

SPINNING GOLD: THE FINANCIAL RETURNS TO STAKEHOLDER ENGAGEMENT

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We provide direct empirical evidence in support of instrumental stakeholder theory's argument that increasing stakeholder support enhances the financial valuation of a firm, holding constant the objective valuation of the physical assets under its control. We undertake this analysis using panel data on 26 gold mines owned by 19 publicly traded firms over the period 1993–2008. We code over 50,000 stakeholder events from media reports to develop an index of the degree of stakeholder conflict/cooperation for these mines. By incorporating this index in a market capitalization analysis, we reduce the discount placed by financial markets on the net present value of the physical assets controlled by these firms from 72 percent to between 37 and 13 percent. Copyright © 2013 John Wiley & Sons, Ltd.

INTRODUCTION

Corporations increasingly allocate resources to buttress the political and social support for their operations. The theoretical and empirical literature examining the returns to such investments has, however, become increasingly equivocal over time. Theoretical models drawing on neoclassical economics and institutional theory highlight rationales to be suspicious of such activity. Empirical evidence offers at best a marginal and contingent positive relationship between such efforts and financial performance. We seek to return the focus of the theoretical literature to its roots in instrumental stakeholder theory (Clarkson,

1995; Donaldson and Preston, 1995; Jones, 1995) by demonstrating dramatic positive returns to stakeholder support using a novel and broadly applicable event-based measure of stakeholder conflict/cooperation and an empirical specification that better conforms to the precepts of that theory.

We argue that efforts to enhance support from external stakeholders should not be conceived in terms of the distribution of rents among direct factors of production (Alchian and Demsetz, 1972; Jensen and Meckling, 1976) but rather as investments in political and social capital that alter the behavior of a wider range of stakeholders. Such investments reduce opportunistic hold-up by stakeholders with whom the firm has no explicit buyer or supplier contracts but whose cooperation is nevertheless required in order for the firm to create and capture value (Baker, Gibbons, and Murphy, 2002). Such investments can alter these stakeholders' behavior in a manner that enhances the probability that a business plan will proceed on schedule and on budget and, ultimately, generate

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sustainable shareholder value (Freeman, 2010; Zingales, 2000).

Our theoretical arguments refocus attention on an important question for instrumental stakeholder theory—*Does stakeholder support improve financial and operational performance?*—and are examined with empirical metrics that closely match that theory. In contrast, the focus of recent theoretical work has been on narrower conceptions of the underlying mechanisms, while the growing body of empirical studies testing these mechanisms has relied on data whose limitations preclude a comparison of narrower and broader conceptions of stakeholder relations. Without underplaying the contributions provided by these theoretical and empirical works, we believe that our collective understanding of the value of stakeholder engagement can be enhanced by a straightforward analysis of the relationship between stakeholder support broadly defined and firm value on the basis of data that directly and objectively capture both sides of this relationship.

Our study draws inspiration from the path taken by two closely related literatures that have benefitted from a reconsideration of the key questions and concepts as more appropriate data and empirical tools became available. First, in the literature examining the financial impact of environmental management, much of the original focus was on distinguishing between competing causal mechanisms underlying this relationship, including a possible trade-off between competing economic and environmental performance goals; increased economic performance due to higher morale or productivity associated with better environmental performance; or increased economic performance due to positive externalities to other aspects of the firm's operations (McGuire, Sundgren, and Schneeweis, 1988). Sharfman & Fernando (2008) extended the literature by highlighting that, in addition to improving resource efficiency, environmental management can reduce risk, including that of detrimental action by external stakeholders. As this literature developed objective data on environmental compliance and embraced broader conceptions of economic and environmental performance that allowed for both direct and indirect effects to be captured in their relationship, the consensus that environmental management may be positively related to financial performance strengthened (Dowell, Hart, and Yeung, 2000; King and Lenox, 2001).

Moreover, subsequent research also highlighted the sensitivity of these results to the actions of environmental pressure groups (Binder and Neumayer, 2005; Epstein and Schnietz, 2002; Maxwell, Lyon, and Hackett, 2000), a subset of the stakeholders considered in this paper. To the extent environmental performance enters into the decisions of some stakeholders as to whether to support or disrupt a firm's operations, this effect would be captured in our study, which broadens the theoretical argument to incorporate all stakeholders regardless of the issue or "stake" that ties them to the firm.

Second, the evolution of the literatures examining the financial returns to corporate reputation or status also offers important insights. In that case, the development of objective data on corporate reputation (Fombrun and Shanley, 1990) and methods to value intangible assets (Villalonga, 2004), likewise proved critical in fostering the development of the literature beyond its foundations (Weigelt and Camerer, 1988). However, researchers struggled to separate the causal impact of reputation or status on performance from the reverse channel. In order to address this challenge, one group of papers relied upon particular industry settings in which independent and objective indicators of reputation or status could be operationalized and shown to be independent of prior financial performance (Rao, 1994; Stuart, 1999) while a second focused on the contingent impact of reputation or status under certain contingencies or environmental shocks (Roberts and Dowling, 2002). In order to confront the same challenge of causal inference in the stakeholder relations literature (Baron, Harjoto, and Jo, 2011; Margolis, Elfenbein, and Walsh, 2007), we take the former approach in this paper and leave the second for subsequent research.

Our empirical analysis is set in the gold mining sector where stakeholder conflict resulting from the social, political, and environmental consequences of mining—including the relocation of communities, increased corruption and private rent seeking, and increased pollution and environmental risks—has led to costly delays and disruptions in project development and execution. The resulting performance shortfalls eventually triggered corrective investments in stakeholder engagement strategies. The growing emphasis on political and social support in the industry is affecting even small mining companies, who, motivated by their desire to sell their operations to the

majors, are increasingly acknowledging their own need to obtain a “social license” (Boutilier, 2009, 2011; Chiu and Sharfman, 2011; Lassonde, 2003; Thomson and Boutilier, 2011).

“It used to be the case that the value of a gold mine was based on three variables: the amount of gold in the ground, the cost of extraction, and the world price of gold. Today, I can show you two mines identical on these three variables that differ in their valuation by an order of magnitude. Why? Because one has local support and the other doesn’t.” (Yani Roditis, former COO Gabriel Resources, interview by authors)

Our empirical design follows directly from this observation. We link data on financial market valuation to the intrinsic value of the gold mine and demonstrate that the degree of stakeholder conflict/cooperation helps explain the gap or difference between these figures. We undertake this analysis using panel data on 26 gold mines over the period 1993–2008.

We manually code over 50,000 stakeholder events from the population of media reports covering these mines. Our sentence-level coding protocol identifies the population of media relevant stakeholders initiating an action or expressing a sentiment as well as the target of that action or statement. It codes the action or expression according to a scale measuring the degree of conflict or cooperation among political and social actors that has been developed in the international relations and conflict studies literature. We aggregate this time-varying network of collaborative and conflictual relations into a single time-varying metric of political and social support for the mine and demonstrate that this metric is an important component, together with characteristics of the mine and the price of gold, in calculating the financial market valuation of the 19 publicly traded parent firms. Specifically, by incorporating this metric in a market capitalization analysis that also includes macro-level constraints on policy change, we reduce the discount placed by financial markets on the net present value of the gold controlled by these firms from 72 to between 37 and 13 percent.

