2017).

In Canada, corporate sustainability continues to gain prominence. The Ontario Securities Commission (2009), for instance, observes that investors are increasingly taking ESG factors into consideration in their investments and proxy voting decisions. As well, in the spring of 2018, the federal government appointed an expert panel on sustainable finance, which, in an interim report, highlighted the paramouncy of promoting

sustainable economic growth and long-term stability of the financial system in transitioning to a low-carbon growth economy (Tedesco 2018). Also, the Responsible Investment Association (2018) reports that Canadian investors increasingly view ESG factors as important components of their investment decisions, noting that assets under management increased from CAN\$600 billion in 2011 to over CAN\$2.13 trillion as of December 31, 2017, and that Canadian responsible investment represents 50.6% of the Canadian investment industry.

The need for companies to improve their corporate sustainability performance is only expected to heighten going forward, especially as governments, either through legislation or through the courts, are nudging companies to improve their sustainability practices. In Canada, for example, the Supreme Court ruled in the Redwater decision that energy companies are responsible for cleaning up old wells—even in bankruptcy (Orland 2019). Therefore, it is becoming increasingly clear that future organizational survival may to some extent depend on a company's performance on important metrics such as corporate sustainability, which tracks performance on the important dimensions of governance, environmental, and social performance. As Rezaee (2016, 48) notes, “[Global] investors demand, regulators require, and companies disclose their sustainability performance information, and scholars have started to conduct research on sustainability performance.”

In addition to the external interest in seeing improvements in corporate sustainability, there are potential internal benefits of improved firm performance that are expected to accrue to companies that perform well on corporate sustainability, especially since corporate sustainability is motivated by a strategic, long-term growth orientation (Tonello and Singer 2015). There are both theoretical reasons and empirical evidence that buttress the contention that improvements in sustainability are expected to lead to improvements in firm performance. On the theoretical front, legitimacy theory (Dowling and Pfeffer 1975) and stakeholder theory (Jones 1995) posit that improved sustainability performance on the important dimensions of ESG could satisfy the firm's multiple stakeholders and help the firm meet its “social contract,” gain the legitimacy to operate, and improve its reputation. With satisfied stakeholders and improved reputation, the firm could benefit from improved productivity, improved ability to attract and retain skilled employees, and increased customer loyalty—which could be instrumental in helping improve firm performance. Indeed, a number of empirical studies have confirmed the theoretical arguments that improved sustainability performance leads to improved firm performance, including Orlitzky et al. (2003), Dhaliwal et al. (2011), and Bodhanwala and Bodhanwala (2018). The expectation is that corporate sustainability can provide potential net benefits in the form of improved firm performance; nevertheless, there is the possibility, based on agency theory, that investments in corporate sustainability may be another form of managerial expropriation and, as such, might have a negative effect on profitability (Friedman 1970; Becchetti et al. 2008). Thus, while one school of thought opines that corporate sustainability provides net benefits in the form of improved firm performance, another school of thought argues that corporate sustainability investments are net costs/expenses and provide no performance benefits.

Despite the increasing importance and pervasiveness of corporate sustainability and the dichotomous views on the benefits of corporate sustainability, only a limited number of empirical studies have examined the corporate sustainability–firm performance link. Although there are several studies on subsets of corporate sustainability, such as corporate social responsibility (CSR) and corporate governance, and how these subsets impact firm performance, there is a limited body of literature on how the broader corporate sustainability construct (which is multidimensional and encompasses environmental performance, social performance, and governance performance) relates to firm performance. The lack of studies on corporate sustainability has created gaps in the literature, and the need to fill these gaps has motivated authors such as Tonello and Singer (2015) to call for continued investigation of the link between corporate sustainability and firm performance. In addition, the studies have presented contradictory findings on the link between corporate sustainability and firm performance. In their comprehensive review of the literature, Goyal et al. (2013) concluded that there is no universal acceptance of the connection between corporate sustainability performance and firm performance and that the relationship between the two is still not well understood. Lu et al. (2014) and Gupta and Gupta (2020) echo this lack of conclusive research and call for more investigation of the association between corporate sustainability and firm performance. The first motivation of this study is, therefore, to contribute to the debate on whether corporate sustainability provides net benefits or is a net cost/expense to companies by providing empirical evidence on the link between corporate sustainability and firm financial performance.

The second motivation of this paper is to establish whether putting concerted and consistent efforts into corporate sustainability is more beneficial than adopting a “tokenism” approach to corporate sustainability. Irrespective of whether or not corporate sustainability performance improves firm performance, there is the possibility that consistency in a firm’s corporate sustainability performance may provide different net benefits compared to inconsistency in corporate sustainability performance. Although the impact that consistency in corporate sustainability performance has on firm performance may be instrumental in informing firms’ decisions to adopt either a concerted approach or “tokenism” approach to corporate sustainability, much is still unknown about the effect that consistently good corporate sustainability performance has on firm performance. To the best of our knowledge, only Tang et al. (2012) have examined the role of consistency in CSR on firm financial performance. However, since CSR is a subset of corporate sustainability, our understanding of whether consistency in (the broader) corporate sustainability performance affects firm performance is still very limited. Our paper is therefore intended to help further the understanding of the performance implications of consistency in corporate sustainability performance, an important area that has not received much attention in the literature.

Third, while most of the corporate sustainability studies use US data, there is a dearth of studies on corporate sustainability and firm performance in Canada. However, there are significant differences (e.g., legislation) between the US and Canadian business environments. For instance, Canada has implemented a carbon pollution pricing/tax system

(Government of Canada 2018) and the Supreme Court of Canada recently ruled in the Redwater case¹ that Canadian companies are responsible for their environmental obligations even in bankruptcy (and before paying anyone to whom they owe money during bankruptcy). Given this stronger environmental regulatory environment, using a Canadian sample to examine the corporate sustainability–firm performance link would provide unique insights on how sustainability affects firm performance in a regulated environment. And yet, since corporate sustainability became mainstream in the 2000s when the UN (2004) coined the term ESG, there is, to our knowledge, no study on corporate sustainability and firm performance that uses a Canadian sample. It should be noted, however, that while Mahoney and Roberts (2007) examine the role of corporate social performance on firm financial performance in Canada, their study, which covered the period 1996–2000, was undertaken before corporate sustainability started becoming ubiquitous (from the 2000s onwards) and, importantly, before the Canadian government began to signal its intentions to put in place enhanced environmental regulations (in the 2010s²). Also, Mahoney and Roberts (2007) only examine the corporate social performance aspect of corporate sustainability, while our study examines overall corporate sustainability, which encompasses ESG. One possible reason for the lack of Canadian studies may be related to Cho et al.’s (2020) findings of persistent challenges in reporting Canadian sustainability data. Our study is therefore intended to fill this significant gap in the literature by using a sample of Canadian firms to examine the link between corporate sustainability and firm financial performance in a business environment with strong environmental and other regulations. Further, the need for a Canadian study is buttressed by various findings supporting the conclusion that the effectiveness of corporate governance, corporate sustainability, and similar initiatives are largely country-specific (Doidge et al. 2007; Brown et al. 2011). Consequently, a Canadian study will enrich the literature by providing guidance on the sustainability–performance relationship in Canada.

It is also worth noting that the use of Canadian data to examine the sustainability–performance nexus may offer unique insights since Canada provides a good environment for determining whether corporate sustainability impacts firm performance. Several authors have noted that the efficacy of firm-level governance is, to some extent, contingent on country-level governance (Renders et al. 2010). In particular, it has been noted that firm-level corporate governance may not be as impactful in countries with good macro level governance environments. Since Canada has good country-level governance (Aggarwal et al. 2011) and sustainability environments, it potentially provides a good context for uniquely establishing whether firm-level corporate sustainability does have incremental effect on financial performance when there is already a good sustainability environment at the macro level.

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1. Orphan Well Association v. Grant Thornton Ltd. (2019 SCC 5) (<https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/17474/index.do>)
 2. For example, the federal sustainable development strategy, which was the basis for the federal Sustainable Development Act, was adopted in 2010. (For a list of acts administered by Environment and Climate Change Canada, see Government of Canada (2017)).

