Reexamining the Win-Win: Relational Capital, Stakeholder Issue Salience, and the Contingent Benefits of Value Based Environmental, Social and Governance (ESG) Strategies

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ABSTRACT

We integrate value-based and stakeholder strategy theories to analyze the contingent relationship between corporate social performance (CSP) and corporate financial performance (CFP). Our analysis hypothesizes that ex ante investments in environmental, social, and governance (ESG) issues most material to the firm and salient to stakeholders build relational capital that enhances ex post joint value creation and minimizes ex post risks of discord in value appropriation and distribution. We show that investments in material and salient ESG issues are associated with gains in relational capital which, in turn, are associated with revenue and productivity gains that outweigh up-front and ongoing lost revenues, higher costs, and productivity losses. Meanwhile, investments in immaterial ESG issues, although still associated with gains in relational capital, by contrast, are associated with revenue, margin and productivity losses. Attentiveness to materiality is literally the difference between a positive and negative return to stakeholder strategy.

Keywords: ESG (environmental, social, governance); Value-based strategy; Stakeholder strategy; Issue salience; Relational capital; Materiality

Devoting more resources to corporate social performance (CSP), similar to any other corporate activity or investment, cannot always improve corporate financial performance (CFP). However, the argument that some investments in CSP, again similar to any other corporate activity or investment, may generate long-term net revenue growth, cost-savings, or efficiency gains that outweigh the opportunity cost of capital possesses an underlying logic supported by even the most ardent supporters of financial market efficiency (Jensen, 2010). Following this logic, managers should focus resources and attention on CSP issues that are most likely to contribute to economic gain, or the "change in economic value (total surplus) created by a firm from one period to the next" (Liberman, Balasubramanian, & Garcia-Castro, 2018, p. 1550). Rather than search for an implausible unconditional relationship between these constructs, we integrate recent theoretical advances within stakeholder value creation and appropriation (VCA) with earlier issue salience-based applications to resource allocation in stakeholder strategy (Tantalo & Priem, 2016; Bundy, Shropshire, & Buchholtz, 2013) to better explain the contingent economic benefits of CSP. In short, we attempt to advance the overall scope of inquiry from *whether* CSP contributes to CFP to *how, where, and when* that relationship obtains.

Rapidly developing insights within the value-based theory of stakeholder strategy (Bacq & Aguilera, 2021; Garcia-Castro & Aguilera, 2016; Harrison, Bosse, & Phillips, 2010) serve as the foundation of our theoretical and empirical arguments. These studies extend value-based strategic analysis (e.g., Brandenburger & Stuart, 1996; Gans & Ryall, 2017; Ryall, 2013) by characterizing the firm as a nexus of contracts between its unique stakeholder groups (e.g., senior managers, employees, suppliers, shareholders, creditors, community members, and governments) as opposed to a single unitary actor or a firm negotiating solely with customers and suppliers. According to these perspectives, value, which is defined as the difference between willingness to

pay (WTP) and opportunity cost (Brandenburger & Stuart, 1996), is created through stakeholders' contributions to a firms' activities. It is then collectively appropriated according to stakeholders' power (Coff, 1999; Lieberman, Garcia-Castro, & Balasubramanian, 2017), with any surplus appropriated by the firm distributed along dimensions of stakeholder power as well (Bacq & Aguilera, 2021). However, not yet addressed by these studies is the propensity for stakeholders to exercise their power in a given period in a manner that undercuts value creation, appropriation, and distribution.

We address this challenge in two ways. First, we note that stakeholders' net contribution to value creation, appropriation, and distribution is not only a function of their power but also their preferences towards the firm determined by the firm's impacts on issues salient to the stakeholder. This extension acknowledges that the possession of power doesn't necessarily imply the intent to exercise that power. We then argue that such intent is a function of urgency, or the degree to which stakeholder claims require immediate managerial attention, and the legitimacy of those claims (Mitchell, Agle, & Wood, 1997). Second, we further argue that *ex ante* attention to the financially material[1] issues most salient to a firms' stakeholders leads to the accumulation of relational capital in these firm-stakeholder relationships which enhances the value creating contributions of stakeholders and minimizes their disruption of value appropriation and distribution, thereby generating benefits to the firm that may outweigh the costs of such investments. Taken together, these two points combine to form our primary thesis: investments by the firm in issues financially material to the firm and salient to its stakeholders accumulates relational capital that, in turn, enhances stakeholders' *ex post* voluntary contributions to value

[1] "information is financially material if omitting, misstating, or obscuring it could reasonably be expected to influence investment or lending decisions that users make on the basis of their assessments of short-, medium-, and long-term financial performance and enterprise value." (SASB. 2021:7)

creation, while minimizing the hold-up risk in value appropriation and distribution, thereby returning long-term value to the firm in the form of revenue growth, cost savings, or efficiencies that exceed the upfront and ongoing costs of such investments.

As a part of our analysis, we introduce new dependent and independent variables to the CSP-CFP literature that are consistent with the theoretical arguments of value-based strategy. Specifically, we shift the measure of financial performance from end state corporate-level outcomes to the intermediate accounting metrics (Atz, Van Holt, Douglas, & Whelan, 2019; Malik, 2014; Peloza, 2009) of revenues – correlated with customer WTP, cost margins – correlated with opportunity costs, and worker productivity – correlated with per unit efficiency. These three discrete mechanisms constitute the *how* in the CSP-CFP relationship.

Our analysis also draws upon a novel empirical dataset that allows us to measure the salience of a discrete set of environmental, social, and governance (ESG) issues to a firm's stakeholders. Rather than measure a firm's CSP through voluntary unaudited disclosure by the firm (in its sustainability reports or responses to proprietary surveys), we draw upon an alternative set of metrics that amount to a stock of relational capital characterizing a firms' relationship with its stakeholders on a given ESG issue. Critically, we capture from these data (1) the valence of stakeholder sentiment on a given ESG issue measured as a depreciating stock of capital; (2) the distribution of that capital stock across ESG issues; and (3) the indication from emergent accounting standards that certain ESG issues are financially material to firms in a given industry (Cheema-Fox, LaPerla, Serafeim, & Wang, 2020; Kim & Yoon, 2020). We combine these three data elements to weight ESG issues according to their relative importance to a firm's stakeholders and to a firm's financial performance. This approach offers critical insight into *where* we expect to observe a linkage between CSP and CFP.

Lastly, we recognize that CSP is an outcome that requires investment which may take time to recoup. While we are unable to use observational data to capture the dollar value or timing of those investments, we can observe the level as well as the timing of changes in firm's policies, objectives and programs on individual ESG issues and then link both the level and changes therein, which we assume are costly to implement (Harrison et al., 2010; Henisz, Dorobantu, & Nartey, 2014; Tantalo & Priem, 2016), to stakeholder relational capital in a first stage regression. In the second stage, we link the resulting level and changes in stakeholder relational capital to revenues, cost margins and productivity. Our measures of stakeholder relational capital and financial performance are normalized by industry (Awaysheh, Heron, Perry, & Wilson, 2020) to allow for industry-specific variation in the relationships between CSP and CFP over time. We can thus explore the timing of *when* such investments pay.

STAKEHOLDER VALUE-BASED STRATEGY

Stakeholder power, relational capital, and value creation, appropriation, and distribution

Value-based strategic analysis identifies distinct strategies through which firms create value and then bargain over its appropriation in their interactions with buyers and suppliers (Brandenburger & Stuart, 1996). According to this perspective, firms, buyers, and suppliers are faced with the dual task of contributing to joint value creation, as well as appropriating a share of that value through bargaining (Gans & Ryall, 2017; Ross, 2018; Ryall, 2013). Defined as the difference between WTP and opportunity cost, value is created through the cooperative transformation of costly inputs into valuable outputs (i.e., those for whom customers have a WTP that exceeds opportunity costs) by agents in a value chain (MacDonald & Ryall, 2004). A portion of that value is then captured by each of these agents – the firm, buyers, and suppliers – through an appropriation process determined by the bargaining abilities (i.e., negotiating abilities

and tactics) of each (Brandenburger & Stuart, 1996; Costa & Zemsky, 2021; Grennan, 2014). Added value or "the value created by all the players in the vertical chain minus the value created by all the players in the vertical chain except the one in question" (Brandenburger & Stuart, 1996, p. 13) serves as an upper bound to what each agent appropriates through their unique bargaining abilities.

While value-based strategy originally conceptualized the firm as a single agent in the value creation and appropriation process, more recent perspectives have envisioned the firm as a nexus of contracts (Hill & Jones, 1992) between multiple stakeholders, including labor, senior management, and capital providers, that contribute knowledge, resources, and capabilities to a firm's activities (Coff, 1999). Drawing on this conceptualization of the firm, more recent perspectives, of which the value creation and appropriation (VCA) model is included, account for these heterogenous demands embedded within the firm (Lieberman et al., 2017; Lieberman, et al., 2018). The VCA model emphasizes that equating value creation with payments to shareholders confounds value creation with value capture by one stakeholder (i.e., shareholders). The total value created by a firm's activities equals not the value captured by shareholders, but the value captured by all its stakeholders (Bowman & Ambrosini, 2000; Coff, 1999; Makadok & Coff, 2002; Priem, 2007). VCA studies seek to offer a more comprehensive framework for evaluating how value is created and which stakeholders responsible for value creation appropriate and then capture that value (Garcia-Castro & Aguilera, 2016). Moreover, instead of attributing value appropriation solely to negotiation abilities and tactics during the bargaining process, the VCA model attributes appropriation to stakeholder bargaining power – "a bargainer's ability to favorably change the bargaining set (Lax & Sebenius, 1986), to win accommodations from the other party (Dwyer & Walker, 1981), and to influence the outcome of

a negotiation (Schelling, 1956)" (Yan & Gray, 1994; p. 1480). Previously shown to be a strong determinant of captured value (Bowman & Ambrosini, 2000; Castanias & Helfat, 1991; Coff, 1999; Lippman & Rumelt, 2003), stakeholder bargaining power is shaped not only by negotiating abilities and tactics but also by stakeholders' possession of key resources, capacity for unified action, cost of exit, the replacement cost of that stakeholder to the firm (Coff, 1999; Ozmel, Yavuz, Reuer & Zenger, 2017), and the external regulatory or political environment (Kern & Gospel, 2020).