Our results support the argument that the ability to enhance support from external stakeholders is a key driver of financial performance in that

investors may discount the value of a firm’s assets (and thus the value of the firm) based on the tenor of that firm’s relations with its external stakeholders. This empirical result serves as a bridge between instrumental stakeholder theory, corporate social responsibility, corporate reputation or status, and strategic management. We offer instrumental stakeholder theorists and social responsibility advocates powerful evidence to combat recent skepticism and encourage theoretical extensions to the theory of the firm that encompass a broader range of implicit and relational contracts. We also provide a novel methodology that allows for the subsequent analysis of the strategic determinants of improvements in stakeholder cooperation, corporate reputation and status. We argue that our approach and methodology is generalizable beyond gold mining and natural resource extraction to a wide array of corporate activity, and discuss in the conclusion the next steps in an interdisciplinary research agenda designed to enhance the theoretical and empirical support for the financial returns to stakeholder engagement.

THE VALUATION OF STAKEHOLDER MANAGEMENT AND THEORIES OF THE FIRM

Multiple theoretical models explore mechanisms that link managerial efforts to build stakeholder support to financial performance. Models focused on principal–agent relationships highlight that managers may seek to improve relationships with stakeholders in order to enhance their own quality of life or their reputation and do so at the expense of shareholders (Jensen, 2002). A second group of models suggest that under certain market conditions improved relationships with stakeholders benefit shareholders because managerial decisions to alter the nature of the production process or of the product in order to gain stakeholder support increase consumers’ willingness to pay and/or reduce suppliers’ reservation price (McWilliams and Siegel, 2001). A final group of models incorporate strategic activists and suggest that the extent to which stakeholder engagement correlates with financial performance depends on the characteristics of the activists and the firm’s response (Baron, 2001, 2009). We review these models below and highlight that, while theoretical extensions to incorporate a broader set of

stakeholders are warranted by increased managerial commitment to stakeholder engagement, we lack both clear empirical evidence regarding the magnitude of the potential returns available through such efforts and the data to test the contingencies that are beginning to emerge from these models. We seek to provide both.

Scholars skeptical of efforts to engage stakeholders or seeking to explain negative empirical associations between such efforts and shareholder value have argued that managers use relationships with external stakeholders to pursue self-interest seeking perquisites, career enhancement, or moral peace of mind. Levitt (1958) and Friedman (1962, 1970) famously attack efforts by managers to pursue objectives other than shareholder value maximization as short-term conflict avoidance by managers. They advocate instead a single-minded all-out focus on profit maximization (see Sundaram and Inkpen (2004) for a literature review of the shareholder value debate). Jensen (2002) models shareholder principals' loss of control over managerial agents who may seek to pursue personal social interests (Hemingway and Maclagan, 2004) in the presence of multiple hard-to-quantify performance metrics. Authors have also emphasized the possibility of collusion between managers and either institutional shareholders (Cespa and Cestone, 2007) or nonshareholding stakeholders (Surroca and Tribó, 2008) in support of managerial tenure and social responsibility at the expense of (noninstitutional) shareholder returns. Institutional theorists have further highlighted the pressures for managerial conformity that can arise from regulation, peer behavior and civil society independent of the efficiency of adoption (Campbell, 2007; Jennings and Zandbergen, 1995; Margolis and Walsh, 2003; Marquis, Glynn, and Davis, 2007).

Empirical research supporting these mechanisms include studies showing that financial slack is a determinant of corporate social performance (McGuire, Sundgren, and Schneeweis, 1988; Waddock and Graves, 1997); headquarter policies rather than local conditions drive social responsibility programs in foreign subsidiaries (Husted and Allen, 2006); shareholder activism reallocates discretionary resources away from corporate social performance (David, Bloom, and Hillman, 2007); and insider ownership and leverage (i.e., factors that increase managerial alignment with shareholder interests) are negatively associated with

corporate social responsibility (Barnea and Rubin, 2006). Baron, Harjoto, and Jo (2011) find that (1) social pressure diverts resources away from corporate financial performance toward corporate social performance, (2) social performance has no net effect on financial performance (though further analysis shows that the result is positive in consumer goods and negative in industrial industries) and, (3) social pressure is directed at firms with relatively high levels of publicly stated commitments to social responsibility (i.e., soft targets).

Scholars supportive of efforts to engage stakeholders or seeking to explain a positive empirical relationship between such efforts and shareholder value shift the focus of the theoretical argument from the costs of *ex post* managerial discretion to external stakeholders' influence over *ex ante* managerial strategy with respect to members of the value chain (see Kitzmueller and Shimshack (2012) for a literature review). This literature seeks to formalize elements of Freeman's (1984, 2010) stakeholder approach to strategic management, which emphasizes how the preferences and objectives of the myriad actors with a political, economic, or social stake in the operations should be incorporated within strategy making.

These insights are corroborated empirically by Hillman and Keim (2001) who find that stakeholder management contributes to shareholder value while participation in social issues that are less directly linked to the preferences of primary stakeholders decreases it. More recently, Barnett and Salomon (2006) show a curvilinear relationship between social and financial performance, with firms at both ends of the social responsibility spectrum exhibiting higher financial performance than firms in the middle and argue in subsequent work (Barnett and Salomon, 2012) that firms benefit unevenly from investments in social responsibility because they vary in their capacity to influence stakeholders (Barnett, 2007).

Mackey, Mackey, and Barney (2007) advance the theoretical work by incorporating the supply and demand for corporate social responsibility activities into a contemporaneous model of corporate valuation. Several formal accounts analyze the supply consequences for corporate social responsibility activities by publicly traded companies and not-for-profit entities of demand competition from stakeholders for charitable contributions and consider the implications for consumer welfare, the level of public regulation,

and the relationship between corporate social performance and financial performance (Besley and Ghatak, 2007; Kotchen, 2006; Zivin and Small, 2005). If combined with differentiated marketing or regulations that place followers at a disadvantage, such activity could itself generate economic rents. Moreover, the financial benefits to such activities need not accrue contemporaneously. One line of theoretical (Godfrey, 2005) and empirical (Godfrey, Merrill, and Hansen, 2009) work posits and demonstrates that corporate social responsibility can contribute to moral or reputational capital that insulates the firm from negative consequences in the event of future adverse shocks.

A growing body of literature in organizational economics seeks to model and identify empirically the mechanisms by which stakeholder relations might impact shareholder value by highlighting the impact of (stakeholder perceptions of) corporate social responsibility on the supply or price of factors of production (McWilliams and Siegel, 2001) and the extent of shared value creation (Porter and Kramer, 2011). Moral motivations may alter the behavior of numerous stakeholders (Brekke, Kverndokk, and Nyborg, 2003), including consumers who may be willing to pay more for a product or service perceived as socially responsible (Arora and Gangopadhyay, 1995; Casadesus-Masanell *et al.*, 2009; Elfenbein and McManus, 2010). As a result, where signaling of producer type is more important or effective (McWilliams and Siegel, 2001) or where such consumers are more powerful (Hoepner, Yu, and Ferguson, 2010) or markets vary in their competitiveness (Bagnoli and Watts, 2003; Fisman, Heal, and Nair, 2006) companies should exhibit greater corporate social responsibility.