Using data on some 266 unique Canadian firms over the 2007–2017 period, we find that the association between corporate sustainability and firm financial performance is positive and significant at conventional levels. Thus, contrary to Mahoney and Roberts (2007), our results show that in the Canadian context, corporate sustainability provides net benefits to firms in the form of improved financial performance—findings which are contrary to the contention that corporate sustainability is a net expense/cost and therefore does not contribute to shareholder value creation. With respect to the question of whether being a consistently good performer on corporate sustainability impacts firm performance, we find that consistent performers achieve higher profitability compared to inconsistent (or less consistent) performers. Over our sample period, for instance, the consistent performers achieve average ROA of 3.5%, return on invested capital (ROIC) of 6.1%, and ROE of 9.7%, compared to ROA of 1.6%, ROIC of 2.3%, and ROE of 4.2% for the inconsistent firms; the profitability of the consistent performers is more than double the profitability of the inconsistent performers. Taken together, our results suggest that not only do companies that invest in corporate sustainability achieve better financial performance, but also that those demonstrating consistent commitment to sustainability achieve better performance than those companies that make token commitments to sustainability.

We believe that our study makes important contributions to the academic literature and also helps practitioners. First, our study not only fills two key gaps in the literature due to the near absence of Canadian evidence as well as the scant evidence on how consistency in corporate sustainability performance impacts firm performance, but also adds to the growing literature on the corporate sustainability–corporate performance nexus. Second, given the evidence of net benefits resulting from corporate sustainability performance in the Canadian environment, managers can use our results as part of their justification for investment and continued investment in sustainability. Third, with the Canadian government, other governments, and international bodies such as the UN pushing the dialogue on sustainable development, we believe that our results documenting the positive impact that corporate sustainability performance (and its consistency) has on firm financial performance can be leveraged by the Canadian government to highlight the potential benefits that sustainability can bring to corporate Canada.

The rest of this paper proceeds as follows. We review the relevant literature in section 2 and discuss our hypotheses in section 3. We discuss the data and methodology in section 4 and present our results and discussion of the results in section 5. Section 6 concludes the paper and highlights some implications of our study.

2. LITERATURE REVIEW

Although corporate sustainability started gaining prominence in the 2000s, especially after the 2007–2009 global financial crisis (Rezaee 2016), its genealogy can probably be traced to the 1950s—which marks the beginning of the modern era of CSR (Carroll 1999). Over the last several decades, the concept of CSR has seen several offshoots and different descriptions, including sustainable development, corporate citizenship, triple bottom line, and so on (van Marrewijk 2003). However, CSR is only a subset

of modern-day corporate sustainability, which is a broader construct and encompasses ESG performance. Corporate sustainability has recently “evolved from a focus on promoting ESG performance to initiatives that can derive revenue growth and high quality financial performance” (Rezaee 2016, 48). Thus, corporate sustainability is a more comprehensive construct than its subsets, such as CSR, which only looks at the social responsibility aspect without considering the other aspects of sustainability. The literature highlights the increasing realization that corporate sustainability can be an important source of opportunity, innovation, and competitive advantage and can potentially help lead to improved financial performance (Porter and Kramer 2006; Rezaee 2016). Orlitzky et al. (2003) note that by negotiating and addressing the needs of multiple stakeholders, corporate sustainability can increase efficiency and also serve as a monitoring mechanism to prevent diversion of management attention from financial goals.

There is some complexity in defining corporate sustainability since it encompasses several important dimensions of business, including ESG (UN 2004; Galbreath 2013). The complexity notwithstanding, Artiach et al. (2010, 32) define corporate sustainability as “a business and investment strategy that seeks to use the best business practices to meet and balance the needs of current and future stakeholders.” Porter and Kramer (2006, 81), citing Norwegian Prime Minister Gro Harlem Brundtland, also define sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” From these and other definitions, corporate sustainability is clearly a very broad concept that encompasses several important areas and strands of literature. Given the hydra-headed nature of the literature on corporate sustainability, we focus our literature review around our research objectives of establishing whether there is a link between corporate sustainability performance (and consistent corporate sustainability performance) and corporate financial performance. Research exploring the corporate sustainability and corporate performance linkage appear to cluster around three key hypotheses, with different authors contending that the relationship is positive, negative, or neutral (Artiach et al. 2010).

Why Corporate Sustainability Is Expected to Improve Firm Performance

There are theoretical expositions and empirical evidence that establish a link between corporate sustainability and some of its components (e.g., governance, environmental) and firm performance. On the theoretical front, legitimacy theory (Dowling and Pfeffer 1975) posits that improved sustainability performance on the key dimensions of ESG can help meet the expectations of the firm’s multiple stakeholders. This could lead to congruence between the firm’s activities and societal norms, which can improve the firm’s reputation and help the firm meet its “social contract” and gain the legitimacy to operate. Legitimacy, an essential ingredient for organizational survival (Dowling and Pfeffer 1975), confers several rewards on organizations, including endorsement and support of organizational goals and activities (Elsbach and Sutton 1992), which can be instrumental in helping improve firm performance.

Leveraging stakeholder theory, Donaldson and Preston (1995) describe the firm as a constellation of cooperative and competitive interests with intrinsic value, while

Jones (1995) sees the firm as a collection of many relationships with stakeholders who have a stake in, and the power to affect, the firm's performance. The cooperativeness orientation proposed in stakeholder theory can improve corporate reputation and lead to significant competitive advantage (Jones 1995). Therefore, with a strategic focus on meeting and satisfying the needs of the firm's stakeholders, corporate sustainability could help the firm improve its productivity, attract and retain skilled employees, and increase customer loyalty, which could help improve the performance of the firm.

Empirically, a number of authors have documented evidence demonstrating a positive relationship between corporate sustainability and firm performance. Eccles et al. (2014) find that high sustainability companies do significantly outperform their counterparts over the long term. Bodhanwala and Bodhanwala (2018) find a significantly positive relationship between corporate sustainability and firm performance in India. In addition, corporate sustainability improves a company's reputation and brand (Tonello and Singer 2015), important intangible assets that can enhance a company's revenue growth, potentially leading to improved firm performance. The contention is that the adoption of good sustainability initiatives such as a code of ethics, environmental and ecological balance, human capital development, and socially responsible behavior should help in building brand reputation and help lead to better management of businesses (Shrivastava 1995; Husted 2000; Orlitzky et al. 2003; Bodhanwala and Bodhanwala 2018). Eide et al. (2020) also find a significant, albeit small, positive association between sustainability strategy and financial performance in Norway.

Several studies also find specific subsets of corporate sustainability to be related to firm performance (Edmans 2011; Fatemi et al. 2015; Krüger 2015). On the corporate governance dimension of sustainability, several studies find that governance mechanisms do positively impact corporate performance (Gompers et al. 2003; Core et al. 2006; Bebcuk et al. 2009; Liu et al. 2014; Sarhan et al. 2019). On the environmental side, Miroshnichenko et al. (2017) find that internal green practices (e.g., pollution prevention and green supply chain management) are major environmental drivers of financial performance, while external green practices (e.g., green product development) play only a secondary role in determining financial performance. Sardana et al. (2020) also report that environmental sustainability has a direct impact on firm performance. On the social side, Preston and O'Bannon (1997) investigate a sample of 67 large and important US firms over the 1982–1992 period and find overwhelming evidence of a positive relationship between corporate social performance and financial performance. Based on a comprehensive 30-year psychometric meta-analytic aggregation of the empirical evidence, Orlitzky et al. (2003) find that across studies, corporate social performance is positively correlated with corporate financial performance and that the relationship is moderated by reputation. Dhaliwal et al. (2011) find that among firms that disclose their social responsibility performance, those with superior social responsibility performance enjoy better firm performance, such as a reduction in the cost of equity capital and the attraction of dedicated institutional investors and analyst coverage. Using a sample of 130 US firms over the 1995–2007 period, Tang et al. (2012) examine how consistency in CSR impacts firm performance and find that the more consistently/regularly that a firm engages in CSR, the better the firm's financial performance. Ferrell et al. (2016) document a positive

relationship between CSR and firm value, while Jahmane and Gaies (2020) examine CAC 40 companies and report that CSR has a positive effect on corporate financial performance in two ways: directly, through a nonlinear approach, and indirectly, by reducing the negative effects of banking crises.