More recent studies have attempted to theoretically integrate value creation and appropriation perspectives squarely into stakeholder theory (Garcia-Castro & Aguilera, 2016; Bacq & Aguilera, 2021). Extending the appropriation process, these studies examine how any surplus appropriated by the firm is then subject to distribution, or voluntary investment, by a firm's managers (Harrison et al., 2010). As a result, unlike in traditional value-based strategy or the VCA model where value appropriation is limited to those stakeholders that directly contribute to value creation, these studies also account for potential discretionary investment (Hambrick & Finkelstein, 1987; Shen & Cho, 2005) toward stakeholder groups directly (i.e., primary stakeholders) and indirectly (i.e., secondary stakeholders) involved in value creation process (Bacq & Aguilera, 2021). The result is a theoretical foundation of a stakeholder approach to economic valuation where a wide range of stakeholder groups may garner positive net present value (i.e., rents) in their interactions with a firm (Asher, Mahoney, & Mahoney, 2005).

The value creation and appropriation process put forward by this stakeholder approach to value-based strategy shares both similarities and differences with those put forth by traditional value-based strategy and the VCA model. First, joint value is created by a firm's activities as multiple stakeholder groups combine firm-specific resources and knowledge to provide a product

or service. Similar to value-based strategy, this stage entails the cooperative transformation of costly inputs into valuable outputs by agents in a value chain (Brandenburger & Stuart, 1996; MacDonald & Ryall, 2004), but it disaggregates the firms into their stakeholder constituencies, including the suppliers, customers, employees, senior management, and capital providers as in the VCA model (Lieberman et al., 2017; Lieberman et al., 2018). Second, created value is then captured by these stakeholders through an appropriation process (Chatain & Mindruta, 2017). Lastly, any surplus appropriated by the firm is then contested by stakeholders. To account for the presence of both stakeholders with direct and indirect contributions to value creation, where the latter (e.g., communities, governments, civil society organizations) may not have a seat at the table for negotiations, the determinant of value appropriation (Costa & Zemsky, 2021) in these stakeholder-oriented studies isn't just stakeholder bargaining power but the broader construct of stakeholder power (Bacq & Aguilera, 2021) as well as expectations regarding its future deployment (Elfenbein & Zenger, 2017).

Stakeholder power is broadly defined as the ability to get the firm to do something it otherwise would not do (Etzioni, 1964; Mitchell et al., 1997) but, in the context of stakeholder value-based strategies more specifically, we define it as the difference between total value created, appropriated, and distributed in a system with the cooperation of a given stakeholder as compared to that when the same stakeholder undermines value creation, appropriation, or distribution with conflictual actions. Such power encompasses more than just negotiation ability and tactics. It can be enhanced by property rights (Asher et al., 2005) as well as prestige or esteem (Etzioni, 1964; Mitchell et al., 1997) that creates obligations (Jones, Felps, & Bigley, 2007; Phillips, 2003).

Importantly, it is not only the presence of power in a dyadic relationship that shifts the allocation of rents, but also the perceptions by the firm (or the stakeholder) of its counterparties' likely use of that power. An accumulated history of reciprocal and fair dealing among two counterparties, even during periods of distress (Gil, Kim, & Zanarone, 2021), can alter their expectations regarding their partner's likely use of their power. Extending that logic from the buyer-supplier realm to the broader scope of stakeholder relationships, we argue that a firm that demonstrates a history of addressing the issues that are of greatest concern to its stakeholders will accumulate stakeholder relational capital (Elfenbein & Zenger, 2017). As a result, stakeholders will contribute more to the value creation, appropriation, and distribution process and disrupt it less. In other words, the firm may operate with less concern regarding the opportunistic use of power by its more powerful stakeholders (Lioukas & Reuer, 2015). That expectation of a more fair and equitable distribution of future rents allows greater scope for cooperation and value creation by the firm and its stakeholders in the present. While this argument has been well-developed in supply chain relationships, we extend the logic to the full scope of a firm's stakeholders. From the firm's perspective, *ex ante* investments that address stakeholders' issues of concern accumulate relational capital with those stakeholders that signals to those stakeholders' information on the firm's type or stakeholder orientation. Based on this signal, firm and stakeholder contributions to short- and medium-term joint value creation are enhanced and risks of discord in subsequent value appropriation and distribution between the firm and its stakeholders are reduced.

Issue salience weighted investments in relational capital

Managers, ultimately tasked with the balancing of stakeholders' multi-attribute utility functions (Tantalo & Priem, 2016), are interested in maximizing the creation of rents that can be

appropriated and distributed in a manner that supports the persistence of that surplus for the firm. Lieberman et al. (2018) refer to this as economic gain – "change in economic value (total surplus) created by a firm from one period to the next" (p. 1550). However, the question of how stakeholder demands on certain issues to which firms (and their managers) attend, at some cost, should be incorporated within this framework remains under-theorized. We address this challenge by adopting an issue salience approach to stakeholder demands. Defined as "the degree to which a stakeholder issue resonates with and is prioritized by management" (Bundy et al., 2013, p. 353), the degree of salience approach suggests that managers should invest in relational capital with stakeholders on issues that are salient to those stakeholders. It suggests that managers' investments in relational capital should be determined not only by stakeholder power, but also the urgency and legitimacy of those stakeholder demands (Mitchell et al., 1997). Importantly, because managers respond to stakeholder issues as opposed to stakeholder groups (Frooman, 1999; Odziemkowska & Henisz 2021), the degree of salience approach allows for a dynamic understanding of which stakeholder issues are more salient in a given period, and subsequently, have the greatest potential for surplus enhancing *ex ante* investments in relational capital.

Evaluating firm investments in relational capital from an issue salience perspective draws on the interplay between a stakeholder's relative power, the urgency of those stakeholder claims (Bundy et al., 2013), and the legitimacy of that stakeholder's involvement with the firm to prioritize investments in stakeholder issues according to the likely return of the resulting relational capital. While stakeholder power is the dominant mechanism in existing stakeholder applications to value-based strategy (Bacq & Aguilera, 2021; Garcia-Castro & Aguilera, 2016), there are several reasons to believe it may not be the sole mechanism driving firm responsiveness

to stakeholder demands. First, because power is best recognized when it is perceived as likely to be exercised as opposed to merely possessed, the possession of power on its own may not be enough to garner firm responsiveness (Mitchell et al., 1997). The second limitation is that even if a stakeholder possesses power, there may not be a relevant stakeholder issue toward which they would like to see rents allocated at that time. The possession of power doesn't imply an intent to use that power in the near-term or at all (Mitchell et al., 1997). The final limitation is that not all stakeholders, even those with power, possess claims that a firm's managers would consider valid or desirable. Such lack of validity could be attributable to sources like the imposition of costs on other stakeholders (Tantalo & Priem, 2016) or the violation of social norms (Oliver, 1991). Taken in combination, these limitations suggest that the possession of power doesn't automatically shift the distribution of rents appropriated by a firm towards a stakeholder.

Incorporating urgency and legitimacy of stakeholder claims to rents appropriated by a firm offers a potential solution to these limitations. First, urgency, or "the degree to which stakeholder claims call for immediate attention" (Mitchell et al., 1997, p. 864), helps address a stakeholder's intent to utilize power, and "the likelihood of a stakeholder taking action" (Eesley & Lenox, 2006, p.769). As described by Mitchell et al. (1997), urgency requires two conditions be met. The first is that a claim be time sensitive, and the second is that the issue be important, or critical, to the stakeholder. Although time sensitivity is characterized as immediate, the criticality of a stakeholder issue can be characterized in multiple ways, reflecting multiple sources. For example, while stakeholder ownership of firm resources can trigger criticality, an existing stakeholder expectation of continued value appropriation or distribution can as well. When a stakeholder claim meets these two criteria, it's usually coupled with direct stakeholder action or pressure (Agle, Mitchell, & Sonnenfeld, 1999). Such actions, ranging from media campaigns

(Eesley & Lenox, 2006) and consumer boycotts (Frooman, 1999; McDonnell & King, 2013) to proxy fights by activist shareholders (Rehbein, Waddock, & Graves, 2004), can serve to increase firm responsiveness to stakeholder demands. Meanwhile, if these conditions are absent, managerial attention, as well as rent allocation, to issues relevant to that stakeholder may be low in that period.

Second, legitimacy – "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574) – addresses whether a stakeholder claim is valid based on that stakeholder's involvement with the firm. Legitimacy, as a socially constructed belief achieved through consensus about what is appropriate (Johnson, Dowd, & Ridgeway, 2006), can exist at the individual, organizational, or societal level (Wood, 1991). As such, there are multiple ways stakeholder claims gain legitimacy. At the interorganizational level one such way is sharing support for an issue across multiple of the firm's stakeholder groups. Not only does the support of multiple heterogeneous stakeholder groups signal a more diffuse norm or belief (Oliver, 1991), but it may also free the firm from concerns about benefiting one powerful stakeholder at the expense of another. This creates an opportunity for value capture among multiple stakeholders through a single managerial action (Tantalo & Priem, 2016). Similarly, at the social level broader social acceptance of the legitimacy of a stakeholder claim can increase legitimacy perceived by managers (Eesley & Lenox, 2006).[2]

[2] While scholars have at times conflated legitimacy and power, Mitchell et al. (1997) are explicit in their bifurcation of legitimacy and power into unique attributes. Specifically, although relatively more powerful stakeholders may have claims to rents appropriated by a firm, their claims could be seen as illegitimate by the firm, resulting in little to no rent appropriation. For example, although activist hedge funds (i.e., corporate raiders) could possess relatively high power through concentrated firm ownership, managers may not perceive the claims of such funds as legitimate if their claims lack support from other powerful stakeholders (including managers themselves) (Mitchell et al., 1997).

Together, stakeholder power, urgency and legitimacy determine the set of issues for which *ex ante* investments by the firm may build relational capital that can expand the scope of medium- to long-term value creation, as well as mitigate risks in value appropriation and distribution. Critically, such *ex ante* issue-salience weighted investments should demonstrate an ability to collectively address these concerns through repeated interactions over time but not "solve" or fully transfer knowledge on how to address these issues in which case some stakeholders may question the need for the ongoing presence of the firm.

Although prior descriptive studies within stakeholder theory have examined how the allocation of managerial attention according to issue salience can increase the value captured by one or more stakeholder groups (Bundy et al., 2013; Mitchell et al., 1997; Tantalo & Priem, 2016), such studies have not yet theoretically considered or empirically analyzed the tradeoffs inherent in addressing stakeholder demands. Some investments in relational capital are simply too costly to still allow for economically sustainable value creation, appropriation, and distribution.

