VALUING STAKEHOLDER GOVERNANCE: PROPERTY RIGHTS, COMMUNITY MOBILIZATION, AND FIRM VALUE

Sinziana Dorobantu

Assistant Professor, Department of Management and Organizations
Stern School of Business, New York University
40 West 4th Street, Suite 707, New York, NY 10012
Phone: (212) 998-0724. Email: sdoroban@stern.nyu.edu

and

Kate Odziemkowska

Doctoral Student, Management Department
The Wharton School, University of Pennsylvania
3620 Locust Walk, Philadelphia, PA 19104-6370
Phone: (267) 206-4803. Email: kodzi@wharton.upenn.edu

April 2017

ABSTRACT

While research has shown that good stakeholder relations increase the value of a firm, less is known about how specific types of stakeholder governance affect firm value. We examine the value of one such governance mechanism—community benefits agreements (CBAs) signed by firms and local communities—intended to minimize social conflict that disrupts access to valuable resources. We argue that shareholders evaluate more positively CBAs with local communities with strong property rights and histories of institutional action and extra-institutional mobilization because these communities are more likely to cause costly disruptions and delays for a firm. We evaluate these arguments by analyzing the cumulative abnormal returns associated with the unexpected announcement of 148 CBAs signed between mining companies and local indigenous communities in Canada.

Acknowledgements: The authors would like to thank Olga Hawn, Witold Henisz, Guy Holburn, and seminar participants at Baruch College, Boston University, University of Southern California and University of Western Ontario for their feedback on earlier versions of this paper. We are especially grateful to Associate Editor Anita McGahan and two anonymous reviewers for helpful comments and suggestions which led to significant improvements. We thank Alexander Marte, Raghav Saraogi, and Natalie Peelish for outstanding research assistance and TSX Datalinx for providing stock price data. Kate Odziemkowska acknowledges financial support from the Social Sciences and Humanities Research Council of Canada and from the Wharton Social Impact Initiative.

INTRODUCTION

Large-scale projects can profoundly transform local communities, economies, and environments, and they often lead to social conflict between companies and local communities. In a recent example, American Indians of the Standing Rock Sioux tribe, whose reservation borders the charted path of the $3.7 billion, 1,170-mile Dakota Access oil pipeline, have been protesting against the construction of the pipeline, claiming that it traverses ancestral lands and that oil spills would be ruinous to their well-being. In August 2016, they asked a federal court in Washington, DC, to issue an injunction that would halt the pipeline's construction (Healy 2016). Although the court denied the request, the U.S. government ordered a pause in the construction, raising concerns over the pipeline's future (Healy and Schwartz 2016). As this example illustrates, social conflict is associated with significant disruptions and delays that increase operational costs (Franks et al. 2014), lower the market valuation of planned or existing operations (Henisz, Dorobantu, and Nartey 2014), and potentially delay entry into new markets (Ingram, Yue, and Rao 2010).

In a number of industries (including mining, oil and gas, renewable energy, agriculture, forestry, real estate and infrastructure), firms are increasingly relying on legally enforceable contracts known as community benefits agreements (CBAs)[1] to govern their relationships with local communities. These agreements enable firms and local communities to converge on a mutually acceptable distribution of value, ensuring that local communities receive compensation for the resources they provide and for the social and environmental disruptions associated with these projects. Existing CBAs cover large real estate developments, such as Pacific Park (formerly known as Atlantic Yards) in Brooklyn, New York, and have become an established feature of

[1] We use the term community benefits agreements (Cain 2014; Parks and Warren 2009; Salkin and Lavine 2008) to also include agreements referred to as community development agreements (C. O'Faircheallaigh 2015) and impact and benefit agreements (Sosa and Keenan 2001).

onshore wind developments in the United Kingdom (Cowell, Bristow, and Munday, 2011). In the mining sector in Canada—the empirical context of our study—there are over 350 publicly disclosed CBAs with indigenous communities (Natural Resources Canada 2014).