Based on the theoretical arguments and empirical evidence reviewed above, there appears to be support for an expected positive association between corporate sustainability performance and firm performance.

Why Corporate Sustainability May Not Improve Firm Performance

From the literature, there are also theoretical arguments and empirical evidence that cast doubts on the validity of the expected positive link between corporate sustainability and firm performance. Although some of these studies contend that the relationship between corporate sustainability and firm performance is negative, others maintain that there is no obvious relationship between the two. Theoretically, it is conceivable, based on agency theory (Jensen and Meckling 1976), that firms' investments in corporate sustainability might be a form of managerial expropriation or misallocation of shareholder funds, which would likely negatively impact firm performance. Since Friedman (1970) famously noted that a firm's social responsibility is to increase profits, there is a possibility that investing corporate resources in social and environmental activities could destroy shareholder value. Preston and O'Bannon (1997) also highlight another manifestation of the managerial opportunism hypothesis. According to the authors, when firm performance weakens, managers may attempt to rationalize their poor performance by engaging in conspicuous social programs. Empirically, López et al. (2007) find sustainability to be negatively related to firm performance in the short term. Becchetti et al. (2008) find CSR to be consistent with a move from shareholder wealth maximization to a multistakeholder welfare approach, and Lin et al. (2019) observe a strong and substantial negative relationship between CSR and their three measures of corporate financial performance (i.e., ROE, ROA, and ROIC). Other studies in the governance area also did not find a positive relation between corporate governance and performance (Chen et al. 2008; Johnson et al. 2009).

Ullmann (1985) also highlights the possibility that there is no direct relationship between corporate social performance and firm financial performance because of potential intervening factors that may be difficult to control for. Mahoney and Roberts (2007) use a sample of Canadian companies to examine the relationship between corporate social performance and financial performance over the 1996–2000 period but find no evidence of a significant relationship between their composite measure of firms' corporate social performance and financial performance. In their comprehensive cross-sectional analysis study, Lee et al. (2009) find no association between corporate social performance and accounting profitability measures and conclude that the absence of such a direct relationship is not surprising given the possibility of intervening variables between corporate social performance and corporate financial performance. Lahouel et al. (2019) use the system generalized methods of moments estimator on a sample of 28 airlines and

find that when endogeneity is controlled for, corporate social performance does not have an effect on firm financial performance.

Overall, despite the possibility that corporate sustainability may not have a positive effect on firm performance, the compelling theoretical arguments and mushrooming empirical evidence seem to be leaning toward a positive relationship between corporate sustainability and firm performance.

3. RESEARCH QUESTIONS AND HYPOTHESES

As a multidimensional metric that tracks a firm's investments and performance on the key elements of ESG, corporate sustainability performance and consistency in corporate sustainability performance, we conjecture, may have a positive effect on firm performance. There are theoretical grounds for our conjecture. Based on legitimacy theory (Dowling and Pfeffer 1975) and stakeholder theory (Donaldson and Preston 1995; Jones 1995), good corporate sustainability performance demonstrates a firm's commitment to being congruent with societal norms and to addressing the needs of all stakeholders, which, in addition to potentially directly improving firm financial performance, can also improve a firm's reputation and consequently its performance. For example, better performance on the employee dimension of sustainability may improve employee motivation and productivity, which can translate into better financial performance. Improved reputation may also directly or indirectly lead to better firm performance as other stakeholders (e.g., customers) may feel comfortable doing business with firms that have good reputational capital. In Europe, for example, a significant number of pension funds and insurers have started awarding new business exclusively to asset managers with ESG capabilities (Kell 2018). Rezaee (2016) also asserts that business sustainability has evolved and now incorporates initiatives that can drive revenue growth and high-quality financial performance. Some tangible examples of corporate sustainability investments improving firm financial performance include DuPont having saved over \$2 billion from reductions in energy use and McDonald's reducing its solid waste by 30% as a result of changes to the materials it uses to wrap its food (Porter and Kramer 2006). The UN (2004) also observes that companies that perform better on corporate sustainability can potentially increase shareholder value by, among other things, properly managing risks, accessing new markets, or anticipating regulatory action. In support of the notion of better risk management, Ho et al. (2021) find that firms with superior corporate sustainability performance adjust their leverage ratios to target levels faster and are also able to lower their leverage adjustment costs. The four main economic channels for achieving these, according to Ho et al. (2021), revolve around better corporate sustainability performance helping firms (i) ease information asymmetry, (ii) enhance stakeholder engagement, (iii) push up stock prices in the stock market, and (iv) improve competitive advantage in the product market.

The case that corporate sustainability will have a positive effect on firm performance can also be made based on several empirical studies that provide evidence of a positive relationship between corporate sustainability and firm performance. Some of these studies

include Orlitzky et al. (2003), Dhaliwal et al. (2011), Eccles et al. (2014), Ferrell et al. (2016), and Bodhanwala and Bodhanwala (2018).

However, despite the expected positive relationship between corporate sustainability and firm performance, it is conceivable, based on agency theory (Jensen and Meckling 1976), that firms' investments in corporate sustainability might be one form of managerial expropriation, which could likely negatively impact firm performance. As Friedman (1970) noted, a firm's social responsibility is to increase profits. Some empirical studies also do not find a positive relationship between corporate sustainability (or some of its subsets, such as governance) and firm performance (López et al. 2007; Lee et al. 2009; Lahouel et al. 2019). Thus, despite the long-term focus of corporate sustainability, together with its ability to address the interests of the multiple publics of the modern corporation, and Ferrell et al. (2016) having not found CSR to be associated with ex ante agency concerns (as postulated by agency theory)—which collectively help make a persuasive case for a positive relationship between corporate sustainability and firm performance—the empirical evidence has not been clear-cut. Consequently, we hypothesize that:

HYPOTHESIS 1. Corporate sustainability performance may be positively related, negatively related, or not related to firm financial performance.

Even though corporate sustainability may not improve firm performance, there is the likelihood that companies that are more committed to corporate sustainability will achieve better financial performance than companies that dedicate only “symbolic” or “token” efforts toward corporate sustainability. In the corporate governance area, for example, the “tokenism” theory has been leveraged as one plausible reason why gender diversity on corporate boards may not necessarily lead to improved firm performance (Liu et al. 2014). Based on these insights, we contend that companies that consistently demonstrate robust commitment to sustainability by being good performers on corporate sustainability for a number of years may perform better than companies that are less consistent in their sustainability performance. Indeed, Tang et al. (2012) find that firms that adopt a CSR engagement strategy that is consistent over time do benefit more. Therefore, we hypothesize that:

HYPOTHESIS 2. Consistently better corporate sustainability performance (or consistently high sustainability scores) will be associated with better financial performance.

4. DATA AND METHODOLOGY

Data

We obtain our corporate sustainability scores from the Thomson Reuters ASSET4 Datastream database, which has been globally recognized as a leading source of ESG data and is widely used in the literature by several authors, including Aouadi and Marsat (2018), Bodhanwala and Bodhanwala (2018), Lahouel et al. (2019), and others. Indeed, Thomson Reuters offers one of the most comprehensive ESG databases in the

industry, covering over 7,000 public companies globally across more than 400 different ESG metrics, with history going back to 2002 (Thomson Reuters 2017). We also obtain annual audited financial statement data from the Thomson Reuters Datastream database.

Our sample starts with the 319 Canadian firms that are included in the ASSET4 ESG global database. We downloaded their ESG data as well as financial data from the Datastream database. We then delete companies with missing data (including those with economically meaningless/infeasible data points, such as companies with debt ratios that are greater than 100% in absolute value). To reduce the effect of outliers, we follow John et al. (2008) and winsorize the variables at the bottom and top 0.5% of the cases. Our final sample is made up of 266 unique Canadian companies with more than 1,700 firm-year observations.

Methodology

In this study, we employ univariate and multivariate analyses. We also adopt various approaches to address potential endogeneity concerns.