Weighing the benefits *and costs* of investments in relational capital

Investing in relational capital can impose substantial costs on the firm (Barnett & Salomon, 2012; Berchicci & King, 2020; Brammer & Millington, 2008; Margolis & Walsh, 2003; Margolis et al., 2007). Because managers not only face limitations on their ability to allocate resources and capital across stakeholders (Freeman, 1984; Hosseini & Brenner, 1992), but such decisions also fall within the broader constraints of allocating capital across the firm's operations (Stein, 1997), it isn't enough to solely consider the benefits such allocations entail. Resource constrained managers, seeking to safeguard the persistence of surplus appropriated by the firm, will want to ensure any response to stakeholder demands constitutes an effective use of resources where appropriately discounted future benefits outweigh the opportunity costs.

Prior studies have typically either focused on the benefits of attending to stakeholder demands or the costs of doing so independently, with little attention paid to both the costs and benefits in the same study, particularly in large-sample empirical studies (Pucker & King, 2021). While stakeholder theory often suggests a reciprocal "win-win" relationship between a firm and its stakeholders, with higher resource allocation to stakeholders producing better firm value outcomes (Bosse, Phillips & Harrison, 2009; Cropanzano & Mitchell, 2005; Harrison et al., 2010), there is evidence that overallocation can be value-reducing as opposed to value-creating (Harrison & Bosse, 2013). While stakeholder theorists reject the argument of a necessary tradeoff and point to the potential for joint value creation (Freeman, 2010), logically, there must be some investments in relational capital that fail to create sufficient joint value in the form of higher WTP or lower opportunity costs or preserve sufficient value appropriated and distributed to cover the opportunity costs of investment. The most extensive empirical evidence directly weighing the benefits and costs of attending to stakeholder demands can be found in the environmental economics literature. However, evidence as to whether benefits outweigh the costs remains mixed. While there is some evidence that improving firm environmental performance can reduce costs and create efficiencies more than it reduces revenue, increasing profitability (Earnhart & Lizal, 2007); other studies, consistent with our observation above, not only find that benefits don't necessarily outweigh costs (Fowlie, Greenstone, & Wolfram, 2018; Morgenstern, Pizer, & Shih, 2001) but also take issue with evidence presented in favor of complementarity between better environmental performance and profitability (Schmalensee, 1993; Palmer, Oates, & Portney, 1995).

The emphasis of value-based strategy and the dynamic VCA model on both WTP as well as opportunity cost offers a useful frame for evaluating costs and associated benefits

simultaneously, allowing for a closer examination of net firm value creation. According to the value-based framework, managerial investments in ESG policies, objectives, or programs most salient to stakeholders in an effort to build relational capital must account for the associated costs, in addition to the WTP of the transformed output (Brandenburger & Stuart, 1996). However, because an initial investment, or incurred cost, can impact customer WTP, gross margins, and productive efficiency over multiple future periods, the impact of addressing stakeholder issues in order to accumulate relational capital must be considered a function of both the costs incurred and benefits realized over time via each of these channels. A static evaluation of net value creation isn't feasible in such a scenario. Instead, an investment in the current period returns multiple streams of benefits and costs over time. A similar evaluation is undertaken by shareholders in their assessment of the impact on share price growth, market share, return on invested capital, valuation multiples, and profitability (Lieberman et al., 2017). It's also consistent with the broader stakeholder management literature's emphasis on the long-term benefits of a stakeholder orientation (Bansal & DesJardine, 2014; DesJardine & Durand, 2020; Flammer & Bansal, 2017; Slawinski & Bansal, 2015).

Because of the dynamic nature of benefits and costs, discretionary investments in stakeholder issues with the aim of accumulating relational capital should be viewed in much the same way as investment in research and development (David, Hitt, & Gimeno, 2001) or strategic alliances (Dyer, Singh, & Hesterly, 2018; Lavie, 2007). Although investment undertaken to reduce costs or increase efficiencies or WTP is implicit in many value-based studies, there are few studies that explicitly spell out the multi-period dimension of such investments (Lieberman et al., 2018; Kern & Gospel, 2020). As suggested by Liberman et. al (2018), we believe such dynamic VCA analysis can be extended across a wide range of firms to analyze the value created

and appropriated by their primary and secondary stakeholders. We further believe that its logic can inform analysis of the dynamics between a firm's investment in stakeholder issues, joint value creation, and, ultimately, appropriation by shareholders.

Implications

To summarize, we postulate that, a firm's *ex ante* investments in stakeholder's issues weighted by their degree of salience and materiality accumulates stakeholder relational capital that, in turn, increases stakeholders' *ex post* voluntary contributions to value creation, and reduces the hold-up risk in value appropriation and distribution, thereby returning long-term value to the firm in the form of revenue growth, cost savings, or efficiencies that exceed the upfront and ongoing costs.

METHODS

Sample and data sources

To test this implication, we created a sample of all 2,323 actively traded public companies that were members of the S&P Composite 1500 between 2007-2018, inclusive of companies that joined or exited the list over that period. The S&P Composite 1500 covers more than 90% of publicly traded U.S. market capitalization in any given year of the sample, and it includes large-cap, mid-cap, and small-cap companies. Our data on these firms came from three main archival sources. Refinitiv's ASSET4 database provides information on ESG policies, objectives, and programs. Factset's TruValue Labs provides data on stakeholder relational capital and issue salience. All financial and industry membership data was drawn from COMPUSTAT.

Methodology

As our hypotheses are primarily concerned with how firms' investments in stakeholder issues impact relational capital, which in turn impacts economic gain, we employ two-stage

panel regressions using the *xtreg* routine in STATA 16.0 with firm and year fixed effects. In the first stage, we use a firm's level and change of ESG policies, objectives, and programs in stakeholder issues to predict stakeholder relational capital. In the second stage, we use the predicted value of relational capital computed in the first stage to measure the association between relational capital and revenue, margins, and productivity.

Variables

Early work examining companies' efforts to address stakeholder issues emphasized a necessary negative association whereby such initiatives were characterized as an expense borne by shareholders in a transfer to stakeholders (Friedman, 1970) or an agency cost as such initiatives could be used to further the short-term private interest of managers at the expense of the long-term interest of shareholders (Jensen & Meckling, 1976). However, as time progressed, the evidence that managers seeking to maximize long-term shareholder value must also attend to a broad array of stakeholder pressures grew (Cochran & Wood, 1984; Orlitzky et al., 2003; Waddock & Graves, 1997). These more recent studies have focused on these long-term benefits. Equating the ability to meet stakeholder demands with corporate social responsibility (CSR) or corporate social performance, these studies have found that better addressing stakeholder concerns contributes to favorable firm value outcomes, including higher abnormal shareholder returns (Dimson, Karakas, & Li, 2015; Eccles, Ioannou, & Serafeim, 2014; Henisz et al., 2014), positive recommendations from securities analysts (Ioannou & Serafeim, 2014), higher equity valuations (Flammer, 2015; McWilliams & Siegel, 2000; Orlitzky et al., 2003; Waddock & Graves, 1997), and lower financial risk (e.g., Bettis, 1983; Godfrey, 2005; Miller & Reuer, 1996; Ruefli, Collins, & Lacugna, 1999; Sharfman & Fernando, 2008). Evidence of lower financial risk includes lower capital costs (Chava, 2014; El Ghoul, Guedhami, Kwok, & Mishra, 2011;

Sharfman & Fernando, 2008), reduced credit risk (Goss & Roberts, 2011), and better capital markets access (Cheng, Ioannou & Serafeim, 2014). Drawing on instrumental stakeholder theory (Donaldson & Preston, 1995; Jones, 1995), these financial risk studies, which have become the dominant perspective linking CSR with financial performance, characterize CSR as an insurance-like mechanism capable of building goodwill (Godfrey, 2005) and protecting firms from stakeholder sanction (Dorobantu, Henisz, & Nartey, 2017; Godfrey, Merrill, & Hansen, 2009; Koh, Qian, & Wang, 2013; Kölbel, Busch, & Jansco, 2017; Luo, Kaul, & Seo; 2018).

Additional research has linked better stakeholder management practices not only to risk mitigation but also to favorable firm value outcomes through additional mechanisms, including product differentiation and marketing advantages (Casadesus-Masanell, Crooke, Reinhardt, & Vasishth, 2009; Dorfman & Steiner, 1954; Fombrun, 1996; Hillman & Keim, 2001; Milgrom & Roberts, 1986; Moskowitz, 1972; Navarro, 1988; Sen & Bhattacharya, 2001), better controls on waste (Porter & Van Der Linde, 1995), increased access to resources and the generation of intangible assets (Cochran & Wood, 1984; Gardberg & Fombrun, 2006; Hull & Rothenberg, 2008; Waddock & Graves, 1997), a reduced likelihood of contingent legal liabilities (Berman, Wicks, Kotha, & Jones, 1999; Freeman, 1984; Hillman & Keim, 2001), better employee recruitment and motivation (Greening & Turban, 2000; Turban & Greening, 1997), and the ability to more effectively manage firm assets (Cochran & Wood, 1984). Although these contributions could possess risk reducing qualities, the findings of these earlier studies suggest other pathways linking a firms' management of stakeholder issues to financial outcomes may be active, including those that promote revenue, operational efficiency, and productivity (Peloza, 2009). Taken together, we'd expect these outcomes to directly impact economic gain (Lieberman et al., 2018).

Dependent variables

Dependent variable: First stage regression

Given our desire to capture the how a firm's investment in stakeholder issues shapes relational capital, we turn to stakeholders' expressed perceptions of the degree to which a firm is meeting their expectations (i.e., sentiment) for each stakeholder issue as our primary first stage dependent variable using data from TruValue Labs. Data from TruValue Labs measure media-reported stakeholder sentiment across twenty-six distinct ESG categories. It is also the first big data provider of ESG data, collecting data on over 20,000 companies as of 2021 from over 100,000 vetted sources, including media outlets, think tanks, nongovernment organizations (NGOs), analyst reports, and paywall sources like LexisNexis, which provide indicators of stakeholder attitudes toward firms' activities across these 26 distinct issue categories. To derive performance for all 26 categories, TruValue Labs employs a natural language processing (NLP) algorithm to read each information source and categorize it by ESG issue as positive or negative to calculate three different scores, including "pulse" (i.e., real-time), "insight" (i.e., akin to a long-term stock measure) and "momentum" (i.e., the direction and rate of change to the long-term stock caused by the real-time flow), according to its positive or negative sentiment. Existing academic literature has drawn on TruValue Labs ESG data to examine the relationship between public sentiment and the value placed on corporate sustainability practices by investors (Serafeim, 2020; Cheema-Fox et al., 2020), the ESG performance of active investor signatories to the UN's Principles for Responsible Investment (Kim & Yoon, 2020), and the mechanisms linking ESG performance to credit risk (Henisz & McGlinch, 2019).