Similarly, employees may prefer to work for a company they perceive to be socially responsible, demand lower wages or benefits, or exert greater effort (Besley and Ghatak, 2005; Bhattacharya, Sen, and Korschun, 2008; Greening and Turban, 2000; Kim *et al.*, 2010; Turban and Greening, 1997). Suppliers of other factors of production could make similar choices influencing the cost of capital or production (Mackey, Mackey, and Barney, 2007; Porter and Kramer, 2006; Waddock, 2000). Activists themselves can be considered stakeholders whose preferences, strategies, or resources can influence corporate behavior (Baron, 2001, 2009; Baron and Diermeier, 2007; Frooman,

1999; Rehbein, Waddock, and Graves, 2004; Rowley and Berman, 2000).

In this work, efforts at generating competitive advantages from key stakeholder relations can generate sustained rents if corporate governance is strong (Shahzad, David, and Sharfman, 2011), customer switching is costly due to the development of relation-based trust (Du, Bhattacharya, and Sen, 2007; Lacey, 2007; Mohr and Webb, 2005; Salmones, Crespo, and Bosque, 2005), or regulation emanating from governments (after lobbying) or industry leaders (Frynas, 2008, 2010) allows first movers to monetize their advantage. The choice as to whether to engage or confront stakeholders is itself a complex function of competitor strategies and stakeholders' choices between engagement and confrontation (Baron, Harjoto, and Jo, 2011).

While these extensions of agency models of managerial discretion draw attention to the circumstances under which the returns to stakeholder engagement may be positive, it must be noted that the circumstances are relatively specific. Such findings highlight that while stakeholder engagement may pay for shareholders of a subset of firms, it is costly for others and seem to suggest that, on balance, the rhetoric surrounding stakeholder engagement is oversold. We disagree. The emphasis within these formal models (and the supporting empirical analysis) on stakeholders in the economic value chain whose main choice is the price charged for inputs, or willingness to pay for outputs, runs counter to the broader precepts of a stakeholder approach. The addition of homogeneous activists able to increase production costs or reduce consumer willingness to pay is a welcome extension, but we argue for an even broader conceptualization of relevant stakeholders and offer an alternative empirical approach to demonstrating the financial impact of broad stakeholder engagement.

For many production processes, an implicit or explicit social license to operate is a necessary, if difficult to specify, input. For example, \$15 billion of gold sitting in a mountainside cannot be transformed into shareholder rents with financial, engineering, and marketing inputs alone. It also requires the political and social support of key stakeholders including not only members of the economic value chain but also government officials, regulators, community leaders, and members of civil society (Henisz and Zelner, 2005).

These stakeholders may reside locally, nationally, or internationally. As their degree of conflict with the owner and operator of the proposed gold mine increases, they are able either to divert rents from the efficient operation of the mine to their preferred causes or to coordinate public and private activity (e.g., in the government or among unions or activists) to delay the opening of the mine, suspend its operations, or raise the cost of continued development or operations to uneconomical levels.

In this perspective, efforts to build stakeholder support are not meant to increase consumer willingness to pay for the gold, motivate employees, or extract rents from suppliers. Instead they are made in order to maintain the right to transform the gold and generate rents from that process—a right granted formally and directly by the government but also informally and indirectly by a broader set of external stakeholders (Aden, Kyu-Hong, and Rock, 1999; Liu, 2009). Activities perceived by stakeholders as socially responsible build up political and social capital that enhances stakeholder cooperation and reduces stakeholder conflict. As a result, the probability that a business plan can proceed on schedule and on budget is enhanced and the financial market discount applied by investors to the objective valuation (i.e., free of stakeholder influence) of the tangible assets is reduced. The resulting empirical prediction is that *holding constant the objective value of a firm's assets, its market valuation increases with stakeholder support.*

EMPIRICAL SETTING AND DATA

We conduct our empirical analysis of this hypothesis in the gold mining industry due to the unique availability of data that allows for the identification of the financial impact of stakeholder relations and due to the widespread acknowledgement of the critical role of such relations for profitability. An additional strength of this empirical setting is that none of the channels by which the organizational economics literature posits a relationship between corporate social and financial performance are operative. Consumers are unable to differentiate between gold from one mine or company or another. There is little evidence that miners or managers of mining companies are offering wage or productivity benefits to more responsible mining companies. An insufficient number of investors are allocating capital on socially

responsible grounds to influence managerial behavior. Activists, though prominent, are unable to impose substantial *direct* costs on mining companies. By contrast, mining is an industry where the valuation of a fixed resource (i.e., a gold mine) could vary wildly based on the degree of stakeholder conflict or cooperation, so the *indirect* costs that activists and other stakeholders could impose may be substantial. Stakeholder relations can influence the regulatory environment, land permitting, environmental regulation, taxation, labor contracts, terms of capital-intensive imports, and the like. The value of a fixed stock of gold is thus plausibly linked to these stakeholders' preferences on whether the owner should have the right to transform the underground gold into shareholder capital.

Our specific empirical context is the population of 19 publicly traded mining firms on the Toronto Stock Exchange who own and operate one, two, or three mines outside of the United States, Canada, and Australia as listed in the Raw Materials Database¹—a total of 26 mines in 20 countries that have reached the stage of a feasibility study.² This sampling criterion allows us (1) to draw upon strict Canadian disclosure requirements³ for financial and operating data of mining firms, and (2) to exploit the clear and direct links between media reports on a single (or two or three) mine(s) and changes in financial performance without contamination from numerous other news stories covering other assets or practices of the same publicly traded company.

In order to obtain sufficient information to estimate the intrinsic value of the mines using widely accepted resource valuation models, we gathered all relevant financial and operating data on these companies during the period that they were publicly listed following the completion of their feasibility studies. We combined financial and operating data from the parent company's quarterly financial reports filed with System for Electronic Document

¹ Raw Materials Database—<http://www.rmg.se>.

² A feasibility study is an economic study based on sample drilling results and engineering analysis, which presents enough information to determine whether or not the project should be advanced to the construction and production stage. These estimates are intended to be accurate within a 15 percent error band.

³ The requirements of the Toronto Stock Exchange for continuous disclosure are available at http://www.tsx.com/en/listings/tsx_issuer_resources/continuous_disclosure.html

Analysis and Retrieval (SEDAR) filing system⁴ and the stock price information from the Toronto Stock Exchange and Yahoo! Finance. These data allow us to evaluate the current market valuation of the firms as a function of the intrinsic valuation of their gold reserves, the degree of stakeholder conflict/cooperation and the credibility of the policy environment in which they operate as detailed below.