Univariate Analyses

For our univariate analyses, we conduct parametric tests of means as well as nonparametric tests of medians to determine if there are significant differences in financial performance due to consistently good versus inconsistent sustainability performance. We also perform trend analysis of corporate sustainability performance over time in Canada to establish whether or not Canadian firms are improving their sustainability performance over the years.

Multivariate Analyses

The two most dominant multivariate methodologies used in the literature are pooled OLS regressions with industry effects and firm fixed effects panel data regressions (Liu et al. 2014). Although we primarily report the results of the fixed effects panel data regression methodology because of its added advantage in addressing some endogeneity concerns, we also use the pooled OLS with industry dummies as well as other methods in this study. For the fixed effects regression models, we control for year effects and firm effects. For the pooled OLS with industry dummies models, we control for year effects and industry effects. We estimate the following general multivariate regression models:

$$\begin{aligned}
 \text{Performance Measure} = & \alpha + \beta_1 \text{Lagged Sustainability Score} + \beta_2 \text{Revenue Growth} \\
 & + \beta_3 \text{Asset Growth} + \beta_4 \text{Debt Ratio} + \beta_5 \text{Ln Total Assets} \\
 & + \text{Lagged Corporate Governance Score} \\
 & + \text{Linear Time Trend} + \varepsilon_i,
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 \text{Performance Measure} = & \alpha + \beta_1 \text{Lagged Sustainability Score} + \beta_2 \text{Revenue Growth} \\
 & + \beta_3 \text{Asset Growth} + \beta_4 \text{Debt Ratio} + \beta_5 \text{Ln Total Assets} \\
 & + \text{Lagged Corporate Governance Score} \\
 & + \text{Linear Time Trend} \\
 & + \beta_6 \text{Lagged Performance Measure} + \varepsilon_i.
 \end{aligned} \tag{2}$$

The multivariate models regress measures of firm performance on *Lagged Sustainability Score* (which is a composite score of performance on ESG issues) and control variables, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, the log of total assets (*Ln Total Assets*), *Lagged Corporate Governance Score* (a composite score on corporate governance performance), *Linear Time Trend*, year fixed effects, and industry/firm fixed effects. The rationale is that, after controlling for the effects of other factors deemed to impact firm performance, the significance or otherwise of the *Lagged Sustainability Score* will indicate whether or not corporate sustainability has an effect on firm performance. The measures of firm performance we use are *ROA* (return on assets), *ROIC* (return on invested capital), *ROE* (return on equity) and *EPS* (earnings per share). We use accounting measures of performance in this study because, in addition to their wide usage and effectiveness in tracking firm performance, accounting measures of performance are also less noisy compared to market measures of performance (López et al. 2007). In addition, the use of multiple measures of performance improves the robustness of our results, and the four accounting measures we use in this study are among the most widely used accounting measures of performance in the literature (Mahoney and Roberts 2007; Liu et al. 2014; Bodhanwala and Bodhanwala 2018; Lin et al. 2019). See the Appendix for variable definitions.

The variables used in this study are informed by theory and/or empirical evidence. Since growth is an important determinant of firm profitability, we follow Aouadi and Marsat (2018) and use *Revenue Growth* as our proxy for growth. With authors such as Williams (2003) highlighting the association between investments and firm profitability, we use growth in total assets (*Asset Growth*) to proxy for investments. Leverage has been identified as a potential factor in determining firm profitability (Short 1979) and as a proxy for insolvency risk (Angbazo 1997). We use *Debt Ratio* (total debt to total assets) to control for the effect of leverage/risk on firm profitability. Athanasoglou et al. (2008) have documented an association between size and profitability. Consequently, we follow John et al. (2008) and include the log of total assets (*Ln Total Assets*) to control for the effect of size on profitability. The role of corporate governance in firm performance has been recognized in the literature (Core et al. 2006; Liu et al. 2014; Sarhan et al. 2019). We use the one-year lagged values of the ASSET4 composite corporate governance score (i.e., *Lagged Corporate Governance Score*) to control for the effect of corporate governance on firm financial performance. The expectation of growth in variables over time has been acknowledged in the literature (Arnold et al. 1999). For instance, there is the likelihood that corporate sustainability performance of Canadian companies may improve over time. To account for the growth/improvement in corporate sustainability and other

variables, we follow Arnold et al. (1999) and include a *Linear Time Trend* variable in our regressions to control for growth over time.³

Addressing Endogeneity Concerns

The literature has identified endogeneity as an issue when it comes to corporate governance, corporate sustainability, and firm performance because of the possibility of reverse causality, among other things. In particular, while we argue that corporate sustainability would lead to improved firm financial performance, there is also the possibility that firms with better financial performance can afford to undertake investments in corporate sustainability activities, leading to improved corporate sustainability performance. In this study, we adopt a multipronged strategy to help address concerns related to endogeneity. First, we primarily use firm fixed effects panel data regressions to help abate concerns related to endogeneity resulting from omitted firm-level heterogeneity (Brown et al. 2011; Aouadi and Marsat 2018). Second, we follow Liu et al. (2014) and use the one-year lagged values of the corporate sustainability scores in our regression models since it may take time for corporate sustainability to impact performance. Third, we employ the two-stage least squares (2SLS) technique and follow the common approach of using the lagged values of the variables that are potentially endogenous as instruments (Brown et al. 2011). Bénabou and Tirole (2010) noted that socially responsible behavior and profitability are likely endogenous. The literature has also highlighted potential endogeneity between corporate governance and firm performance (Liu et al. 2014). Consequently, we use the lagged values of our profitability variables and the lagged values of the lagged corporate sustainability variable and lagged corporate governance variable as instruments in the 2SLS regressions. In the first stage regressions, we use the lagged values of financial performance (*ROA*, *ROIC*, *ROE*, and *EPS*) and lagged values of *Lagged Corporate Sustainability Score* and *Lagged Corporate Governance Score*, together with the control variables. We then use the control variables and the fitted values from the first stage regressions in our second stage regressions. We also control for year fixed effects and industry fixed effects in the 2SLS regressions. The 2SLS approach helps address endogeneity from reverse causality or simultaneity bias (Lahouel et al. 2019).

5. RESULTS AND DISCUSSION

Univariate Analyses

Descriptive Statistics and Correlations

In Table 1, we present descriptive statistics of the variables used in our study. The means, medians, skewness, and kurtoses of the variables appear to be reasonable.

Over the sample period, the average firm in our sample earns an ROA of about 2.2% and ROE of about 6.1%. The average firm, which grows its assets by about 7.1%,

3. We would like to thank two anonymous reviewers for suggesting that we control for the effects of corporate governance and growth in corporate sustainability on firm performance.

TABLE 1
Descriptive statistics

Variable	Mean	Median	SD	Skewness	Kurtosis	Firm-year obs.
<i>ROA</i>	2.17	2.72	7.33	−1.48	8.34	1,768
<i>ROIC</i>	3.68	4.64	10.15	−1.46	7.88	1,768
<i>ROE</i>	6.08	8.38	15.63	−1.44	7.91	1,768
<i>EPS</i>	0.98	0.82	1.72	−0.02	4.31	1,768
<i>Lagged Sustainability Score</i>	54.49	52.15	28.03	0.02	1.56	1,768
<i>Revenue Growth</i>	5.54	4.85	21.49	0.07	4.54	1,768
<i>Asset Growth</i>	7.10	4.73	17.60	1.04	6.12	1,768
<i>Debt Ratio</i>	26.38	24.43	16.25	0.49	2.68	1,768
<i>Ln Total Assets</i>	15.53	15.22	1.60	0.91	3.76	1,768
<i>Lagged Corporate Governance Score</i>	76.45	80.10	15.27	−1.09	4.02	1,768

Notes: This table presents descriptive statistics on the measures of firm performance (*ROA*, *ROIC*, *ROE*, and *EPS*) and explanatory variables (*Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, and *Lagged Corporate Governance Score*). Variables are defined in the Appendix.

chalks up revenue growth of about 5.5%. The average firm has a sustainability score of 54.5%, which, based on Thomson Reuters (2017) classification, implies that the average firm had a grade of B− in corporate sustainability performance (i.e., score of 50.0% to 58.3%).