There are three distinct advantages to using the TruValue data. First, unlike measures of stakeholder attitudes that rely upon voluntary unaudited disclosure by the firm, this ESG dataset

is focused on media-reported stakeholder attitudes toward a firm. This allows us to more directly capture whether a firm's actions on specific stakeholder issue categories are meeting stakeholder expectations. Second, it's the only large-scale ESG data provider to categorize ESG issues according to categories set forth by the Sustainability Accounting Standards Board (SASB) – a nonprofit standard setting body focused on establishing disclosure standards across ESG topics that enable better and more consistent communication between investors and companies about financially material ESG issues. The third benefit to using the TruValue Labs data is that using the SASB categories allows ESG issues to be categorized as financially material or immaterial by industry membership of the firm, with materiality referring to those ESG issues which could affect the financial statements in a way that would influence the decision-making of financial statement users. To illustrate materiality versus immateriality with an example, "GHG emissions" is a material ESG issue for ExxonMobil, an integrated energy company which produces GHG emissions as byproduct of its operations, but not for Wells Fargo, a large commercial and consumer bank which produces no such externality directly as a result of its operations. However, "Data security and customer privacy" is a material category for Wells Fargo but not ExxonMobil as ExxonMobil doesn't possess the personal banking and identity information of millions of consumers. Finally, TruValue Labs provides not only the sentiment scores described above but also the count of articles in each SASB category in each time period allowing us to assess changes in stakeholder attention to specific issues and issue salience.

Integrating the ESG data into our empirical analysis to generate our first stage dependent variable is a multi-step process. First, we first take the unweighted TruValue Labs Insight scores for each of the 26 unique ESG categories to create a quarterly (to align with frequency of financial reporting) score for each firm in the sample. The insight scores for each ESG category

range from 0-100. As a long-term depreciating "stock" measure of stakeholder sentiment toward an ESG issue, the Insight score is less sensitive to daily events, allowing for a better representation of a firm's stock relational capital.

Second, we convert each of these 26 categories into percentile rankings by industry and quarter for each company. The industry percentiles are calculated according to the SASB's Sustainability Industry Classifications system.[3] Within this industry classification framework employed by the SASB, companies are grouped into 11 sectors and 77 industries according to their business model attributes, resource intensity, sustainability impacts, and sustainability innovation potential.[4,5] Applying a relative measure of ESG performance such as industry percentiles is consistent with prior studies examining stakeholder management ability in the strategic management literature, particularly as industry relative scores account for heterogeneity in strategic approaches to addressing these issues and the competitive forces that shape those responses (e.g. Luo, Wang, Raithel, & Zheng, 2015).

Third, we apply weightings to these 26 ESG issue percentiles to arrive at an aggregate measure of stakeholder sentiment toward a firm. While theoretical and empirical guidance on how to weight ESG scores remains sparse, including several studies that apply equal weights across categories (e.g., Cheng et al., 2014; Waddock & Graves, 1997), recent work suggests that ESG issues aren't homogenous in their contributions to value creation, especially across industries (Eccles et al., 2014; Khan, Serafeim, & Yoon, 2016). As our thesis is principally concerned with how stakeholder issue salience strengthens the relationship between the benefits of stakeholder issue management and the costs incurred, we weight the ESG issue categories

[3] As robustness checks, we also tested industry percentiles calculated at the two-digit and four-digit GIC code level to which results remained robust.
[4] See https://www.sasb.org/find-your-industry.
[5] We also used two and four-digit Global Industry Classification (GIC) codes to which results remained robust.

according to stakeholder salience, accounting for the power, urgency, and legitimacy of those claims to generate our main dependent variable.

Power, which refers stakeholders' ability to get the firm to do something it otherwise would not do (Etzioni, 1964; Mitchell et al., 1997), has historically been associated with stakeholders' ability to impact the financial performance of a company. Prior studies examining stakeholder power have explicitly discussed how stakeholders seeking managers' attention exercise power in ways that directly impact the earnings prospects of the firm through the withholding of necessary resources (Frooman, 1999; Lenox & Eesley, 2009). To code the potential for stakeholders to withhold resources that impact the earnings prospects of the firm because of a certain issue, we create the variable *Power* to represent power derived from being a financially material stakeholder issue for that firm. Using the SASB financial materiality framework as guide, we code this variable as 1 for financially material ESG issues defined at the SASB industry level and a value of 0 if the issue is not material at the SASB industry level.

Although certain stakeholder issues may have the potential to be financially material, as mentioned in our theoretical development, possessing power does not imply the intent to use power. As such, we also develop a weight to reflect urgency and legitimacy, or degree to which these claims pertaining to an issue warrant immediate managerial attention (Mitchell et al., 1997) and are perceived as appropriate by a wide array of stakeholders. We create this weight by looking at the media intensity of each ESG issue relative to all other firm-level ESG issues during the TTM period. We calculate this media intensity by looking at the share of each ESG issue as a fraction of all media coverage of ESG issues relevant to a firm. We label this media intensity variable as *UrgencyLegitimacy*. It is calculated as:

$$UrgencyLegitimacy = \sum \frac{ESG\ category\ TTM\ article\ count_{i,j,t}}{\sum ESG\ category\ TTM\ article\ count_{i,j,t}}$$

where, *i* is defined as the ESG issue category for company *j* during the TTM period ended *t*. For example, if firm *j* has a total of 1,000 articles related to its 26 ESG categories during the TTM period ended *t* and 50 are related to the ESG issue category "GHG emissions", the urgency and legitimacy weighting for "GHG emissions" would be 5%.

For each *ESG category industry percentile*, we then multiply by the dummy variable for power and the article weighting for urgency and legitimacy to arrive at our main dependent variable: *TVL Industry Percentile Level*. It is calculated as:

$$TVL\ Industry\ Percentile\ Level_{j,t} =$$

$$\sum ESG\ category\ industry\ percentile_{j,t} Power_{j,t} UrgencyLegitimacy_{j,t}$$

Dependent variables: Second-stage regressions

We create three dependent variables using company financial data from COMPUSTAT to capture the benefits and costs of meeting stakeholders' value appropriation expectations. Importantly, all three of our primary dependent variables are rates of year-over-year (YoY) change relative to the industry median of each company. Looking at YoY change relative to industry medians has multiple benefits. It not only draws on the dynamic view of value creation (Lieberman et al., 2018), where firms increase economic gain by either increasing WTP or reducing the cost of providing goods or services from one period to the next, but it also helps mitigate the effects of exogenous industry-level shocks (Awaysheh et al., 2020).

Our first two dependent variables are meant to directly proxy for changes in economic gain that occur through increasing WTP and cost reductions. Our first dependent variable, which proxies for increases in WTP, is *Relative Sales Growth YoY*. It is defined as the percent change in trailing twelve-month (TTM) sales, which is observed quarterly, less the industry median YoY percent change over the same period. Using sales growth follows the accounting identity utilized by existing applications of value creation and appropriation (VCA) "that equates the revenues of

a firm to the sum of all payments made to its stakeholders. Simple algebraic manipulation of this payment identity combined with some assumptions yields an equality, one side of which measures value creation and the other side of which measures value distribution to the various stakeholders" (Liberman et al., 2017, p. 1194). It is defined as:

$$\textbf{Relative sales YoY change} = [(TTM\ sales_t - TTM\ sales_{t\text{-}1year}) / TTM\ sales_{t\text{-}1year}] - \tilde{x}\,[(TTM\ sales_t - TTM\ sales_{t\text{-}1year}) / TTM\ sales_{t\text{-}1year}]_i,$$

where, $\tilde{x}$ is the median YoY percentage point change in sales growth of industry *i* for the 12-month period ended *t.* The industry median year-over-year (YoY) percent change for all of our dependent variables is calculated according to the same SASB classification system used for the first stage dependent variable. SASB's Sustainability Industry Classification system.

Our second dependent variable, *Relative Gross Margin YoY,* serves as a proxy for changes in opportunity cost of providing a good or service. It is defined as the change in TTM gross margin compared to the year-ago period relative to the industry median change over the same period. Gross margin is measured as TTM gross profit, which is computed as TTM sales less the TTM costs of producing a good or service, divided by TTM sales. It captures the change in per-unit value created by a firm, and it aligns closely with innovation gain used in VCA models, which is defined as the average economic value created per unit (Lieberman et al., 2018). The industry median change in gross margin YoY is again calculated using the SASB industry classification. It is defined as:

$$\textbf{Relative gross margin YoY change} = (TTM\ gross\ margin_{j,t} - TTM\ gross\ margin_{j,t-1year}) - \tilde{x}(TTM\ gross\ margin_t - TTM\ gross\ margin_{t-1year})_i$$

where, $\tilde{x}$ is the median YoY percentage point change in gross margin of industry *i*, of which company *j* is a member, for the TTM period ended *t.*

The third dependent variable is *Relative sales/employees growth YoY change*. It is defined as the percent change in TTM sales-to-employees compared to the year ago period relative to the industry median change over the same period. Sales-to-employees is calculated by dividing TTM sales by the mean number of employees over the TTM period. The industry median change in employees-to-sales YoY is again calculated using the SASB industry classification. It's defined as:

$$\textbf{Relative } \frac{\textbf{sales}}{\textbf{employees}} \textbf{YoY change} = [(TTM\ sales/employees_{j,t} - TTM\ sales/employees_{j,t-1year})/ TTM\ sales/employees_{j,t-1year}] - \tilde{x}[(TTM\ sales/employees_{t} - TTM\ sales/employees_{t-1year})/ TTM\ sales/employees_{t-1year}]_i$$

where, $\tilde{x}$ is the median YoY percentage point change in sales-to-employees of industry *i*, of which company *j* is a member, for the TTM period ended *t*.

Independent variables

Independent variables: First-stage regression

As we are concerned with how firm's investments in specific stakeholder issues may impact stakeholder relational capital as expressed through stakeholder sentiment, we turn to data on ESG policies, objectives, and programs from Refintiv (formerly ASSET4). The dataset include policies or objectives, such as *Does the company set specific objectives to be achieved on resource efficiency?*, and programs, such as *Does the company monitor its training and development programs?*, that firms may put in place to address stakeholders' issues of concern across 72 stakeholder issue categories. Importantly, this data excludes outcomes, such as actual emissions or employee turnover, that would also be captured in our first-stage dependent variable *TVL industry percentile level*. Each of the 72 driver categories are measured from 0 to 1, with values closer to 1 representing a policy or program that better addresses an ESG category driver.