Financial market valuation

We use a simple financial valuation formula that models stock market value as a function of the value of a company's announced resource stock and the likelihood that the company will successfully extract these resources without extensive planning or operational delays. Formally, we estimate

$$MV_{it} = \alpha + \beta \sum_{j=1}^{m_i} (RV_{jit} P_{ jit}) + \epsilon_{it},$$

where

MV_{it} refers to the market value of company i at time t ,

RV_{jit} reflects the current valuation of mine j of company i at time t ,

m_i is the number of mines owned and operated by company i , where $i = 1, 2$ or 3 , and

$P_{ jit}$ is the probability at time t that company i will advance the exploitation of the resources at mine j according to the announced schedule.

We calculate the market value of company i at time t (MV_{it}) by multiplying the stock price times the number of common shares outstanding and adding company debt. Shares outstanding and debt information are taken from the COMPUSTAT North America database.

Our analysis examines the extent to which fluctuations in the financial value of the companies in our sample can be explained by changes in the value of the gold in the ground or whether the model needs to be broadened to incorporate nonmarket factors that might affect the timely

extraction of the resources and that signal to investors that they should discount the value they ascribe to the gold still in the ground. We discuss below the evaluation of the resource value ($RV_{ jit}$) and the measurement of two factors affecting operations at the mine ($P_{ jit}$): the level of stakeholder conflict/cooperation and the credibility of the national policy environment.

Resource valuation

We build upon the industry standard resource valuation model developed by Cairns and Davis (1998), who propose a modified formulation of the Hotelling valuation principle for valuing hard-rock mineral properties (Miller and Upton, 1985a, 1985b) that relies on assumptions used by mining engineers when planning the rate of extraction for a mine.⁵ We apply the Cairns and Davis model to our empirical context by adding a time dimension and considering the possibility that companies in our sample own multiple mines for which the resource value can be assessed separately. Formally, we evaluate each mine j of company i as follows

$$RV_{ jit} = W_{ jit} S_{ jit} \frac{1 - e^{-r_t(T_{ jit} - y_{ jit})}}{r_t(T_{ jit} - y_{ jit})}, \text{ where}$$

$W_{ jit}$ = average forecast operating profit per unit of gold of mine j and time t ,

$S_{ jit}$ = quantity of gold reserves of gold mine j at time t ,

$T_{ jit}$ = quarters of estimated mine life for gold mine j at time t ,⁶

$y_{ jit}$ = quarters of operation of gold mine j at time t ,

r_t = Treasury bond yield with term $T_{ jit} - y_{ jit}$ at time t .

We compute the average forecast operating profit per unit of gold for mine j of

⁵ The model retains the central parameters of the Hotelling valuation principle (commodity price, cost of production, and mineral reserve data) but allows for the use of average cost data, which is more readily available for different mines.

⁶ T denotes total estimated mine life, not the remaining mine life at time t . T is indexed by t because companies often adjust their estimates of the total life of a mine to reflect adjustments in reserve estimates or changes in technology or production schedules.

⁴ The SEDAR filing system provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators (CSA).

company i at time t as $W_{jit} = 1/(T_{jit} - y_{jit})^{T_{jit}-y_{ jit}}$
 $\sum_{k=t} (GoldPrice_t - CostExtraction_{jk})$, or the average quarterly profit for the remaining period of operation.

Following Cairns and Davis (1998), we use the current price of gold to estimate or forecast profits. For each mine, data on the cost of extraction ($CostExtraction_{jk}$), the remaining quantity of proven and probable gold reserves S_{jit} , the estimated mine life T_{jit} , and the production start date used to calculate the quarters the mine has already been in operation $y_{ jit}$ were collected from company annual and quarterly reports, annual information forms, technical reports, and press releases available on the companies' websites or filed with SEDAR. For the Treasury-bond yield r_t we use Treasury constant-maturity data provided by the Federal Reserve Bank of St. Louis and available for different terms from 1 month to 30 years.

We base our analysis on market valuation controlling for resource valuation as opposed to the more familiar ratio of market to book value or an evaluation of Tobin's Q for two reasons. First, mining companies typically value reserves on their balance sheet at historical cost as opposed to their net present value based on current estimates of reserves, cost of extraction, and world prices. Because of this industry-specific idiosyncrasy, we argue that market-to-book ratio is not an accurate method of scaling value to a comparable baseline. Our measure of resource value is, by contrast, a better estimate of these mining firms' *replacement value of assets* (i.e., the denominator in Tobin's Q ratio). Second, our empirical model is effectively a structural model that specifies a particular relationship between the variables of interest. Specifically, the model assumes that, in the absence of project-level and country-level risk, $\beta = 1$. That is, market value is equal to the net present value of the underlying natural resources owned by the firm. In reality, however, β is never 1. We argue that the formula needs to be modified to account for project-level risk (specifically, the degree of conflict or cooperation with different social, political, and economic stakeholders) and country-level risk (specifically, political risk that reflects the likelihood that the government will unilaterally change policies that alter the value of the project). Replacing market value with market-to-book ratio on the left-hand side of

the equation would misrepresent the underlying structural relationship.

Stakeholder conflict/cooperation

Our research advances the study of the financial impact of stakeholder engagement through the development of media-based stakeholder event data that captures the level of conflict or cooperation between the company and its various political, social, and economic stakeholders. Throughout the nearly four-decade long history of empirical literature on the link between stakeholder relations and corporate financial performance (see Margolis, Elfenbein, and Walsh (2007)), measurement of the former construct has proven a daunting challenge. Early studies relied on small-sample comparisons of subjectively rated "better" versus "worse" performers or used corporate responses to surveys. Over time, external sources of data replaced researchers' own ratings. The data became more objective because it relied upon consumer polling, analysis of annual reports, and other public documents regarding corporate practices.

While these were clear improvements both in assuaging concerns on construct validity and in expanding the sample of covered firms, the unit of analysis remained the corporation. Scholars thus explored the effects of corporate-level disclosures, audits and policies on performance but struggled with converting these results into operational guidance to frontline managers tasked with resource allocation decisions. Doing so required untenable assumptions that corporate policies translated into operational practices for stakeholder relations and that strategies were not contingent upon country, stakeholder, issue, time, industry, and project context. Scholars seeking to loosen these assumptions struggled with a lack of more fine-grained data.

By contrast, scholars looking at the costs to corporations associated with irresponsible corporate activity or with external activism targeting the corporation have long used more micro-level event data drawn from media reports (Earl *et al.*, 2004). A wide body of literature links media reporting of adverse events, including product recalls (Davidson and Worrell, 1992), corporate criminal activity (Davidson and Worrell, 1988; Gunthorpe, 1997; Karpoff, Lee, and Vendryk, 1999; Karpoff and Lott, 1993), violations of labor law (Davidson, Worrell, and Cheng, 1994; Hersch, 1991), and environmental violations (Karpoff, Lott, and

Wehrly, 2005) to negative financial performance. More recently and closely related to our analysis, King and Soule (2007) demonstrate that activist campaigns in the media negatively impact market valuation particularly for campaigns targeting consumers or workers in firms who themselves lack a strong prior record of media coverage (i.e., a stock of reputational capital). These studies typically proceed by linking information on the date of an adverse event to abnormal stock market returns or a long-term reduction in market valuation. King and Soule (2007) go further in coding information on the size of the protest, the number of sponsoring organizations, and the type of issue.