From the results of Pearson’s correlations between pairs of the variables presented in Table 2, we can make some preliminary inferences about the relationships between the variables. First, the significantly positive relationship (at the 1% level) between *Lagged Sustainability Score* and measures of firm performance (*ROA*, *ROIC*, *ROE*, and *EPS*) indicate that corporate sustainability is significantly positively related to firm performance, thus providing some preliminary support for the notion that improvements in corporate sustainability could lead to improvements in firm performance.

Second, the high correlation between pairs of the measures of firm performance means that using any one of the measures of firm performance should lead to similar conclusions. Finally, since pairs of the independent variables generally exhibit low correlations between each other, it can be surmised that multicollinearity is not an issue, especially since the highest correlation between pairs of independent variables is 0.575, which is significantly less than the rule of thumb threshold for multicollinearity of 0.7 or higher suggested by Liu et al. (2014).

Trends in Corporate Sustainability Performance in Canada

To get a global picture of the sustainability performance of Canadian companies tracked by Thomson Reuters, we trended the sustainability scores of the Canadian companies in the ASSET4 Datastream database that have sustainability data from 2007 to 2017. Figure 1 presents a trend chart highlighting the sustainability performance of Canadian

TABLE 2
Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>ROA</i>	1									
(2) <i>ROIC</i>	0.9560***	1								
(3) <i>ROE</i>	0.9069***	0.9400***	1							
(4) <i>EPS</i>	0.5931***	0.6440***	0.6724***	1						
(5) <i>Lagged Sustainability Score</i>	0.1367***	0.1971***	0.1885***	0.2627***	1					
(6) <i>Revenue Growth</i>	0.2593***	0.2557***	0.2540***	0.1836***	-0.0241	1				
(7) <i>Asset Growth</i>	0.3488***	0.3398***	0.3335***	0.2718***	-0.0351	0.4038***	1			
(8) <i>Debt Ratio</i>	-0.0152	-0.0982***	-0.0144	-0.0497**	-0.1354***	0.0309	0.0424*	1		
(9) <i>Ln Total Assets</i>	0.0631***	0.1769***	0.2032***	0.3642***	0.4832***	0.0238	0.1019***	-0.0628***	1	
(10) <i>Lagged Corporate Governance Score</i>	0.0122	0.0021	-0.0163	0.0044	0.5746***	-0.0116	-0.0482	-0.0200	0.0866***	1

Notes: This table presents bivariate Pearson correlations between pairs of the dependent and independent variables. Variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Figure 1 Sustainability scores over time



companies over time. The chart also incorporates a linear trendline to indicate the trend over the sample period.

The sustainability performance of Canadian companies has been improving over the years. After a drop in corporate sustainability performance from 2007 to 2008, corporate sustainability has steadily improved over the years in Canada, reaching 67.8% in 2017. The linear trendline shows the increasing trend over the years. Based on Thomson Reuters (2017) ESG performance grading, it means that the average sustainability grade of Canadian companies, which was a C+ (i.e., score of 41.7% to 50.0%) in 2007, improved to B+ (i.e., score of 66.7% to 75.0%) by 2017.⁴

Multivariate Analyses

While the univariate results provide some preliminary support for a positive relationship between corporate sustainability and firm performance, they are bivariate in nature and do not account for the effects of other factors. To explore the effects that corporate sustainability has on firm performance after controlling for the effects of other factors that might impact firm performance, we perform multivariate analyses, using the two dominant multivariate approaches (i.e., firm fixed effects panel data regressions and pooled OLS regressions with industry effects). We first establish whether there is a positive relationship between corporate sustainability and firm performance before we address the other key question of whether consistency in corporate sustainability performance impacts firm performance.

4. According to Thomson Reuters (2017), sustainability scores of: 0%–8.3% = D–; 8.3%–16.7% = D; 16.7%–25% = D+; 25%–33.3% = C–; 33.3%–41.7% = C; 41.7%–50% = C+; 50%–58.3% = B–; 58.3%–66.7% = B; 66.7%–75% = B+; 75%–83.3% = A–; 83.3%–91.7% = A; and 91.7%–100% = A+.

TABLE 3
Firm fixed effects regressions

	<i>ROA</i>	<i>ROIC</i>	<i>ROE</i>	<i>EPS</i>
<i>Lagged Sustainability Score</i>	0.0366*** (2.64)	0.0446** (2.33)	0.0671** (2.15)	0.0087** (2.35)
<i>Revenue Growth</i>	0.0504*** (7.32)	0.0728*** (7.65)	0.1115*** (7.21)	0.0096*** (5.21)
<i>Asset Growth</i>	0.0881*** (10.48)	0.1186*** (10.21)	0.1739*** (9.17)	0.0150*** (6.64)
<i>Debt Ratio</i>	-0.1942*** (-10.77)	-0.2765*** (-11.14)	-0.3651*** (-8.93)	-0.0337*** (-7.01)
<i>Ln Total Assets</i>	-0.5905 (-1.31)	-1.1862* (-1.90)	-0.8953 (-0.88)	0.1805 (1.46)
<i>Lagged Corporate Governance Score</i>	0.0141 (0.93)	0.0217 (1.03)	0.0232 (0.68)	0.0060 (1.46)
<i>Linear Time Trend</i>	0.0014 (0.02)	0.0735 (0.65)	0.0015 (0.01)	-0.0021 (-0.10)
Constant	10.3809 (0.06)	-123.2123 (-0.55)	20.6907 (0.06)	2.2320 (0.05)
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
<i>N</i>	1696	1696	1696	1694
<i>R</i> ²	0.6386	0.6382	0.5936	0.5451

Notes: This table presents firm fixed effects regressions that regress measures of performance (*ROA*, *ROIC*, *ROE*, *EPS*) on *Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, *Lagged Corporate Governance Score*, and *Linear Time Trend*. Variables are defined in the Appendix. *t*-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Sustainability and Performance: Firm Fixed Effects Panel Data Regressions

Since the fixed effects panel data regression method is not only pervasively used in the literature (Liu et al. 2014) but is also effective in addressing some endogeneity concerns (Aouadi and Marsat 2018), we primarily use the firm fixed effects panel data regression approach in this study. The fixed effects regressions are estimated using the lagged values of the corporate sustainability scores. Using the lagged values of the corporate sustainability scores help mitigate some of the effects of endogeneity and recognize the fact that it may take time for corporate sustainability to affect firm financial performance. We report the results of the fixed effects regressions in Table 3.

As evident from Table 3, the lagged corporate sustainability scores are positively and significantly related (at the conventional 1% and 5% significance levels) to all the measures of firm financial performance (i.e., *ROA*, *ROIC*, *ROE*, and *EPS*) that we use in this study. The significantly positive coefficients indicate that corporate sustainability leads to improvements in firm performance. Thus, as corporate sustainability performance improves, firm performance also improves. The multivariate results confirm the

preliminary insights from the univariate correlation analyses. In addition, most of the control variables are significant and have the expected signs. For example, the positive relationships between revenue growth and profitability as well as asset growth and profitability imply that as growth increases or as investments increase, profits increase as well. On the other hand, the significantly negative relationship between the debt ratio and financial performance signifies that as the risk of bankruptcy increases with increasing leverage, firm financial performance decreases. However, *Lagged Corporate Governance Score* is insignificant in all the regression models, indicating that corporate governance does not have a significant effect on firm financial performance. The R^2 s of the fixed effects regressions range from 54.5% to 63.9%, indicating good fit with the data.

These results are consistent with studies that find corporate sustainability performance is value-enhancing and positively impacts firm performance (Bodhanwala and Bodhanwala 2018; Eide et al. 2020). However, our results are inconsistent with studies that find corporate sustainability to be either value-destroying with a negative impact on firm performance (Lin et al. 2019) or inconsequential and therefore insignificantly related to firm performance (Mahoney and Roberts 2007; Lahouel et al. 2019). Thus, our results are consistent with arguments that corporate sustainability offers net benefits but are inconsistent with notions of corporate sustainability as being a net cost/expense.