To create our first independent variable using the Refinitiv driver data, *Refinitiv driver level*, we first map each of the 72 drivers to the 26 SASB ESG issue categories discussed in the dependent variable section for *TVL Industry Percentile Level*. This mapping to SASB ESG issue then allows us to classify whether each driver relates to an ESG issue category where *Power* is equal to 1 or 0 and the *UrgencyLegitimacy* of the ESG issue category that driver is most directly relevant to. As such the *Refinitiv driver level* variable is calculated as:

$$Refinitiv\ driver\ level_{j,t} = \sum Refinitiv\ driver\ category\ score_{j,t} Power_{j,t} UrgencyLegitimacy_{j,t}$$

where, *Refinitiv driver category score* is the 0 to 1 value for each driver category score, *Power* is the financial materiality of the SASB ESG issue the *Refinitiv driver category score* is mapped to, and *UrgencyLegitimacy* is the article weighting of the SASB ESG issue the *Refinitiv driver category score* is mapped to for company *j* during quarter *t*.

Our second key independent variable is named *Refinitiv driver YoY*, and it's defined as the YoY change in *Refinitiv driver level*. Similar to our dependent variables, which consider factors impacting economic gain in both prior and present periods, we include a YoY change variable to account for changes in a firm's investments in stakeholder issues. This variable is calculated by subtracting the difference between the *Refinitiv driver level* at the end of the trailing 12-month period ("TTM") period from the *Refinitiv driver level* at the end of the TTM period one-year prior. Similar to our other independent variables, this change is then again lagged 12 months.[6]

This variable specifically allows us to not only consider a firm's existing approach to stakeholder issues, but also the trajectory of that approach. Utility arguments in behavioral economics suggest that human utility adjusts to a reference point, and it's therefore sensitive to

[6] As such, this variable captures the YoY change between year t-2 and year t-1.

changes as well as absolute levels (Kahneman, 2011). As such, stakeholder sentiment toward firms' stakeholder issue management not only reflects an absolute level of firm responsiveness but changes in that responsiveness as well.

Independent variables: Second stage regressions

The two key independent variables for our second stage regressions, which evaluate the association between predicted stakeholder sentiment and our three proxies for economic gain, are *Predicted TVL level* and *Predicted TVL YoY*. The first variable, *Predicted TVL level*, is the predicted value of the dependent variable *TVL industry percentile level* from the first stage regression lagged one year. The second variable, *Predicted TVL YoY*, is the value of *Predicted TVL level* less *Predicted TVL level* one year prior. This value is also lagged one year to avoid overlap with the period during which our economic gain variables are measured.

Control variables

The control variables employed draw on existing work linking stakeholder management with financial performance. Because our key independent variables are both levels and YoY changes, we use both the level and YoY change of each control variable with one-year lags that align with the key independent variables. All financial control variables were calculated using COMPUSTAT data. To control for firm size, we use the natural logarithm of total assets (*Ln(total assets))* and the natural logarithm of market capitalization in USD millions (*Ln(market capitalization))*. We account for capital intensity at the firm level by incorporating *Capex/PPE* (Capital expenditures divided by property plant and equipment). We also employ *Leverage* (total debt divided by total assets) and *Current ratio* (current assets to current liabilities) to account for solvency and slack resources, respectively. We also account for profitability using *Return on assets* (Trailing last 12 months net income divided by total assets), variability in profitability

using *Earnings volatility* (standard deviation of trailing four quarters return on assets), and a firm's preexisting market value using *Tobin's q* (Market value of debt and equity divided by book value of debt and equity).

---Insert Table 1 here---

RESULTS

Our first set of results predict stakeholder relational capital as a function of the level and changes in a firm's ESG policies, objectives, and programs on material issues salient to a firm's stakeholders. Results can be seen in Table 2. Materiality and issue salience weighted measures of the level (*Refinitiv driver level)* and changes (*Refinitiv driver YoY)* of a firm's ESG policies, objectives and programs are positively associated with stakeholder relational capital (*TVL industry percentile level).* Specifically, a one unit increase in *Refinitiv driver level* is associated with a 4.4% increase in TVL industry percentile level, while a one unit increase in Refinitiv driver level YoY is associated with a 3.9% increase in *TVL industry percentile level*.

Turning to the second-stage regressions, the predicted level of stakeholder relational capital (*Predicted TVL level)* is positively associated with sales growth (*Relative sales YoY change*). However, we see a negative association between the YoY change in relational capital (*Predicted TVL YoY)* and sales growth (*Relative sales YoY change).* As such, it appears that possessing higher *ex ante* relational capital relative to industry peers is associated with higher sales growth *ex post*, but the effort necessary to do so (i.e., to increase stakeholder relational capital by investing in new policies, objectives, or programs) can weigh on corporate development opportunities that contribute to near-term revenue growth. All else equal, it appears that a firm in the 80th percentile at the beginning of the year, which stays at the 80th percentile throughout the year, would be expected to experience sales growth 5bps higher than the industry

median, on average, over the next twelve months. Meanwhile, all else equal, a firm that increases from the 20th percentile to the 80th percentile over the course of the year would be expected to experience sales growth just 1bp higher than the industry median, on average, over the next twelve months.

As for the association between predicted stakeholder sentiment ESG variables and *Relative gross margin YoY change*, Model 3 suggests that *Predicted TVL level* is negatively associated with *Relative gross margin YoY change*, but *Predicted TVL YoY* is positively associated with *Relative Gross Margin YoY change*. As such, it appears that, in contrast to the ongoing benefit provided by relational capital to sales growth, relatively higher relational capital is associated with lower margin expansion. However, the process of improving YoY can be beneficial to per unit value. That is, firms which improve their relational capital on financially material and salient stakeholder issues during that period of change are likely to uncover and seize cost efficiencies. All else equal, a firm in the 80th percentile at the beginning of the year, which stays at the 80th percentile throughout the year, would be expected to see a change in gross margin that's 3bps lower than the industry median YoY change, on average, over the next twelve months. Meanwhile, a firm that increases from the 20th percentile to the 80th percentile over the course of the year would be expected to experience a YoY change in gross margin over the next twelve-months, on average, that's 4bps greater than the industry median.

It is also possible top combine the results examining sales growth YoY versus the gross margin YoY results here to determine an expected repayment period for investments in stakeholder issues. Specifically, using Models 2 and 3 of Table 2 it appears that it takes 18 months on average for the higher costs incurred relative to peers to be offset by higher revenue growth relative to peers, all else equal.

Lastly, we turn to *Relative sales/employees YoY change* in Model 4. The results suggest that *Predicted TVL level* is positively associated with positive changes in relative employee productivity YoY, while *Predicted TVL YoY* is negatively associated with relative employee productivity YoY. All else equal, a firm that's in the 80th percentile at the beginning of the year, and stays at the 80th percentile throughout the year, would be expected to see a change in sales/employees YoY that's 7bps higher than the industry median YoY change, on average, over the next twelve-months. Meanwhile, all else equal, a firm that increases from the 20th percentile to the 80th percentile over the course of the year would be expected to experience a YoY change in employee productivity that's 2bps higher than the industry median, on average, over the next twelve months.

---Insert Table 2 here---

Supplementary analysis

To highlight the importance of attending to financially material issues, we next run our regression results using those ESG issue categories for which Power is equal to 0 instead of 1 (i.e., ESG issue categories deemed financially immaterial for that industry by SASB). However, we do maintain *UrgencyLegitimacy* weightings for each of these categories. Results can be found in Table 3. Model 1 of Table 3 utilizes the key independent variables *Refintiv driver level* and *Refintiv driver YoY* that account for ESG issues where *Power*=0 but are still weighted by *UrgencyLegitimacy* in the first stage regression. The dependent variable in the first stage, *TruValue industry percentile level*, is also calculated using those categories for which Power=0 with an *UrgencyLegitimacy* weighting. Similar to the primary analysis, it appears that *Refintiv driver level* and *Refintiv driver YoY* are both positively associated with *TruValue industry*

percentile level, with a one unit increase in *Refintiv driver level* and *Refintiv driver YoY* associated with a 1.3% and 5.0% increase in *TruValue industry percentile level*, respectively.

The second stage regressions use the *Predicted TVL level* and *Predicted TVL YoY* from the revised first stage regression. Overall, as seen in models 2-4 of Table 3, compared to those results using fully salience weighted variables, these additional results show a different effect than the primary analysis. Specifically, it appears that *Predicted TVL level* and *Predicted TVL YoY* are all negatively associated with revenue, margins, and productivity. Specifically, all else equal, it appears that a firm in the 80th percentile at the beginning of the year, which stays at the 80th percentile across throughout the year for ESG issues where *Power*=0, would be expected to experience sales growth 2bps lower, relative gross margin expansion 8bps lower, and employee productivity 2bps lower than the industry median, on average, over the next twelve months. Meanwhile, all else equal, a firm that increases from the 20th percentile to the 80th percentile over the course of the year would be expected to experience a YoY change in sales growth, gross margin, and employee productivity 3bps, 7bps, and 3bps lower than the industry median, on average. Moreover, unlike a focus on financially material issues, there is no repayment period over which the relative costs associated with investments in relational capital captured in the gross margin results is repaid by way of future revenue growth relative to peers, all else equal. This suggests that not only is it beneficial for economic gain that firms focus their stakeholder investments on material stakeholder issues, but by not doing so firms can contribute to an economic loss.

---Insert Table 3 here---

Robustness analysis

To improve the potential causal interpretation of our primary analysis we undertake a robustness test examining what occurs when the focal firm's industry peers improve their attentiveness to material and salient stakeholder issues but the focal firm's policies, objectives, and programs are unchanged. We create an interaction term using a binary variable called *Divergence dummy* to represent those occasions when a focal firm's industry peers improve their investments in material salient stakeholder issues according to the Refinitiv drivers, the focal firm does not, and the focal firm's measure of stakeholder sentiment declines. Results examining this analysis can be found in Models 1-12 of Table 4. Models 1-6 show those results using independent variables for calculated with Power=1 similar to the primary analysis, while Models 7-12 are the results for which Power=0 as in our supplementary analysis. As can be seen in Table 4, the results on this subsample of cases in which the focal firm made no changes to its policies, objectives or programs continue to closely reflect those found in our primary and supplementary analysis, lending further credence to the importance of focusing stakeholder investments on more material and salient stakeholder issues.