Scholars in international relations and conflict studies have gone even further in their coding of event data in their long-standing examination of the impact of “soft power” or the degree of conflict and cooperation among states on subsequent relations between those states, including the incidence of military conflict (for a review of this literature see Schrot (1995)). In this literature, events are coded as subject-verb-object triples in which one actor undertakes an action or expresses an opinion connoting conflict or cooperation with another actor. The intertemporal evolution of dyadic and network conflict and cooperation is analyzed to ascertain the determinants of escalation of international conflict or cooperation.

The closest analogue to this type of data in the management realm lies in the realm of corporate reputation (Fombrun and Shanley, 1990) where the appearance of negative words in the media is associated with subsequent deterioration in earnings and stock prices (Tetlock, Saar-Tsechansky, and Macskassy, 2008) as well as overall stock index levels, trading volume, and volatility (Das and Chen, 2007; Loughran and McDonald, 2011). The tone of earnings press releases is associated with subsequent earnings and short-term stock price movement (Davis, Piger and Sedor, 2007). Text analysis of Amazon seller reviews similarly demonstrates that strong reputations are associated with increasing market power (Ghose and Ipeirotis, 2011).

Bringing such an event-based approach to the study of instrumental stakeholder theory offers numerous advantages over the extant approaches of relying on corporate disclosures, audits, or principles. First, a much larger sample of firms could potentially be incorporated within an analysis. Second, the stakeholder opinions and actions that are

included within the media reports are more accurate representations of a firm’s relations with its stakeholders than the evaluations of distant topical experts. Third, real-time event reports in the media offer a much more accurate source of information on how a company is perceived by its stakeholders at a moment in time than do periodic audits or expert surveys. As stakeholder conflict and cooperation fluctuates with events and tactics, a measure that captures these dynamics should outperform those that are more static. Finally, it is easier to separate the actions and opinions of stakeholders from those of the focal firm and therefore examine their interdependence rigorously.

We created a novel database of firm–stakeholder relations from over 50,000 media-reported events linking firms and their stakeholders. Our source was the full set of more than 20,000 media documents in the FACTIVA database that mention the mine or the parent company of the mine. Every article was read carefully to identify stakeholder events, which were then hand-coded according to a detailed coding protocol adapted from the international conflict studies literature (Bond *et al.*, 2003; King and Lowe, 2003). A stakeholder event is an instance in which a media-relevant⁷ stakeholder acts or expresses sentiment toward the firm or vice-versa. We distinguish between the initiator of the event and its target by coding who (*Source* actor) did what (*Verb* or *Verb phrase*) to whom (*Target* actor).

We assembled the stakeholder events dataset with the help of a number of undergraduate research assistants who underwent extensive training under our guidance and close supervision. To assess the level of inter-rater agreement (IRA)—that is, the level of similarity between different coders’ judgments and the extent to which their work can be considered interchangeable (LeBreton and Senter, 2008)—our research assistants overlapped in the coding of a subset of the articles in our sample. We used this overlap to assess inter-rater agreement on 313 different items, where one “item” is the level of conflict or cooperation between two stakeholders in a given

⁷ Our reliance on the media to define the population of relevant stakeholders generates an inclusive set of political, social and economic actors without regard to their normative legitimacy. We believe this strategy to be appropriate because we seek to measure the financial impact of stakeholder conflict and cooperation not the choice by managers as to whether to engage with a specific stakeholder.

quarter. We compute multiple IRA indices used extensively in organizational research, specifically the r_{WG} , AD_M , AD_{Md} , and a_{WG} (see LeBreton and Senter, 2008, for complete definitions and formulas used to compute each index). Regardless of the IRA measure used, we observed a very satisfactory level of inter-rater agreement for the vast majority of the 313 items assessed. For 284 items the level of inter-rater agreement as measured by r_{WG} exceeds 0.70, the value most scholars interpret as indicating agreement (Lance, Butts, and Michels, 2006). Over the 313 items evaluated, the mean of r_{WG} is 0.86 and the standard deviation is 0.27. Similarly, for a_{WG} —an index that adjusts r_{WG} in a way that does not allow the scale and the number of judges to affect the results (Brown and Hauenstein, 2005)—the mean is 0.80 and the standard deviation is 0.09. Using the average deviation from the mean (AD_M) and the average deviation from the median (AD_{Md}) indices that have been increasingly used in applied psychology and management over the last decade (Smith-Crowe *et al.*, 2013), we obtain an equally satisfactory level of inter-rater agreement. Because this class of indices measures dispersion, lower values indicate higher agreement, and the results can be interpreted on the original scale. For our inter-rater data, the AD_M and AD_{Md} have means of 0.77 and 0.72, respectively, and standard deviations of 1.02 and 0.99, respectively, on a scale of 1 to 20.

The degree of conflict/cooperation in the verb phrases was coded using a modified version of the (Goldstein, 1992) scale, which we augmented to reflect relations better between firms and stakeholders in the business context. The Goldstein conflict–cooperation scale is based upon McClelland's (1971) World Events Interaction Survey (WEIS), which groups international relations events into 22 verb categories ranging from conflictual to cooperative using verbs such as “accuse,” “promise,” “threaten.” Our modified conflict/cooperation scale is a measure of the degree of conflict/cooperation between actors and ranges across 20 categories from extremely conflictual events valued at -9, denoting the launch of violent attacks with actual or potential serious deaths or injury, to highly cooperative events valued at 10, denoting the provision of armed support or defense; neutral events are valued 0. We extended and slightly adapted the vocabulary of verb phrases to address the difference between firm–stakeholder and stakeholder–stakeholder

interactions in the commercial sphere from the traditional population of interactions in the diplomatic sphere. Over 11,000 verbs and verb phrases were mapped on the scale through a “fuzzy matching” of synonyms comprising the smaller vocabulary in the original scale (a summary of the categories as well as the full vocabulary is available from the authors upon request). Table 1 provides several examples of sentences coded according to this protocol.

We aggregate the stakeholder events data to reflect the level of a company's conflict or cooperation with stakeholders at each mine in every quarter of available data and compute a rolling stock of stakeholder conflict/cooperation. The empirical measure is constructed using a moving average that discounts the “relevance” of past reports by weighing less a report dating from the past than a current report. Formally, for each mine j of each company i at time t we calculate

$$CC_{jit}^* = \sum_{l=0}^w \frac{\delta^l n_{ji,t-l}}{\sum_{m=0}^w \delta^m n_{ji,t-m}} cc_{ji,t-l}, \text{ where}$$

cc_{jit} = level of stakeholder conflict/cooperation at mine j for company i at time t ,

$n_{ji,t}$ = number of new media reports for mine j of company i at time t ,

w = window of the moving average, and

δ = discount factor.

The main results presented below are estimated using a window of eight quarters and a discount rate of 0.8; sensitivity checks show that these results are robust to specifications using alternative values. Summary statistics and a correlation matrix for the variables in our dataset are reported in Table 2.