Sustainability and Performance: Pooled OLS with Industry Effects

Since the pooled OLS with industry effects regression method is one of the most commonly used approaches in the literature (Liu et al. 2014), we also use the approach to establish and validate the extent to which corporate sustainability performance is associated with firm financial performance. We use the Datastream industry classification benchmark to control for industry effects. The results of the pooled OLS with industry effects are presented in Table 4.

It is evident from Table 4 that the lagged corporate sustainability scores are significantly positively related at the 1% significance level to the four measures of firm performance (*ROA*, *ROIC*, *ROE*, and *EPS*). These results are consistent with our baseline firm fixed effects results, which show a significantly positive relationship between sustainability and firm performance. We also, in robustness tests, create an industry average sustainability score and include it in our regressions. The results of the robustness tests are similar to our main results.

Effects of Consistently Good Sustainability Performance on Firm Performance

Whether corporate sustainability performance positively impacts firm performance or not, a case can be made that consistently good corporate sustainability performance should lead to better firm performance; otherwise, firms may not have an incentive to continue with their corporate sustainability efforts. Although it is imperative to establish empirically whether consistency in corporate sustainability performance leads to improvements in firm performance, not much attention has been paid to this in the literature. To our knowledge, only Tang et al. (2012) have examined the role that consistency in CSR plays

TABLE 4
Pooled OLS regressions with industry effects

	<i>ROA</i>	<i>ROIC</i>	<i>ROE</i>	<i>EPS</i>
<i>Lagged Sustainability Score</i>	0.0567*** (6.08)	0.0859*** (6.82)	0.1145*** (5.84)	0.0154*** (7.01)
<i>Revenue Growth</i>	0.0502*** (6.16)	0.0708*** (6.45)	0.1147*** (6.71)	0.0084*** (4.38)
<i>Asset Growth</i>	0.1275*** (13.29)	0.1657*** (12.81)	0.2407*** (11.92)	0.0214*** (9.56)
<i>Debt Ratio</i>	-0.0234** (-2.27)	-0.0779*** (-5.61)	-0.0479** (-2.20)	-0.0065*** (-2.69)
<i>Ln Total Assets</i>	-0.5557*** (-4.00)	-0.2202 (-1.17)	0.2553 (0.87)	-0.0048 (-1.49)
<i>Lagged Corporate Governance Score</i>	-0.0109 (-0.80)	-0.0229 (-1.25)	-0.0572** (-1.99)	-0.0045 (-0.23)
<i>Linear Time Trend</i>	-0.0201 (-0.24)	-0.0342 (-0.30)	-0.0314 (-0.18)	0.1171*** (3.59)
Constant	46.7872 (0.27)	70.8586 (0.31)	59.8079 (0.17)	7.5422 (0.19)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
<i>N</i>	1696	1696	1696	1694
<i>R</i> ²	0.2614	0.2979	0.2788	0.2996

Notes: This table presents pooled OLS regressions that, in addition to controlling for industry effects and year effects, regress measures of performance (*ROA*, *ROIC*, *ROE*, *EPS*) on *Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, *Lagged Corporate Governance Score*, and *Linear Time Trend*. Variables are defined in the Appendix. *t*-statistics are in parentheses. *** and ** indicate statistical significance at the 1% and 5% levels, respectively.

in firm financial performance. Therefore, as one of the few studies to empirically examine the role of consistency in corporate sustainability performance on firm performance, we believe that this analysis could help firms understand the role that committed versus “token” sustainability efforts play in firm performance.

To investigate the role of consistently good sustainability performance on firm financial performance, we first define good performance as corporate sustainability scores that are greater than 50% and poor performance as sustainability scores that are 50% or below. Since sustainability scores range from 0% to 100%, we choose the midpoint of 50% as the cutoff point for good versus poor performance.⁵ This is consistent with the approach of using the midpoint as the basis to split a sample into two

5. Bodhanwala and Bodhanwala (2018) also use sustainability scores of 50% and below to tag Indian firms as a low ESG compliant group and sustainability scores greater than 50% as a high ESG compliant group.

TABLE 5
Univariate analysis of consistent and inconsistent performers

Variable	Mean			Median		Mann-Whitney Z of median difference
	Inconsistent group	Consistent group	t-test of mean differences	Inconsistent group	Consistent group	
<i>ROA</i>	1.62	3.52	(5.79)***	2.12	3.73	(6.52)***
<i>ROIC</i>	2.34	6.08	(8.24)***	3.16	7.03	(10.28)***
<i>ROE</i>	4.15	9.70	(7.78)***	6.17	10.87	(8.79)***
<i>EPS</i>	0.64	1.47	(9.99)***	0.55	1.35	(10.52)***
<i>Lagged Sustainability Score</i>	33.25	75.28	(44.69)***	28.54	81.97	(29.28)***
<i>Revenue Growth</i>	5.93	5.15	(−0.75)	5.53	4.32	(−1.09)
<i>Asset Growth</i>	7.98	6.89	(−1.28)	4.69	5.09	(0.78)
<i>Debt Ratio</i>	29.58	24.38	(−6.43)***	27.67	22.95	(−5.48)***
<i>Ln Total Assets</i>	14.99	16.21	(16.35)***	14.77	15.99	(16.27)***
<i>Lagged Corporate Governance Score</i>	70.87	81.60	(15.32)***	74.16	84.47	(15.28)***

Notes: This table presents univariate tests of means and medians for the consistent group (i.e., firms with five or more years of good performance) and inconsistent group (i.e., firms with less than five years of good performance). Variables are defined in the Appendix. *** indicates statistical significance at the 1% level.

groups. Next, we then classify all firms that have achieved good sustainability performance for 5 or more years as consistently good performers and those with less than 5 years of good performance as inconsistent (less consistent) performers. We choose 5 years as the minimum threshold for the consistent performers because, as we use lagged sustainability scores, we effectively have a 10-year sample period since there will be no lagged values for the first year (i.e., 2007) of our sample period. Therefore, with an effective 10-year sample period and the need for two groups, we use the mid-point of 5 years as the cutoff for consistency versus inconsistency. Thus, the consistent performers are companies that have achieved corporate sustainability scores of more than 50% in 5 or more years during the effective 10-year sample period. We do not require that the 5 years of good performance be consecutive. However, since our sample firms on average attain good performance in 3.5 years out of the effective 10 years, we round the 3.5 years into 4 (full) years and also use 4 years as the cutoff in robustness tests. The 4- and 5-year cutoff results are similar. To reduce the effects of firms with less history potentially impacting the performance of the inconsistent group, we also require that the firms must have 5 or more years of data during the 10-year sample period to be included in the consistency analysis. We report the results of the univariate tests of mean and median differences between the consistent and inconsistent groups in Table 5.

From Table 5, the mean and median tests of differences between the high consistency group and low consistency group demonstrate that the high consistency group has significantly better financial performance than the inconsistent group. For instance, the mean *ROA* for the consistent group is 3.5%, while that of the inconsistent performers is 1.6%. The mean difference in *ROA* of about 1.9% between the two groups is significantly positive at the 1% level. The consistent group also significantly outperforms the inconsistent group on the other three measures of corporate performance (i.e., *ROIC*, *ROE*, and *EPS*). The corporate governance performance of the consistently good sample is also significantly better (at the 1% level) than that of the inconsistent group (i.e., mean corporate governance score of 81.6% for the consistent group and 70.9% for the inconsistent group). The consistent group also achieved the improved profitability performance with significantly lower debt ratios. The univariate results provide preliminary evidence that the consistently good performers on corporate sustainability achieve better financial performance than the inconsistent performers.

The results of the multivariate analyses of the consistency groups, reported in Table 6, are in line with our expectations and support the univariate results. From Table 6, *Lagged Sustainability Score* is significantly positively related to firm performance in all four models (i.e., 5% significance level for *ROA*, *ROE*, and *EPS* and 10% significance level for *ROIC*) for the consistent performers. However, for the inconsistent group, *Lagged Sustainability Score* is insignificantly related to firm performance in the *EPS* and *ROE* models and significantly related to firm performance at the 10% in the *ROA* and *ROIC* models.