In all these industries, access to specific resources—a well-located site or a land area rich in natural resources—requires the consent of the local community; without it, the firm's local operations may be disrupted or delayed, leading to costly adjustments. Because local communities are sovereign entities, the exchange relationship through which communities grant a firm access to site-specific resources cannot be internalized within the hierarchical structure of the firm, as predicted by transaction costs economics (Williamson 1985). Firms cannot merge with or acquire local communities. Similarly, access to specific resources cannot be ensured through relational contracts (Baker, Gibbons, and Murphy 2002; Gibbons and Henderson 2012; Macaulay 1963) because communities have strong incentives to extract more value from a project once it is underway. As a result, contractual agreements became the primary mechanism for governing the relationship between a firm and the local community whose cooperation is critical for the firm's access to valuable resources, and consequently for its financial performance.[2]

In this paper, we examine whether firms can create value through CBAs. By legally binding both parties to pre-agreed terms, CBAs reduce the likelihood of conflict with the local community, lowering the probability of disruptions and delays associated with such conflicts, and therefore increasing the ability of managers to stay on schedule and within budget. But such agreements are costly to negotiate and implement: they commit the firm to sharing part of the value created with the community; they require specialized negotiators and managerial time; and they can delay

[2] We do not mean to suggest here that contractual agreements and relational governance are mutually exclusive, only that a contractual agreement is necessary when the firm is highly dependent on the consent of the local community. In fact, much of the argument we develop below rests on the idea that the negotiation of a CBA lays the foundation for a relational contract that is likely to complement the formal contractual agreement.

regulatory approvals and operations schedules. Thus, given that CBAs entail not only benefits but also significant costs, investors may not always perceive them as adding value to the firm. Instead, they may view CBAs as diverting resources from shareholder value maximization to short-term conflict avoidance (Friedman, 1962), or as symbolic acts of impression management (Elsbach, Sutton, and Principe 1998) with limited implications for value creation.

We argue that CBAs add value to a firm when they are signed with communities who can obstruct a firm's access to valuable resources through their strong property rights or their ability to mobilize against the firm using social movement tactics (such as protests or blockades) or institutional tactics (such as legal action or interference in the regulatory process). Such communities are more likely to enter into conflict with the firm, leading to disruptions and delays that negatively impact its value. As CBAs are a means of lowering the probability of such disruptions, they are likely to be perceived by investors as value enhancing, but only when they are signed with communities that pose a considerable risk of disrupting firm operations.

We assess the financial value of CBAs by analyzing market reactions to the unexpected announcement of 148 agreements between local indigenous communities and 95 firms in the Canadian mining industry. CBAs are negotiated in strict confidentiality, and the most pertinent information disclosed during their announcement is the signing of the agreement (that is, its existence) and the name of the signatory community; information on the distribution of value remains confidential even after the announcement. Thus, when valuing CBAs, investors compare the same firm *with* and *without* a CBA and adjust their evaluation of the firm according to how much value they assign to the agreement. We argue and show that the value that investors assign to CBAs depends on the local community's ability to disrupt the firm's operations, which we assess in terms of (1) the strength of the community's property rights; (2) the community's history of

social movement activity, which we call extra-institutional mobilization; and (3) the community's history of institutional action (including all legal and regulatory actions). We measure each of these constructs by manually coding original data for 637 indigenous communities (known as First Nations) across Canada. Signing a CBA is a strategic decision, so we also control for the probability of observing a CBA by examining which of 10,508 mine–community dyads (linking 174 mines and all the indigenous communities within 500km of each mine) has signed a CBA.

Our arguments provide new insights into stakeholder governance by drawing from and contributing to several areas of research. First, our study contributes to the literature on stakeholder management, which has long emphasized the imperative to create value for both shareholders and other stakeholders (Freeman, 1984; Harrison, Bosse, and Phillips, 2010), has developed theoretical models of how value might be distributed among the stakeholders who contribute resources (Brandenburger and Stuart 1996; Coff 1999; Garcia-Castro and Aguilera 2015), but has not yet discussed the precise mechanisms through which this is done in practice. We add to this body of work one of the first studies to examine the mechanisms of governance that enable the distribution of value to nonmarket stakeholders outside the value chain of customers, suppliers, employees, and alliance partners.[3] To this end, we also build on recent theoretical work proposing a property rights perspective on stakeholder governance (Asher, Mahoney, and Mahoney 2005; Klein et al. 2012) and show that the strength of a stakeholder's property rights positively affects the value of contractual arrangements that specify the distribution of value between the stakeholder and the firm.

[3] While there are important parallels between our study and the analysis of interfirm alliances (Dyer and Singh 1998; Lavie 2007), we consider the relationship between firms and autonomous or sovereign nonmarket stakeholders (specifically, local communities) which cannot be internalized within a hierarchical structure. As a result, the strategic choice between "make, buy, or ally" (Capron and Mitchell 2012) does not apply, and alternative governance mechanisms need to be designed taking into consideration the sovereignty of the local community.