---Insert Table 4 here---

DISCUSSION

Our theoretical arguments and empirical results point to the existence of economically substantive relationships, first, between a firm's policies, objectives, and programs on material ESG issues that are more salient to its stakeholders and the relational capital it possesses with those stakeholders and, second, between relational capital and changes in its revenue growth, margins, and worker productivity relative to its industry peers. While these results are correlational, we have provided a strong theoretical rationale for the observed correlations, demonstrated that the performance outcomes are reversed for immaterial issues, and leveraged

dynamic measures of these constructs. Further research and analysis should strive to causally identify the mechanisms underlying these relationships. Despite the correlational nature of our analysis, we believe they offer an important step forward in the debate from whether managerial efforts to address material environmental, social, and governance factors are indeed financially material to how such efforts translate into value creation, appropriation, and distribution, thereby creating long-term benefits that outweigh costs incurred via the mechanisms of revenue growth, gross margins, and productive efficiency. These results have important implications for researchers in strategic management, marketing, and operations analyzing value-based strategies for growth or cost reduction, and human and social capital management, which we review in turn below. We then highlight broader implications for stakeholder management, the value-based theory of the firm, and strategic management before closing with additional thoughts on topics for future research.

Our first contribution is in the development of a stakeholder value-based theoretical argument that links *ex ante* issue salience weighted investments in material ESG policies, objectives, and programs to stakeholder relational capital and, in turn, to the pattern of value creation, appropriation, and distribution among a firm and its stakeholders over time. While at a high level, the argument that attending to stakeholders' needs can promote harmony among stakeholders as well as shareholder value is widely invoked, the intervening mechanisms by which such investments deliver shareholder returns and the contingencies that govern that relationship are often underdeveloped. In response, we make four advances. First, drawing on value-based strategy, we argue and demonstrate that issue salience weighted investments in material ESG policies, objectives, and programs accumulates relational capital. Second, we identify and analyze three mechanisms by which this stakeholder relational capital can generate

economic gain: increases in customer WTP captured via revenue growth, reductions in payments to suppliers measured via gross margins, and efficiencies which can alter either WTP for consumers or suppliers (i.e., the how). Third, we broaden the focus of managerial attention from stakeholder power to issue salience and highlight the importance of investing in relational capital with substantive resource allocations that address issues of particular concern to stakeholders (i.e., the where). Fourth, our analysis incorporates both the level of a firm's performance in addressing these issues and recent shifts in that level which typically require substantive investments thus allowing us to speak to the timing of payback (i.e., the when). Our empirical results highlight that there is no free lunch. Improving ESG performance offers benefits in terms of higher changes in relative margins but comes at a cost of relative sales growth and productivity whereas higher levels of ESG performance enhance relative sales growth and productivity changes but at the expense of lower rates of improvement in gross margins. Such analysis offers important tactical and operational guidance to managers as to where a firm should invest in ESG issues, as well as how and when it should expect to earn a return on that investment.

Scholars at the intersection of marketing and strategic management have previously argued that a firm's CSP could impact customer WTP, loyalty, and trust (Bhattacharya & Sen, 2003; Lichtenstein, Drumwright, & Braig, 2004). Similar arguments have appeared in the supply chain and operations literature (Hoffman & Mehra, 2000). However, empirical tests of this relationship have looked at the correlation between varying measures of CSP and customer or supplier perceptions of the firm, or on firm value or risk, with a particular focus on firms sensitive to customer (Servaes & Tamayo, 2013) or supplier opinions (Porter & van der Linde, 1995). We build on this prior work by demonstrating that revenue growth relative to peers is

higher for firms with better performance on ESG issues most urgent to more powerful stakeholders. We thus connect work on customer or supplier opinions to firm value and risk through the channel of revenue increases above an industry baseline. Future work could build on these insights by exploring how firms navigate cases where customers have dissonant views.

Scholars have similarly argued that a focus on ESG issues could lower costs of materials, capital, and labor. The evidence in support of such claims has been largely qualitative with the exception of work that aggregates the analysis up to the corporate level and looks at the cost of capital (Chava, 2014; Goss & Roberts, 2011). Once again, we provide evidence linking these theoretical arguments and qualitative evidence to the larger corporate-level findings through the channel of cost margins relative to industry peers. Future work could build on these insights by exploring whether firms with better supply chain management or operational skills are more likely to realize such cost reductions and how firms navigate conflict along suppliers and/or internal manufacturing and service provision.

Within the literature on the strategic management of human capital, employee motivation, and productivity the impact of stakeholder issues has long been argued. Extensive empirical evidence, including through the use of field experiments, has provided evidence of this link and more aggregate work has identified corporate-level performance implications for firms perceived as offering better working environments (Barrymore & Sampson, 2021; Edmans, 2011; 2012). We provide further empirical evidence of such an effect for firms that address powerful stakeholders' more salient issues. Future work could build on these insights by exploring how firms can best identify the interest of their workers and navigate cases where those interests are in conflict.

While stakeholder theory was developed as a theoretical lens for strategic management (Freeman, 1984), the two bodies of scholarship have remained isolated and developed largely independently (see Jensen (2005) and Mahoney (2012) for important exceptions). By using the bridge of value-based logic and highlighting the relevance of issue salience, we offer theoretical arguments and empirical evidence that brings stakeholder theory squarely into the mainstream of strategic management. While the theoretical arguments are long-standing and well-established, the integrated presentation of those arguments and the empirical results to support them we hope accelerates recent complementary theoretical (Bosse, et al., 2009; Bridoux & Stoelhorst, 2016; Bundy, Vogel, & Zachary, 2018; Harrison et al., 2010; Jones et al., 2007; Tantalo & Priem 2016) and empirical (Atz et. al., 2019; Eccles et al., 2014; Lieberman et al., 2017) efforts to forge stronger ties between these fields. Of particular note is the manner in which the values of both primary and secondary stakeholders can be linked to shareholder value. Investments in material ESG issues salient to a firm's stakeholders accumulates relational capital which, in turn, facilitates joint value creation and mitigates discord in value appropriation and distribution which leads to higher customer willingness to pay and productivity thus generating shareholder value. Note, however, the system need not be self-correcting as the critical intervening constructs of stakeholder urgency and legitimacy need not be distributed across issues or stakeholders in a manner that aligns shareholder and stakeholder value.

We also believe that the collection of these three channels for value creation and appropriation in a single analysis for a broad set of firms offers important insight to the literature on corporate social performance and strategic management more broadly. The better management of more material and salient ESG issues impacts multiple facets of a company's operations and its profit and loss statement. Future work should explore not only tradeoffs

among customers, suppliers, and employees, but also the tradeoffs across secondary stakeholders such as public-sector actors, communities, and civil society organizations.

From a broader perspective, we show that firms which better manage ESG issues that are both material and salient to their stakeholders also experience higher revenue growth and higher worker productivity, yet these benefits require investment. In short, firms that better manage their ESG factors appear to be better managed overall, on average. While we often lack measures of unobserved managerial capability or quality, we believe the increased effort to measure the management of material and salient ESG issues could offer important insights to an even broader set of scholars seeking guidance on the sophistication of management systems and decision-making, particularly as it relates to long-term, cross-functional, risks and opportunities.

Another contribution of our analysis lies in the comparison of results across datasets and across salient and financially material ESG factors. Our results buttress the rapid shift away from measures relying on voluntary unaudited corporate reporting to those that draw on stakeholder opinions as expressed in the media and other third-party sources. We also build on recent work that has highlighted the importance of focusing on ESG factors that are financially material for the firm or industry rather than the full set of factors that might be of interest to external stakeholders or activists. We extend this focus on financial materiality by introducing the construct of stakeholder urgency and legitimacy which varies across firms and time leading to a more dynamic and heterogenous pattern of materiality on ESG factors.

Despite these important contributions, our analysis also suffers from important gaps which suggest opportunities for future research. Most notably, our analysis lacks a causal identification strategy. Future research should continue to seek natural experiments that offer exogenous variation in the management of ESG factors which could buttress the correlational

evidence that we offer here. We pool our analysis across industries whereas one might expect substantial variation in these associations across industries. Our results are also drawn on an exclusively American sample of large publicly-traded firms and thus cannot automatically be generalized to other institutional environments nor small, family-owned, or state-owned firms. Even within our sample of large American firms, while we have provided evidence on how the management of material and salient ESG issues impacts performance, the mechanisms of implementation and of overcoming internal and external resistance to such implementation and the associated short-term costs also remain an important topic for future analysis**.** Finally, **s**takeholder urgency and legitimacy are treated as exogenous rather than strategic levers that the firm and its stakeholders seek to influence through substantive action as well as image management and strategic mobilization via framing contests and other communication strategies to alter the appropriation and distribution of value created as well as progress on grand societal challenges such as climate risk, inequality, human rights, diversity, equity and inclusion.

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Table 1 Summary statistics and correlations