To establish whether or not there are differences in the sustainability coefficients for the consistent and inconsistent groups, we test equality of the two coefficients and report the results of the tests of equality as the last row in Table 6. Although there is no statistical difference between the two coefficients in the *ROA* and *ROIC* models, we do find that the consistent group has statistically higher sustainability coefficients in the *ROE* model (at the 10% level) and *EPS* model (at the 5% level) compared to the inconsistent group. Overall, the univariate results and the significance of the multivariate results demonstrate that the consistent group performed better than the inconsistent group.

The results therefore support our hypothesis that being a consistently good sustainability performer leads to more improvements in firm performance. Our results are consistent with Tang et al. (2012), who find that consistency in CSR has positive effects on firm performance in the United States. We conjecture that the consistency in performance sends a credible signal to all stakeholders that the firm is more committed to corporate sustainability, which could help improve the firm's reputation and directly or indirectly help improve firm performance. These findings imply that companies would reap more financial benefits by being consistently committed to corporate sustainability instead of taking a "tokenism" approach to corporate sustainability. Furthermore, our results are not consistent with the notion that corporate sustainability is a net expense/cost and would only transfer wealth from shareholders to other stakeholders.

TABLE 6
Multivariate firm fixed effects regressions for consistent and inconsistent performers

	Inconsistent group				Consistent group			
	ROA	ROIC	ROE	EPS	ROA	ROIC	ROE	EPS
<i>Lagged Sustainability Score</i>	0.0444* (1.92)	0.0527* (1.70)	0.0559 (1.09)	0.0023 (0.42)	0.0433** (2.47)	0.0423* (1.73)	0.0861** (2.09)	0.0137** (2.43)
<i>Revenue Growth</i>	0.0531*** (5.61)	0.0737*** (5.82)	0.1047*** (5.01)	0.0079*** (3.56)	0.0467*** (4.49)	0.0684*** (4.72)	0.1187*** (4.85)	0.0130*** (3.91)
<i>Asset Growth</i>	0.0627*** (5.49)	0.0822*** (5.38)	0.1310*** (5.19)	0.0127*** (4.86)	0.1058*** (7.96)	0.1436*** (7.77)	0.2082*** (6.69)	0.0220*** (5.13)
<i>Debt Ratio</i>	-0.1740*** (-7.02)	-0.2468*** (-7.44)	-0.3547*** (-6.35)	-0.0276*** (-4.85)	-0.2161*** (-8.38)	-0.3360*** (-9.40)	-0.3867*** (-6.40)	-0.0397*** (-4.87)
<i>Ln Total Assets</i>	-0.7521 (-1.28)	-1.5922** (-2.03)	-1.6574 (-1.28)	0.1435 (1.02)	-0.5987 (-0.86)	-0.7823 (-0.80)	-0.0339 (-0.02)	0.1676 (0.75)
<i>Lagged Corporate Governance Score</i>	0.0170 (0.75)	0.0328 (1.09)	0.0456 (0.91)	0.0048 (0.92)	-0.0076 (-0.37)	0.0068 (0.24)	-0.0001 (0.00)	0.0043 (0.65)
<i>Linear Time Trend</i>	-0.1099 (-0.82)	-0.1561 (-0.87)	-0.2229 (-0.76)	-0.0065 (-0.21)	0.0677 (0.65)	0.2052 (1.42)	0.1045 (0.43)	0.0113 (0.34)
Constant	235.6746 (0.88)	342.5227 (0.96)	481.7041 (0.82)	11.8380 (0.19)	-120.4769 (-0.59)	-390.0784 (-1.37)	-197.8063 (-0.41)	-24.7133 (-0.38)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	713	713	711	704	833	833	834	838
R ²	0.5952	0.608	0.5679	0.5504	0.5654 (1.11)	0.574 (1.41)	0.5167 (1.89)*	0.4842 (1.97)**
$\beta_{\text{Inconsistent}} = \beta_{\text{Consistent}}$								

Notes: This table presents multivariate fixed effects regressions for firms in the consistent and inconsistent corporate sustainability groups. The fixed effects regressions regress measures of firm performance (ROA, ROIC, ROE, EPS) on *Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, *Lagged Corporate Governance Score*, and *Linear Time Trend*. Variables are defined in the Appendix. *t*-statistics are in parentheses. **, *, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Robustness Tests

We conduct several robustness tests to gauge the sensitivity of our results to alternative specifications. Although dynamic panel data techniques along the lines of Arellano and Bond (1991) and Blundell and Bond (1998) are deemed to be among some of the most robust techniques for addressing endogeneity concerns, given our study's relatively small sample size, the danger of instrument proliferation (Roodman 2009) is a very real concern. In view of "the poor performance of IV estimators when instruments are many" (Roodman 2009, 136) and "small-sample problems caused by numerous instruments" (Roodman 2009, 139), we believe that the use of other additional techniques for addressing endogeneity concerns (including 2SLS) are more appropriate for this study. However, to mimic the Arellano and Bond (1991) and Blundell and Bond (1998) estimation techniques, we first reestimate our fixed effects regressions and include the lag of the dependent variables as additional independent variables. And second, we reestimate our regressions with the lag of the dependent variables as additional independent variables using 2SLS. As demonstrated in Table 7, the inclusion of the lag of the dependent variables as regressors in our fixed effects regressions does not subsume the significant positive association between sustainability and firm financial performance.

For the 2SLS regressions, since the literature has highlighted potential endogeneity between corporate sustainability and firm performance and between corporate governance and firm performance, we use the lagged values of each profitability measure (*ROA*, *ROIC*, *ROE*, and *EPS*) and the lagged values of the lagged corporate sustainability variable and lagged corporate governance variable as instruments for the two endogenous regressors (i.e., *Lagged Sustainability Score* and *Lagged Corporate Governance Score*) in each of the 2SLS regression models. Results of the 2SLS regressions with the lag of the dependent variables as additional independent variables to mimic the Arellano and Bond (1991) and Blundell and Bond (1998) estimation approaches are presented in Table 8.

As shown in Table 8, the results of the 2SLS regressions are similar to our baseline results. In particular, our conclusion that corporate sustainability performance leads to improved firm performance is also confirmed using the 2SLS specification. We employ several techniques to evaluate the performance of the 2SLS specifications. Inter alia, to determine whether or not our instruments are weak, we use Shea's adjusted partial R^2 , which helps gauge the correlation between the endogenous regressors and the instruments while adjusting for the number of instruments. From our first stage regressions, Shea's adjusted partial R^2 statistics are all relatively high (ranging from 43.3% to 61.2%). Similarly, the minimum eigenvalue statistics are also high (ranging from 587 to 593). As a result, we reject the null hypothesis of weak instruments and conclude that the instruments correlate well with the endogenous regressors. We also conduct the Durbin and Wu-Hausman tests of exogeneity and fail to reject the null hypothesis that the variables are exogenous (the p -values for the two statistics in all models are greater than 10%). Furthermore, with two endogenous regressors and two excluded instruments, our 2SLS models are just identified. Therefore, tests (i.e., Sargan test and Basman test) for over-identification restrictions are not applicable. Taken together, these 2SLS endogeneity diagnostics provide additional assurance that our results are not driven by endogeneity.