Policy credibility

While our measure of stakeholder conflict/cooperation proxies for the social license to operate, we also seek to adjust the resource valuation for the credibility of the formal license to operate. Where the current concession, taxation, or royalty agreements lack credibility, investors may apply a discount to the resource valuation irrespective of the degree of stakeholder conflict/cooperation under the premise that a future government could more readily alter policies in

Table 1. Samples of stakeholder event coding

Sentence text	Source (or subject)	Verb(s)	Target(s) (or object(s))	Conflict/cooperation category	Conflict/cooperation scale
ASG chairman Stephen Everett also praised RAMSI and local police and thanked the Solomons government for its positive support	ASG chairman Stephen Everett	Praise; thank	Local police; Solomons government	[Express support verbally]	3
On September 14, 2007, President Nursultan Nazarbayev of Kazakhstan ceremonially kicked off the process of extracting gold and copper ore at the Varvarinskoye deposit. He was quoted as saying that this mine is one of many enterprises in the region that will ‘build up the power of Kazakhstan’s economy’	President Nazarbayev	Ceremonially kicked off	Varvarinskoye deposit owned by European Minerals Corporation	[Show support through action]	4
[George] Salamis [President of Rusoro, Russian firm] shied away from commenting directly on the importance of Rusoro’s Russian component but instead said: “We wouldn’t be anywhere in Venezuela if it weren’t for the great connections we’ve built with the Venezuelan government at all levels.”	Salamis - President of Rusoro	Build connections	Venezuelan government	[Build positive relations with]	3
Mr. Kabilo has ordered foreign companies operating there to negotiate or see their concessions sold to rivals. The companies involved—the Toronto-based exploration company Barron Resource, a Belgian-Canadian consortium called Mindev and Barrick Gold, one of the world’s largest gold companies—are in an unenviable position.	Mr. Kabilo [leader of ADFL rebel group]	Ordered... to negotiate or see their concessions sold	Foreign companies Barron, Mindev & Barrick	[Threaten]	-4

Table 1. *Continued*

Sentence text	Source (or subject)	Verb(s)	Target(s) (or object(s))	Conflict/cooperation category	Conflict/cooperation scale
Kabila's government is fighting for its survival as rebels backed by neighboring Rwanda and Uganda have pushed their way westward toward the capital city of Kinshasa. Zimbabwe and Angola are supporting Kabila with arms and troops.	Kabila's government	Fight for survival	Rebels	[Opposed in active military conflict]	-10
Kabila's government is fighting for its survival as rebels backed by neighboring Rwanda and Uganda have pushed their way westward toward the capital city of Kinshasa. Zimbabwe and Angola are supporting Kabila with arms and troops.	Rwanda government; Uganda government	Back	Rebels	[Support in active military conflict]	10
Kabila's government is fighting for its survival as rebels backed by neighboring Rwanda and Uganda have pushed their way westward toward the capital city of Kinshasa. Zimbabwe and Angola are supporting Kabila with arms and troops.	Zimbabwe government; Angola government	Support with arms	Kabila	[Support in active military conflict]	10

Table 2. Summary statistics and correlation matrix

Variable			Observations	Mean	St. dev.	Min	Max
	Market value	Resource valuation					
Market value			176	304.227	355.215	3.930	2279.556
Resource valuation			147	594.553	522.003	83.819	2294.293
Valuation × stakeholder conflict/cooperation			112	221.013	166.453	0.000	799.493
Valuation × (stakeholder conflict/cooperation + policy certainty)/2			73	125.524	79.642	9.790	339.052
Stakeholder conflict/cooperation			115	0.507	0.218	0.000	1.000
Policy certainty			176	0.158	0.198	0.000	0.670
	Market value	Resource valuation	Valuation × stakeholder conflict/cooperation	Valuation × (stakeholder conflict/cooperation + policy certainty)/2	Stakeholder conflict/cooperation	Policy certainty	
Market value	0.110						
Resource valuation	0.121	0.911					
Valuation × stakeholder conflict/cooperation	0.206	0.913	0.905				
Valuation × (stakeholder conflict/cooperation + policy certainty)/2	0.082	-0.116	0.260	0.092			
Stakeholder conflict/cooperation	0.155	-0.085	-0.241	0.152	-0.203		
Policy certainty							

a manner inimical to investors (Fatás and Mihov, 2003; Henisz, 2004). We measure the credibility of the formal policy environment using the Political Constraint Index (POLCON) which captures the number of veto players across the different independent branches of government in each country adjusted by the level of political alignment across the different branches (Henisz, 2000a).

ECONOMETRIC ANALYSIS AND RESULTS

Cooperative relationships between the firm and its various stakeholders increase the probability that the mining project will develop without significant delays. We test whether the expected value of the company's mining resources matches the market value using random-parameter models that can accommodate individual (i.e., parent-firm level) heterogeneity in the relationship between resource and financial market valuation, as well as random-effects (or random intercept) models and fixed-effects models. A wide array of coefficient estimates obtained in company-by-company regressions (results not shown) indicate that investors assign different dollar values to a unit

increase in the resource valuation (or the expected resource valuation) of different mines. Random-parameter estimators can accommodate such unit to unit variation by relaxing the assumption that the relationship between Y_i and X_i is defined by a vector of *true* coefficients β_i and assuming instead that the coefficients β_i are random variables.

We estimate the following random-parameter model:

$$MV_{it} = \alpha_i + \beta_i \sum_{j=1}^m RV_{jit} P_{jit} + \epsilon_{it},$$

where

$$\alpha_i = \alpha + \gamma_\alpha v_{i,\alpha}, \quad \beta_i = \beta + \gamma_\beta v_{i,\beta}, \quad \text{and} \quad v_{i,\alpha}, v_{i,\beta} \sim N(0,1).$$

Results vary considerably when estimating the regression coefficient on the resource valuation for each company (RV_{jit}) and the *expected* resource valuation ($RV_{jit} P_{jit}$) that takes into consideration stakeholder support and policy credibility. The results obtained using the random-parameter estimation are shown in Table 3. The models assume that the coefficients are random variables drawn from a normal distribution and estimate both the

Table 3. Random coefficient estimates

	(1)	(2)	(3)	(4)	(5)
Resource value	0.284*				
	(2.55)				
Resource value × stakeholder conflict/cooperation		0.523*			
		(2.41)			
Resource value × policy certainty			0.464*		
			(2.21)		
Resource value × (stakeholder conflict/cooperation + policy certainty)/2				0.631***	
				(4.02)	
Resource value × stakeholder conflict/cooperation × policy certainty					0.867*
					(2.52)
Constant	183.5***	177.7***	208.8***	176.7***	195.7***
	(4.32)	(3.60)	(5.30)	(4.41)	(4.99)
lns1_1_1					
Constant	-0.982***	-0.308	-0.615	-1.026*	-0.126
	(-4.13)	(-1.17)	(-1.60)	(-2.06)	(-0.33)
lns1_1_2					
Constant	5.070***	5.205***	4.731***	4.720***	4.706***
	(23.95)	(23.83)	(12.56)	(9.81)	(12.01)
atr1_1_1_2					
Constant	-0.337	-0.487	-0.121	0.155	-0.231
	(-1.05)	(-1.55)	(-0.27)	(0.29)	(-0.49)
Insig_e					
Constant	4.946***	4.860***	4.816***	4.810***	4.825***
	(111.93)	(97.21)	(73.20)	(73.40)	(71.17)
Observations	289	235	141	141	136

t statistics in parentheses.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

mean and the standard deviation for the intercept and the slope.