Variable	Count	Mean	Std. Dev.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]
[1] Relative sales YoY change	90,807	0.1	10.3	1.000																										
[2] Relative gross margin YoY change	82,348	0.0	8.5	0.008	1.000																									
[3] Relative sales/employees YoY change	85,631	0.0	1.4	0.415	-0.009	1.000																								
[4] ESG industry percentile level	21,879	47.3	23.1	-0.001	-0.005	-0.025	1.000																							
[5] Refinitiv driver level	14,632	0.5	0.2	0.012	0.022	0.015	0.510	1.000																						
[6] Ln(total assets)	89,285	7.9	1.8	-0.089	-0.010	-0.022	0.064	-0.048	1.000																					
[7] Leverage	82,193	1.3	3.6	0.003	-0.002	0.013	0.000	0.000	0.002	1.000																				
[8] Capex / PPE	82,862	0.2	3.2	0.091	0.007	0.010	-0.039	0.030	-0.147	-0.005	1.000																			
[9] Current ratio	72,264	2.6	6.7	0.116	-0.008	0.005	-0.083	0.062	-0.178	0.007	0.168	1.000																		
[10] Market capitalization	87,369	9,423	29,833	0.024	-0.004	-0.002	-0.011	0.009	0.603	-0.005	0.085	0.124	1.000																	
[11] Net earnings	84,960	453	2,543	-0.036	-0.011	-0.023	-0.004	0.003	0.572	-0.004	0.074	0.037	0.867	1.000																
[12] Sales / employees	86,896	821	4,515	0.013	0.025	-0.068	0.014	-0.010	0.181	-0.006	0.012	0.034	0.106	0.120	1.000															
[13] Gross margin	85,131	0.3	17.2	0.010	-0.016	-0.021	-0.080	0.060	0.083	-0.004	0.231	0.260	0.313	0.276	-0.137	1.000														
[14] Return on assets	90,557	0.0	1.6	0.022	-0.032	-0.061	-0.018	0.013	0.011	0.000	0.173	0.097	0.248	0.378	-0.004	0.325	1.000													
[15] Earnings volatility	88,700	0.1	0.2	-0.034	0.009	0.015	-0.073	0.055	-0.177	-0.025	0.016	0.026	-0.078	-0.123	-0.017	0.010	-0.142	1.000												
[16] Tobin's q	87,358	1.9	1.4	0.168	0.007	0.065	-0.085	0.064	-0.230	-0.008	0.246	0.188	0.195	0.097	-0.075	0.352	0.522	0.084	1.000											
[17] Ln(total assets) YoY	79,896	0.0	1.2	0.387	0.011	0.002	-0.004	-0.003	0.013	0.009	0.082	0.082	0.049	0.028	0.065	0.105	0.143	-0.153	0.092	1.000										
[18] Leverage YoY	65,137	4.5	321.9	-0.002	0.000	0.004	0.004	-0.003	0.012	-0.001	0.053	0.012	0.032	0.046	0.001	0.029	0.033	0.001	0.016	0.005	1.000									
[19] Capex / PPE YoY	75,682	0.2	7.6	-0.018	-0.013	-0.015	-0.016	0.012	-0.049	-0.010	0.089	0.001	-0.020	-0.015	0.026	-0.022	0.029	0.021	0.008	-0.037	-0.007	1.000								
[20] Current ratio YoY	66,860	0.1	0.9	0.026	0.034	0.020	-0.003	0.002	-0.026	0.019	-0.005	0.223	-0.002	0.005	-0.005	0.016	0.059	0.136	0.015	-0.030	0.007	0.020	1.000							
[21] Market capitalization YoY	80,628	8.8	2404.5	0.014	-0.009	0.001	0.004	0.003	-0.033	-0.001	-0.013	0.019	-0.009	-0.005	0.001	-0.019	0.154	0.278	0.005	-0.048	-0.005	0.020	0.095	1.000						
[22] Net earnings YoY	75,403	-1.2	51.5	0.021	-0.132	-0.003	0.010	-0.007	0.016	0.012	0.019	0.017	0.026	0.062	0.005	0.046	0.162	-0.090	0.039	0.040	0.001	-0.037	0.010	0.000	1.000					
[23] Sales / employees YoY	86,695	0.0	1.0	0.301	-0.008	-0.021	-0.016	0.012	0.008	-0.008	0.099	0.117	0.066	0.029	0.058	0.095	0.133	-0.046	0.119	0.525	-0.010	0.076	-0.001	0.036	0.031	1.000				
[24] Gross margin YoY	75,748	0.0	8.7	-0.001	-0.019	-0.021	0.011	-0.008	-0.014	-0.001	-0.010	-0.019	-0.010	0.000	0.004	0.011	0.051	-0.075	-0.006	0.020	-0.001	-0.001	-0.012	-0.026	0.022	-0.010	1.000			
[25] Return on assets YoY	83,345	0.2	101.8	0.018	-0.015	0.041	-0.004	0.003	0.009	0.001	-0.005	0.023	0.018	0.032	0.018	0.010	0.090	-0.080	0.034	0.018	0.000	-0.025	-0.004	-0.001	0.429	0.031	-0.002	1.000		
[26] Earnings volatility YoY	82,018	1.1	6.9	-0.036	-0.019	-0.002	-0.019	0.014	0.002	-0.016	-0.014	-0.001	-0.035	-0.087	-0.008	-0.041	-0.210	0.421	-0.040	-0.094	-0.002	-0.024	0.039	0.006	-0.054	-0.046	-0.074	-0.062	1.000	
[27] Tobin's q YoY	80,610	0.0	0.3	0.028	0.034	0.068	-0.012	0.009	-0.086	-0.012	-0.009	-0.002	0.018	-0.053	-0.038	-0.028	-0.003	0.048	0.248	-0.249	-0.023	0.046	0.031	0.062	-0.009	-0.013	-0.004	0.022	0.005	1.000

Table 2 Panel regressions for ESG issues where *Power*=1

	(1)	(2)	(3)	(4)
	TVL industry percentile level	**Relative sales YoY change**	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**
Refintiv driver level	0.0436			
	(0.000)			
Refintiv driver YoY	0.0394			
	(0.000)			
Predicted TVL level		0.0202	-0.0208	0.0786
		(0.000)	(0.009)	(0.000)
Predicted TVL YoY		-0.0082	0.0650	-0.0800
		(0.000)	(0.001)	(0.000)
Ln(total assets)	-0.1170	-0.0223	-0.0119	-0.0050
	(0.000)	(0.005)	(0.602)	(0.556)
Leverage	0.0010	0.0000	0.0000	0.0000
	(0.330)	(0.354)	(0.994)	(0.761)
Capex / PPE	0.1160	0.0259	-0.2700	0.0023
	(0.286)	(0.619)	(0.073)	(0.967)
Current ratio	0.0420	0.0047	-0.0004	-0.0019
	(0.026)	(0.386)	(0.982)	(0.749)
Market capitalization	0.0000	0.0000	0.0000	0.0000
	(0.124)	(0.962)	(0.872)	(0.099)
Net earnings	0.0000	0.0000	0.0000	0.0000
	(0.063)	(0.182)	(0.644)	(0.023)
Sales / employees	0.0000	0.0000	0.0000	0.0000
	(0.000)	(0.113)	(0.215)	(0.000)
Gross margin	-0.0780	-0.0292	0.0909	0.00692
	(0.000)	(0.227)	(0.242)	(0.793)
Return on assets	0.0000	-0.5020	0.556	-0.3190
	(0.821)	(0.000)	(0.076)	(0.001)
Earnings volatility	-0.5970	-0.1570	-0.9880	-0.0180
	(0.000)	(0.034)	(0.000)	(0.824)
Tobin's q	0.5780	0.0327	-0.0242	0.0153
	(0.258)	(0.000)	(0.201)	(0.016)
Ln(total assets) YoY	0.0040	2.6290	-1.3570	-0.4550
	(0.608)	(0.000)	(0.260)	(0.165)
Leverage YoY	-0.0280	0.0000	-0.0001	0.0001
	(0.072)	(0.911)	(0.862)	(0.566)
Capex / PPE YoY	-0.0550	-0.0151	0.0351	-0.0017
	(0.097)	(0.160)	(0.438)	(0.890)
Current ratio YoY	0.0050	0.0129	0.0815	0.0260
	(0.783)	(0.247)	(0.074)	(0.038)
Market cap YoY	-0.3060	-0.0182	0.2030	0.0020
	(0.148)	(0.329)	(0.010)	(0.924)
Net earnings YoY	0.0000	-0.0001	-0.0006	0.0000
	(0.226)	(0.605)	(0.195)	(0.730)
Sales / employees YoY	-0.0900	0.0356	0.0596	-0.1920
	(0.484)	(0.460)	(0.768)	(0.000)
Gross margin YoY	0.0000	-0.0034	0.0136	0.0007
	(0.238)	(0.247)	(0.269)	(0.831)
Return on assets YoY	-0.0640	0.0000	0.0004	0.0000
	(0.106)	(0.816)	(0.016)	(0.638)
Earnings volatility YoY	1.8610	0.0009	-0.0082	-0.0014
	(0.000)	(0.480)	(0.105)	(0.320)
Tobin's q YoY	0.0023	0.3430	-0.5760	0.2340
	(0.412)	(0.000)	(0.008)	(0.001)
Constant	-0.0275	0.1850	0.1810	0.0824
	(0.530)	(0.028)	(0.459)	(0.356)
Controls	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y
N	13,409	10,122	10,054	10,175
R-sq	0.328	0.156	0.074	0.124

p-values in parentheses

Table 3 Supplementary analysis: Panel regressions for ESG issues where *Power*=0

	(1)	(2)	(3)	(4)
	TVL industry percentile level	**Relative sales YoY change**	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**
Refintiv driver level	0.0125			
	(0.000)			
Refintiv driver YoY	0.0500			
	(0.000)			
Predicted TVL level		-0.0031	-0.0005	-0.0067
		(0.000)	(0.088)	(0.045)
Predicted TVL YoY		-0.0021	-0.0100	-0.0239
		(0.000)	(0.061)	(0.015)
Ln(total assets)	-0.1149	-0.0223	-0.0123	-0.0049
	(0.000)	(0.005)	(0.590)	(0.557)
Leverage	0.0010	0.0000	0.0000	0.0000
	(0.337)	(0.354)	(0.996)	(0.773)
Capex / PPE	0.1150	0.0259	-0.2680	0.0017
	(0.289)	(0.619)	(0.076)	(0.975)
Current ratio	0.0400	0.0047	0.0002	-0.0020
	(0.034)	(0.386)	(0.992)	(0.732)
Market capitalization	0.0000	0.0000	0.0000	0.0000
	(0.135)	(0.962)	(0.886)	(0.095)
Net earnings	0.000	0.0000	0.0000	0.0000
	(0.063)	(0.182)	(0.637)	(0.023)
Sales / employees	0.0000	0.0000	0.0000	0.0000
	(0.000)	(0.113)	(0.213)	(0.000)
Gross margin	-0.0780	-0.0292	0.0910	0.0070
	(0.000)	(0.228)	(0.241)	(0.790)
Return on assets	0.0000	-0.5020	0.5610	-0.3210
	(0.868)	(0.000)	(0.074)	(0.001)
Earnings volatility	-0.5960	-0.1570	-0.9820	-0.0192
	(0.000)	(0.034)	(0.000)	(0.813)
Tobin's q	0.5710	0.0327	-0.0245	0.0154
	(0.264)	(0.000)	(0.196)	(0.016)
Ln(total assets) YoY	0.0040	2.6290	-1.3590	-0.4620
	(0.562)	(0.000)	(0.259)	(0.158)
Leverage YoY	-0.0290	0.0000	-0.0001	0.0001
	(0.069)	(0.911)	(0.844)	(0.556)
Capex / PPE YoY	-0.0530	-0.0151	0.0346	-0.0015
	(0.109)	(0.160)	(0.446)	(0.900)
Current ratio YoY	0.0060	0.0129	0.0806	0.0262
	(0.777)	(0.247)	(0.077)	(0.037)
Market cap YoY	-0.3150	-0.0182	0.2050	0.0018
	(0.135)	(0.329)	(0.009)	(0.934)
Net earnings YoY	0.0000	-0.0001	-0.0006	0.0000
	(0.238)	(0.605)	(0.196)	(0.727)
Sales / employees YoY	-0.0950	0.0355	0.0583	-0.1900
	(0.462)	(0.461)	(0.773)	(0.001)
Gross margin YoY	0.0000	-0.0034	0.0133	0.0008
	(0.236)	(0.247)	(0.280)	(0.816)
Return on assets YoY	-0.0650	0.0000	0.0005	0.0000
	(0.102)	(0.816)	(0.016)	(0.631)
Earnings volatility YoY	1.8160	0.0009	-0.0083	-0.0014
	(0.000)	(0.480)	(0.104)	(0.330)
Tobin's q YoY	0.0003	0.1420	-0.4460	0.1490
	(0.963)	(0.000)	(0.008)	(0.001)
Constant	-0.3170	0.1850	0.1910	0.0793
	(0.010)	(0.028)	(0.434)	(0.374)
Controls	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y
N	13,409	10,662	10,329	10,457
R-sq	0.291	0.124	0.044	0.103