TABLE 7
FE with lagged sustainability scores and lagged performance measures

	<i>ROA</i>	<i>ROIC</i>	<i>ROE</i>	<i>EPS</i>
<i>Lagged Sustainability Score</i>	0.0309** (2.18)	0.0385** (1.96)	0.0555* (1.74)	0.0087** (2.31)
<i>Revenue Growth</i>	0.0506*** (7.35)	0.0733*** (7.70)	0.1118*** (7.24)	0.0096*** (5.20)
<i>Asset Growth</i>	0.0863*** (10.22)	0.1167*** (9.98)	0.1696*** (8.89)	0.0150*** (6.62)
<i>Debt Ratio</i>	-0.1886*** (-10.34)	-0.2706*** (-10.76)	-0.3515*** (-8.47)	-0.0337*** (-6.96)
<i>Ln Total Assets</i>	-0.6849 (-1.51)	-1.2691** (-2.03)	-1.0886 (-1.07)	0.1795 (1.44)
<i>Lagged Corporate Governance Score</i>	0.0168 (1.10)	0.0245 (1.16)	0.0296 (0.86)	0.0060 (1.45)
<i>Linear Time Trend</i>	0.0371 (0.44)	0.1135 (0.98)	0.0786 (0.42)	-0.0020 (-0.09)
<i>Lag of Performance Measure</i>	0.0421* (1.93)	0.0324 (1.47)	0.0446* (1.93)	0.0008 (0.06)
Constant	-60.1070 (-0.36)	-202.6184 (-0.88)	-132.1648 (-0.35)	1.9463 (0.04)
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
<i>N</i>	1696	1696	1696	1694
<i>R</i> ²	0.6396	0.6387	0.5947	0.5451

Notes: This table presents firm fixed effects regressions that regress measures of firm performance (*ROA*, *ROIC*, *ROE*, *EPS*) on *Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, *Lagged Corporate Governance Score*, *Linear Time Trend*, and lagged values of the performance measures (lagged *ROA* for the *ROA* regression, lagged *ROIC* for the *ROIC* regression, lagged *ROE* for the *ROE* regression, lagged *EPS* for the *EPS* regression). Variables are defined in the Appendix. *t*-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

We also conduct other robustness tests which we have not reported for the sake of brevity.⁶ First, since sample firms achieve good sustainability scores in 3.5 years out of the 10 years, we also use 4 years as the cutoff for determining consistent versus inconsistent performers, and the results are similar. Second, although we primarily use the fixed effects panel data regression technique, we also rerun our regressions using the random effects panel data regression technique, and the conclusions are similar. Third, we create an average industry sustainability score and use it in our regressions as a way to control for potential industry effects in corporate sustainability, and the results are similar to our baseline results. Fourth, we run yearly cross-sectional regressions, and the results are similar to our main results.

6. Although we do not include the additional robustness tests in the interest of brevity, they are available from the authors upon request.

TABLE 8
2SLS regressions

	<i>ROA</i>	<i>ROIC</i>	<i>ROE</i>	<i>EPS</i>
<i>Lagged Sustainability Score</i>	0.0306*** (2.61)	0.0511*** (3.21)	0.0645*** (2.58)	0.0146*** (4.96)
<i>Revenue Growth</i>	0.0422*** (5.30)	0.0599*** (5.57)	0.0951*** (5.59)	0.0061*** (3.05)
<i>Asset Growth</i>	0.0990*** (10.17)	0.1316*** (10.04)	0.1942*** (9.37)	0.0203*** (8.60)
<i>Debt Ratio</i>	-0.0193* (-1.88)	-0.0591*** (-4.26)	-0.0418* (-1.90)	-0.0054** (-2.08)
<i>Ln Total Assets</i>	-0.3223** (-2.24)	-0.0563 (-0.29)	0.3618 (1.19)	0.1232*** (3.44)
<i>Lagged Corporate Governance Score</i>	0.0066 (0.33)	-0.0027 (-0.10)	-0.0268 (-0.62)	-0.0092* (-1.83)
<i>Linear Time Trend</i>	0.1068 (0.17)	0.2751 (0.33)	0.5533 (0.42)	0.0392 (0.25)
<i>Lag of Performance Measure</i>	0.3590*** (16.83)	0.3287*** (14.99)	0.3135*** (13.95)	0.0486*** (4.25)
Constant	-210.6280 (-0.17)	-552.9859 (-0.33)	-1,115.8980 (-0.42)	-79.8385 (-0.25)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
<i>N</i>	1511	1511	1509	1508
<i>R</i> ²	0.3867	0.4046	0.3776	0.3311

Notes: This table presents the (second stage) results of two-stage least squares regressions of firm performance (*ROA*, *ROIC*, *ROE*, *EPS*) on *Lagged Sustainability Score*, *Revenue Growth*, *Asset Growth*, *Debt Ratio*, *Ln Total Assets*, *Lagged Corporate Governance Score*, *Linear Time Trend*, and lagged values of the performance measures (lagged *ROA* for the *ROA* regression, lagged *ROIC* for the *ROIC* regression, lagged *ROE* for the *ROE* regression, lagged *EPS* for the *EPS* regression). Variables are defined in the Appendix. *t*-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

6. CONCLUSIONS AND IMPLICATIONS

Corporate sustainability is becoming ubiquitous because of the increasing realization in the global corporate world that long-term organizational survival may, to some extent, be dependent on a company's ability to gain legitimacy through a reputation to address concerns relevant to multiple stakeholders. Since corporate sustainability performance quantifies the extent to which a company performs in meeting the needs of its multiple stakeholders on the important dimensions of ESG, good corporate sustainability performance could enhance corporate reputation and stakeholder loyalty, and could, *ceteris paribus*, enhance organizational performance. Driven by the need to understand the impact of corporate sustainability performance (and its consistency) on the financial performance of Canadian firms, in this study we evaluate the association between corporate sustainability and firm performance.

Our findings support the arguments that corporate sustainability performance leads to improved firm performance. First, we find a statistically significant positive relationship between corporate sustainability and firm performance, implying that improvements in corporate sustainability performance leads to improvements in the financial performance of firms. Second, we find that consistently good corporate sustainability performance leads to better firm performance in Canada, signifying that firms that are committed to sustainability should expect to achieve better performance compared to firms which only invest token or symbolic efforts in corporate sustainability. Overall, our results demonstrate that corporate sustainability does impact financial performance positively in the Canadian environment (in contrast to Mahoney and Roberts 2007).

The debates on whether or not corporate sustainability has an impact on firm performance has coalesced around three main themes—namely that (i) corporate sustainability has a positive effect on firm performance, (ii) corporate sustainability has a neutral effect on firm performance, and (iii) corporate sustainability has a negative effect on firm performance (Artiach et al. 2010). Our study supports a positive association between corporate sustainability and firm performance and has important implications for practitioners, policy-makers, and future researchers. The study's findings have a couple of implications for practitioners. Our findings imply that practitioners should recognize investments in corporate sustainability as value-enhancing and should therefore invest in corporate sustainability because it would likely positively impact corporate financial performance. Our findings also imply that practitioners should eschew the “tokenism” approach to sustainability and instead make concerted and consistent investments in corporate sustainability because of its potential positive effect on long-term corporate financial performance. To policy-makers, our finding that firm-level corporate sustainability investments enhance firm performance in a country like Canada with strong governance and sustainability policies implies that policy-makers need to expand their sustainability efforts from macrolevel improvements to also include inducing/incentivizing companies to invest in corporate sustainability because of the potential incremental benefits it will bring to the companies. Thus, governments and regulatory bodies should create the conditions and incentives to entice for-profit organizations to become partners in corporate sustainability. Our study also adds much-needed evidence to the academic literature and implies that corporate sustainability performance and consistent corporate sustainability performance have a positive association with firm performance, even in an environment like Canada that has good macrolevel governance and sustainability policies.

Our results notwithstanding, future research can address important areas to further help elucidate our understanding of the performance implications of corporate sustainability. Although our study investigated the effect of overall corporate sustainability on firm performance, future studies can, for example, drill down one level to investigate whether all the components of corporate sustainability (i.e., ESG) contribute to firm financial performance or some components contribute to firm performance while others do not.

APPENDIX: VARIABLE DEFINITIONS

Variable	Definition
ROA	Net income divided by average total assets
ROIC	Net income divided by average invested capital
ROE	Net income divided by average total shareholders' equity
EPS	Net income divided by shares outstanding
Corporate Sustainability Score, Lagged Sustainability Score	Thomson Reuters ESG score that provides a balanced view of a company's performance on the important dimensions of ESG. The variable code for the overall corporate sustainability score in Thomson Reuters is A4IR
Revenue Growth	Percent growth in total revenues
Asset Growth	Percent growth in total assets
Total Debt to Total Assets	Total debt divided by total assets
Ln Total Assets	Log of total assets
Corporate Governance Score, Lagged Corporate Governance Score	Thomson Reuters composite corporate governance score that measures a company's systems and processes which ensure that its board members and executives act in the best interests of its long-term shareholders. The variable code for the overall corporate governance score in Thomson Reuters is CGVSCORE
Linear Time Trend	A linear time trend variable that tracks growth in other variables over time (i.e., from 2007 to 2017). Following the literature, we added the year to achieve this

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