Model (1) shows that, when assuming that investors do not factor in the possibility of delays in the planning stages and disruptions in the production stage, they are willing to pay, on average, about 28 cents for an increase of 1 dollar in the resource valuation of a gold mining company. By contrast, when we consider the possibility that in bringing the mine to production the company will likely encounter various obstacles that delay the extraction of the resources and model it in terms of the level of stakeholder conflict/cooperation (model 2), in terms of the level of policy credibility (model 3), or in terms of both the level of stakeholder conflict/cooperation and policy credibility (models 4 and 5), the estimated unconditional means for the coefficients are higher and closer to 1. More specifically, if we adjust the resource valuation by the level of stakeholder conflict/cooperation as a proxy for the likelihood of considerable delays or disruptions (model 2), our random estimate suggests that investors are

willing to pay, on average, about 52 cents for every dollar increase in the company's expected resource valuation. If we adjust the resource valuation by the level of country-level political risk as a proxy for the likelihood of delays in the project development schedule (model 3), the random coefficient estimates indicate that investors are willing to pay about 46 cents for every dollar increase in the company's resource cash flows. Finally, if we model the likelihood that the company will face delays and disruptions at its mine(s) in terms of both the level of conflict/cooperation with stakeholder and country-level political risk using the mean of the two (model 4) or their product (model 5) and, if we discount the valuation of the company's resources by these values, the estimated random coefficient suggests that investors are willing to pay, on average, between 63 and 87 cents for every dollar increase in the expected resource valuation of a mining company.

We also estimate the equivalent of a random-intercept (or random-effects) model in which only the intercept is assumed to be a random

Table 4. Random effects estimates with robust standard errors

	(1)	(2)	(3)	(4)	(5)
Resource value	0.355*				
	(2.43)				
Resource value × stakeholder conflict/cooperation		0.221***			
		(5.90)			
Resource value × policy certainty			0.495***		
			(3.50)		
Resource value × (stakeholder conflict/cooperation + policy certainty)/2				0.594***	
				(4.50)	
Resource value × stakeholder conflict/cooperation × policy certainty					0.988***
					(4.21)
Constant	168.1**	231.2***	223.5***	188.4***	208.1***
	(3.06)	(4.81)	(3.99)	(3.33)	(4.02)
Observations	289	235	141	141	136

t statistics in parentheses.

*p < 0.05; **p < 0.01; ***p < 0.001.

variable, $\alpha_i = \alpha + \gamma_\alpha v_{i,\alpha}$, while the coefficients on the independent variables are “fixed” (i.e., nonrandom). The results presented in Table 4 suggest that investors are willing to pay about 35 cents for an increase of 1 dollar in the valuation of a company’s gold mine project(s) if the possibility of delays and disruptions is not accounted for; but they are willing to pay between 60 and 99 cents for an increase of 1 dollar in the valuation of a company’s gold mining project(s) if the likelihood of moving ahead according to the announced schedule is defined in terms of the level of stakeholder conflict/cooperation and the country-level policy credibility. The results shown are estimated using robust standard errors and are robust to specifications that control for AR(1) processes. We obtain very similar results if estimating the parameters using fixed effects and panel corrected standard errors (results not shown).

ROBUSTNESS CHECKS AND SENSITIVITY ANALYSIS

We checked the sensitivity of our results to considerations related to various definitions of stakeholder support and the measurement of this concept, the direction of causality, market trends, as well as concerns related to the mine development schedule considered in the analysis and the fact that one-quarter of the companies in our sample operate more than one mine. Overall, our results proved highly robust.

Stakeholder conflict/cooperation measure

Because of data availability, much of the work on the impact of stakeholder engagement on corporate operations and performance is limited to the analysis of stakeholders in the value chain. While our media-based event data allows us also to incorporate various political actors (local, regional, national, and foreign government officials and bureaucrats), and social stakeholders (community representatives and various cultural, religious, ethnic, environmental, and human rights organizations), we verified the robustness of our results to the inclusion/exclusion of stakeholders in the company’s value chain, such as private and state-owned businesses in the mining industry and corporate and individual service providers.

We also consider the sensitivity of our results to the choices we made while constructing our measure of stakeholder conflict/cooperation. First, this measure represents a moving average of event data that weighs less heavily stakeholder relations described in past media reports relative to current information. We estimated the results shown using a discount factor of 0.8 but also confirmed that our results are robust to a wider range of discount factors and rolling windows. Finally, we verified that the level of stakeholder conflict/cooperation does not have different impacts in different countries depending on the overall country-level stakeholder relations (Bond *et al.*, 2003; King and Lowe, 2003).

Direction of causality

First, to address concerns that our results are driven by managerial agency or time variant firm-level heterogeneity, we regressed stakeholder cooperation on lagged financial market valuation using the same set of specifications detailed above. In no cases did we observe a statistically significant relationship. Second, we ran a Granger causality test to confirm that the resource valuation discounted using stakeholder conflict/cooperation and political risk Granger causes the company market value and also verified that resource valuation using future changes in the values of stakeholder conflict/cooperation (at times $t+1$ and $t+2$) do not predict market value. Third, we confirmed empirically that exogenous increases in gold reserves (i.e., significant jumps in the net present value of a mine) do not trigger adverse reactions from stakeholders, thus eliminating concerns that companies' discovery announcements rather than their interactions with stakeholders influence the level of conflict or cooperation with stakeholders and indirectly market value. Finally, we attempted to identify an instrument that was (1) strongly correlated with our stakeholder conflict/cooperation variable; (2) unobservable to investors; (3) observable to us. Unfortunately, we have access to the same information that investors observe and no more, and thus were unable to isolate factors that are of no interest to investors, but are nonetheless correlated with the degree of stakeholder cooperation.

Market trends

We also reestimated the results on the basis of empirical specifications that account for fluctuations in the stock market. To address the possibility that some of the movement in the stock price of the 19 companies in our sample is due to systemic risk, not to company-level changes in the valuation of the physical assets or the tenor of the firm's relationships with its stakeholders, we include in the analysis the S&P/Toronto Stock Exchange Composite Index.⁸ Our results are robust to this specification.

⁸ The S&P/Toronto Stock Exchange Composite Index is a capitalization-weighted index measuring market activity of stocks listed on the TSX (www.bloomberg.com).

Mine development schedules

By the end of our panel dataset, 11 mines in our sample had reached production, while the remaining 15 continued to be in either the feasibility or construction stage and therefore more vulnerable to future planning delays or disruptions. Companies try to reassure investors that production will begin in the near future by announcing the planned production start date, but they sometimes have to revise these announcements to reflect delays. We account for such real-life uncertainty by estimating the resource value using both companies' announced production start date and a range of mine development schedules that accommodate different times for each of the exploration, feasibility, construction, and production stages. The results we present are estimated using companies' announced production schedules; however, our results are robust to calculations that assume very tight (or "optimistic") development paths as well as more conservative (or "slower") planned schedules. We also verified that mine development schedules do not vary systematically across the mines in our sample with either the level of stakeholder conflict/cooperation or the level of political risk.