p-values in parentheses

Table 4 Robustness tests**:** Focal firm divergence from industry peers

	Power=1						Power=0					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Relative sales YoY change	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**	**Relative sales YoY change**	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**	**Relative sales YoY change**	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**	**Relative sales YoY change**	**Relative gross margin YoY change**	**Relative sales/ employees YoY change**
Predicted TVL level				0.0191	-0.0901	0.0709				-0.0200	-0.0022	-0.0300
				(0.000)	(0.015)	(0.012)				(0.044)	(0.041)	(0.020)
Predicted TVL YoY				-0.0055	0.0837	-0.0594				-0.0050	-0.0602	-0.0488
				(0.010)	(0.008)	(0.023)				(0.000)	(0.050)	(0.013)
Divergence dummy (see note 1)	-0.0048	-0.0082	-0.0060	-0.0057	-0.0074	-0.0054	0.0061	0.0043	0.0069	0.0025	0.0040	0.0031
	(0.000)	(0.000)	(0.000)	(0.000)	(0.006)	(0.000)	(0.000)	(0.000)	(0.000)	(0.009)	(0.004)	(0.014)
Predicted TVL industry percentile level*Divergence dummy	-0.0021	0.0100	-0.0100	-0.0145	0.0083	-0.0113	0.0078	-0.0118	0.0066	0.0154	-0.0302	0.0069
	(0.000)	(0.040)	(0.000)	(0.000)	(0.029)	(0.000)	(0.000)	(0.053)	(0.000)	(0.000)	(0.026)	(0.001)
Predicted TVL industry percentile YoY*Divergence dummy	0.0009	-0.0014	0.0019	0.0048	-0.0010	0.0039	-0.0094	0.0097	-0.0044	-0.0077	0.0060	-0.0021
	(0.010)	(0.017)	(0.003)	(0.000)	(0.055)	(0.000)	(0.034)	(0.039)	(0.022)	(0.028)	(0.031)	(0.046)
Ln(total assets)	-0.0275	-0.0126	-0.0279	-0.0276	-0.0118	-0.0283	0.0000	-0.0003	0.0000	0.0000	-0.0003	0.0000
	(0.000)	(0.012)	(0.000)	(0.000)	(0.019)	(0.000)	(0.255)	(0.750)	(0.255)	(0.263)	(0.741)	(0.262)
Leverage	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0146	0.2610	0.0102	0.0154	0.2410	0.0110
	(0.285)	(0.671)	(0.279)	(0.290)	(0.652)	(0.285)	(0.433)	(0.720)	(0.583)	(0.407)	(0.741)	(0.553)
Capex / PPE	0.0182	-0.0007	0.0124	0.0183	0.0020	0.0124	0.0074	0.0044	0.0076	0.0074	0.0054	0.0076
	(0.355)	(0.989)	(0.528)	(0.353)	(0.969)	(0.527)	(0.004)	(0.953)	(0.004)	(0.004)	(0.942)	(0.003)
Current ratio	0.0039	-0.0158	0.0041	0.0040	-0.0161	0.0043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.158)	(0.002)	(0.137)	(0.140)	(0.001)	(0.119)	(0.000)	(0.859)	(0.000)	(0.000)	(0.830)	(0.000)
Market capitalization	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.000)	(0.833)	(0.000)	(0.000)	(0.835)	(0.000)	(0.000)	(0.570)	(0.000)	(0.000)	(0.567)	(0.000)
Net earnings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3460	-6.3310	1.4590	1.3570	-5.7920	1.4770
	(0.000)	(0.739)	(0.000)	(0.000)	(0.734)	(0.000)	(0.061)	(0.668)	(0.043)	(0.060)	(0.695)	(0.041)
Sales / employees	0.2810	-0.1970	0.4600	0.2680	-0.1730	0.4540	-0.0017	0.0125	-0.0016	-0.0017	0.0099	-0.0016
	(0.694)	(0.838)	(0.524)	(0.706)	(0.858)	(0.528)	(0.121)	(0.625)	(0.143)	(0.124)	(0.696)	(0.145)
Gross margin	-0.0029	0.0040	-0.0029	-0.00299	0.00404	-0.0029	0.0000	0.0002	0.0000	0.0000	0.0002	0.0000
	(0.009)	(0.017)	(0.011)	(0.008)	(0.016)	(0.009)	(0.027)	(0.453)	(0.031)	(0.024)	(0.402)	(0.027)
Return on assets	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0172	-0.9190	0.0194	0.0179	-0.9240	0.0204
	(0.042)	(0.726)	(0.048)	(0.036)	(0.646)	(0.041)	(0.216)	(0.006)	(0.161)	(0.200)	(0.006)	(0.141)
Earnings volatility	-0.0247	-0.0596	-0.0245	-0.0234	-0.0617	-0.0233	1.8130	3.4860	1.7810	1.8170	3.2770	1.7830
	(0.143)	(0.012)	(0.147)	(0.164)	(0.009)	(0.168)	(0.000)	(0.226)	(0.000)	(0.000)	(0.255)	(0.000)
Tobin's q	1.9400	0.4470	1.8920	1.944	0.437	1.895	0.0000	0.0008	0.0001	0.0000	0.0011	0.0001
	(0.000)	(0.025)	(0.000)	(0.000)	(0.028)	(0.000)	(0.878)	(0.951)	(0.822)	(0.888)	(0.934)	(0.835)
Ln(total assets) YoY	0.0000	-0.0002	0.0000	0.0000	-0.0002	0.0000	0.0015	-0.0208	0.0014	0.0015	-0.0215	0.0014
	(0.930)	(0.808)	(0.877)	(0.936)	(0.823)	(0.884)	(0.567)	(0.864)	(0.594)	(0.564)	(0.859)	(0.590)
Leverage YoY	0.0015	-0.0133	0.0010	0.0016	-0.0135	0.00112	0.0225	0.5960	0.0226	0.0225	0.5900	0.0225
	(0.554)	(0.088)	(0.686)	(0.538)	(0.084)	(0.664)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Capex / PPE YoY	0.0175	0.0424	0.0174	0.0173	0.042	0.0172	0.0000	-0.0030	0.0000	0.0000	-0.0027	0.0000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.936)	(0.842)	(0.994)	(0.972)	(0.858)	(0.972)
Current ratio YoY	-0.0001	0.0013	-0.0001	-0.0001	0.0013	-0.0001	-0.0006	0.0075	-0.0001	-0.0005	0.0063	-0.0001
	(0.802)	(0.160)	(0.712)	(0.816)	(0.156)	(0.724)	(0.933)	(0.981)	(0.982)	(0.939)	(0.984)	(0.984)
Market cap YoY	0.0039	-0.0070	0.0044	0.00367	-0.00675	0.00417	0.0000	-0.0012	0.0000	0.0000	-0.0011	0.0000
	(0.528)	(0.714)	(0.471)	(0.548)	(0.723)	(0.490)	(0.782)	(0.697)	(0.773)	(0.780)	(0.707)	(0.772)
Net earnings YoY	0.0001	-0.0012	0.0001	0.0001	-0.0012	0.0001	0.1980	-0.3130	0.2000	0.1980	-0.3210	0.2020
	(0.340)	(0.000)	(0.329)	(0.351)	(0.000)	(0.341)	(0.000)	(0.296)	(0.000)	(0.000)	(0.283)	(0.000)
Sales / employees YoY	0.2120	-0.0111	0.2150	0.212	-0.0114	0.215	0.0000	-0.0001	0.0000	0.0000	-0.0001	0.0000
	(0.000)	(0.610)	(0.000)	(0.000)	(0.600)	(0.000)	(0.077)	(0.820)	(0.090)	(0.073)	(0.786)	(0.085)
Gross margin YoY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	-0.0026	0.0006	0.0006	-0.0027	0.0006
	(0.039)	(0.354)	(0.049)	(0.037)	(0.368)	(0.046)	(0.002)	(0.786)	(0.001)	(0.002)	(0.780)	(0.002)
Return on assets YoY	0.0007	0.0284	0.0008	0.0007	0.0285	0.0007	0.2540	1.0310	0.2480	0.0004	-0.0067	0.0004
	(0.728)	(0.000)	(0.700)	(0.742)	(0.000)	(0.713)	(0.000)	(0.257)	(0.000)	(0.002)	(0.073)	(0.001)
Earnings volatility YoY	0.0002	-0.0005	0.0002	0.0002	0.1540	0.2910	-0.0061	-0.2330	0.0018	-0.0003	0.0071	-0.0003
	(0.027)	(0.013)	(0.011)	(0.522)	(0.010)	(0.000)	(0.964)	(0.091)	(0.001)	(0.003)	(0.062)	(0.002)
Tobin's q YoY	-0.0002	0.0005	-0.0002	0.6080	0.8280	-0.0052	-0.0989	-0.3970	0.0064	-0.0001	0.0011	0.0009
	(0.022)	(0.026)	(0.011)	(0.000)	(0.000)	(0.196)	(0.219)	(0.000)	(0.027)	(0.935)	(0.410)	(0.462)
Constant	0.5560	0.7350	0.3760	-0.0002	0.0002	0.0183	-0.6230	0.3340	0.0013	-0.4860	-0.0014	-0.9380
	(0.000)	(0.000)	(0.896)	(0.808)	(0.836)	(0.353)	(0.259)	(0.204)	(0.260)	(0.010)	(0.994)	(0.060)
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	9,842	9,450	9,882	9,842	9,450	9,882	9,842	9,450	9,882	9,842	9,450	9,882
R-sq	0.098	0.022	0.085	0.194	0.081	0.153	0.065	0.020	0.071	0.099	0.050	0.083

p-values in parentheses

Note 1: Dummy reflects Refinitiv average of industry peers goes up at SASB industry level, Refinitiv of focal firm remains constant, and predicted TVL percentile of focal firm goes down.