Companies with multiple mines

One of the strengths of the empirical setting for this research is that in the gold mining industry small entrepreneurial firms have a very small number of projects in development, allowing us to examine the effects of the tenor of stakeholder relations "on the ground" on market valuation without interference from related events. In our sample, 14 companies have just one mine, 3 companies have two mines each, and 2 companies have three mines each. It is possible that for companies with more than one mine stakeholder events at one site counterbalance developments at the other site(s), confounding the effect of stakeholder relations on market value. We acknowledge this and reestimate the models with data pertaining to the 14 companies with only one mine with no substantive change in our results albeit with some loss of statistical power.

DISCUSSION

Our theoretical arguments and empirical results point to the existence of a direct positive and

economically substantive relationship between stakeholder support and financial market valuation. Future research and analysis should continue to explore not only trade-offs but also complementarity between resource allocations to enhance stakeholder cooperation and productive efficiency. This finding has important implications for future research on corporate social responsibility, instrumental stakeholder theory, and multinational strategy, which we discuss in turn. We also discuss the limitations of our analysis including, in particular, questions regarding its generalizability beyond our sample of 19 publicly traded gold mining companies. This discussion reveals exciting topics for future research.

The research on corporate social responsibility has struggled to make the business case for such activity (Vogel, 2005). Initially supportive empirical results were rightly attacked on the grounds of spurious or reverse causality and inappropriate metrics. Agency theorists and financial economists countered with theoretical and empirical analysis that highlighted how managers' pursuit of perquisites or individual morality diverted shareholder returns to stakeholder interests. Organizational economists extended these models to allow for redistributions to stakeholders in the direct economic value chain that also maximize shareholder value, but only under certain circumstances.

We argue, by contrast, for a broader conceptualization of the potential financial impact of stakeholders that draws from the core of instrumental stakeholder theory. The value of certain assets can be diminished if external stakeholders directly interfere with or lobby the government to interfere with the property rights of the owner of the assets. In our case, financial models that generate a valuation for a gold mine omit the future uncertainty over government regulation, permitting, and community relations, or take these factors to be exogenously or environmentally determined. Yet, the actions of managers who devote resources and efforts to mitigate and quantify what they call "above-ground" risks in this industry suggest that they disagree with this characterization and see variation in political and social support as a source of competitive advantage or economic rents.

While managers, scholars of stakeholder relations, and some activists have long asserted the existence of a positive benefit from stakeholder engagement, empirical evidence using corporate-level data has been equivocal at best. The focus

among theorists and empirical scholars has turned to special circumstances where a link may yet exist. Our results point to a need to broaden the scope of such inquiry. Where stakeholder cooperation is necessary to transform an asset into shareholder returns, a direct link between productive efficiency and stakeholder cooperation exists. To show this, we use an empirical context in which none of the mechanisms emphasized by organizational economists are operative (i.e., consumers are unable to identify the mine or company from which their purchase originates, miners and mining company managers are not seen as leaders in social responsibility, investors who emphasize social responsibility are seen as relatively peripheral and activists have limited power to cause direct harm to investors) and find strong empirical support for the financial value of external stakeholder engagements.

This link offers an opportunity for instrumental stakeholder theory to address the question of which stakeholders are more important and how much managers should invest in each relationship. Current empirical efforts to examine corporate-level reporting and practices are too far removed from the operational practices of greatest concern to stakeholders both external and internal to the corporation. By tracking the actions and statements of media-relevant stakeholders, scholars and practitioners can avoid subjective biases, broaden the pool of covered firms, and better identify which practices substantively contribute to market valuation. In ongoing research, we analyze in more depth the stakeholder networks for each of the 26 mines. Using the same coding protocol we deployed here, we capture every stakeholder event in which the mine or one of its stakeholders is the object of the sentence. The resulting dataset is amenable to analysis using tools developed in the network literature to ascertain the relative importance of various stakeholders in the diffusion of conflict or cooperation as well as the optimal strategies for an organization seeking to enhance its degree of stakeholder support (Nebus and Rufin, 2010; Rowley, 1997; Rowley and Moldoveanu, 2003). While currently time intensive, progress in information extraction software development (King and Lowe, 2003) could allow for lower-cost deployment in the near future.

Such progress is particularly needed in the study of multinational firms who, by virtue of their foreignness, are more likely to engender a

conflictual relationship with a given host country stakeholder than a cooperative one (Zaheer, 1995). Such reactions may be based on intrinsic nationalism or may be opportunistically fomented by a stakeholder who seeks to stop the project's development. The political risk literature in international business has made great strides in modeling the formal institutional structures that govern the likelihood of policy change in response to such pressure (Henisz, 2000b), the extent to which investors from one country may be more or less susceptible to this pressure (Holburn and Zelner, 2010), and the existence of experiential learning in the mitigation of these pressures (Delios and Henisz, 2002; Henisz and Delios, 2001). Nonetheless, the tactics that firms deploy in such cases remain largely unexamined despite long-standing exhortations for analysis (Kobrin, 1979). The dynamic and contingent analysis of stakeholder networks can extend the existing literature by examining the impact of political risk on multinational strategy to bring it closer to scholarship in nonmarket strategy (Baron, 2009; Baron and Diermeier, 2007; Hillman and Hitt, 1999) and strategic corporate social responsibility (Kytle and Ruggie, 2005; Porter and Kramer, 2006, 2011; Post, Preston, and Sauter-Sachs, 2002).

We believe that the scope of such potential inquiry is far wider than the gold mining industry. While we chose this empirical context because it allowed us to isolate the mechanism we posited from numerous potential competing causal explanations, the contingent nature of property rights faced by owners of gold mines has widespread analogues in other industrial contexts. The argument clearly applies to other natural resources (e.g., minerals, oil or gas, agriculture and water). Analogous calculations could lead to adjustments in project valuations for the construction of a new facility or infrastructure asset. Industries with substantial upfront investments and long payback periods are similarly influenced by the realization of property rights over those admittedly harder to value up front: investments in property, plant, equipment, intellectual property, production processes or brand.

Concerns over government and stakeholder support for the right to transform property are heightened where the good or service manufactured or the production process is politically or socially salient. Such salience is a function of perceptions of spillovers both negative (e.g., environmental

or social costs, disruptions of cultural tradition and heritage, and the reinforcement of preexisting inequity) and positive (e.g., categorization as desirable technology, creation of high value added jobs, consistency with broader social or political objectives, or a critical and undersupplied input into a production process that itself has these characteristics). While the absolute and relative importance of this direct link between perceptions of social responsibility and market valuation will obviously vary enormously across industries and countries, we would argue from the above set of conditions that its existence is ubiquitous. In short, the social license to operate is more than rhetoric. It is operationalizable, empirically testable and strategically relevant. For these mining firms and their peers in politically and socially salient sectors, pursuing support from external stakeholders is not just corporate social responsibility but enlightened self-interest.

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