We situate our research in the context of firms' relationships with the local communities directly affected by their operations. While prior studies have highlighted that local communities shape corporate activities (Marquis, Glynn, and Davis 2007), there remain "significant gaps in our understanding of how community influence varies with community characteristics" (Marquis and Battilana 2009:293). We advance research on firm–local community relations by examining how a local community's property rights and its capacity for extra-institutional mobilization and institutional action affect the value of the agreements it signs with firms working in its area.

STAKEHOLDER GOVERNANCE THROUGH CONTRACTUAL AGREEMENTS

Stakeholder theory posits that firms can create and capture value from the effective management of stakeholders, defined as groups or individuals who can affect, or who are affected by, the accomplishment of an organization's purpose (Freeman 1984). Stakeholders include employees, suppliers and customers in the value chain, and nonmarket stakeholders such as local communities, government regulators, and nongovernmental organizations. The relative salience of these different stakeholder groups varies with their power, legitimacy, and urgency (Mitchell, Agle, and Wood 1997), which vary depending on the firm's operations and the stakeholders' ability to affect them. Some firms (for instance, those in extractive industries) manage operations that have significant environmental and social impact and must therefore obtain special licenses or approvals, some of which require proof of the free, prior, and informed consent of the local communities most affected by the firm's operations. These firms are also more likely to be scrutinized by activists concerned by the environmental and social risks involved. Thus, nonmarket stakeholders are highly salient for firms whose operations require the explicit consent (i.e., formal approval) or implicit consent (i.e., lack of opposition) of government agencies, local communities, and activists. When firms fail to obtain such consent—which practitioners refer to

broadly as "the social license to operate" (Boutilier 2009)—they experience repeated episodes of stakeholder conflict that negatively affect market value (Dorobantu, Henisz, and Nartey 2015) and have long-term impact on firm performance (Henisz et al. 2014).

Local communities are particularly important stakeholders in almost every industry because they experience the immediate impact of a firm's physical operations and can directly affect the firm's access to their location. Firms' physical assets (e.g., manufacturing facilities, warehouses, retail outlets) affect directly the well-being of those living nearby through positive externalities (e.g., increased employment and local tax revenue) and negative externalities (e.g., environmental pollution and social disruption). At the same time, local communities control access to a resource that is critical in every industry: land.[4] Even if land may be easy to acquire in most places around the world, land ownership does not guarantee the consent of the local community. The community can block landowners from exercising their property rights by invoking externalities that affect the value they can derive from their own rights to property or by mobilizing through protest or legal and regulatory action to prevent or delay the proposed operation. From Singur, India, where Tata Motors abandoned its plans for a manufacturing plant because of controversy around the land acquisition process, to various locations in the United States where Wal-Mart changed its plans for new retail outlets following local protests (Ingram et al. 2010), numerous examples highlight that failure to obtain the consent of the local community can derail a firm's plans.

A firm whose operations require access to a *specific* resource—and both land and the consent of the local community are specific resources—faces the risks associated with high site specificity. Transaction costs economics proposes that firms have strong incentives to internalize

[4] In agriculture, the land itself is a critical resource for creating value; in the retail, hospitality, or infrastructure sectors, access to land means access to a location of particular value; in extractive industries (mining, oil, and gas), access to land is critical for reaching subsurface natural resources.

the exchange of site-specific assets: "Unified ownership is the preponderant response to an asset specificity condition that arises when successive stages are located in close proximity to one another. Such specificity is explained by an asset immobility condition, which is to say that the set up and/or relocation costs are great" (Williamson 1985:95). While it is possible to unify the ownership of the land itself by acquiring it, the consent of the local community that ensures *access* to the land cannot be internalized through hierarchical governance, because of the local community's sovereignty. Further, purely relational contracts between firms and local communities are subject to opportunism, as communities can renege on promises made (e.g., tax abatement) after the investment has been made, and vice versa (Jones, 1995: 429).

Given the impossibility of hierarchical governance or full reliance on relational contracts, CBAs are emerging as a viable "mechanism of governance" (Williamson 1996) for firm–community relations. A growing number of large real estate developments in the United States (Cain 2014), onshore wind developments in England, Ireland, and Scotland (Cowell *et al.*, 2011), and extractive projects around the world have CBAs with local communities. In Canada's mining sector, there are over 350 publicly known agreements with indigenous communities (Natural Resources Canada 2014), with the first agreements dating from the late 1980s, not long after indigenous rights were recognized in the Constitution Act of 1982 (Holburn, Loudermilk, and Wilkie, 2014).

CBAs are legally binding contracts wherein a local community consents to the development of a specific project under a set of conditions for the creation and distribution of value that it finds desirable. An agreement signed in 2013 for the development of the Kingsbridge Armory ice sports center in New York City included local contracting provisions, grant programs to local businesses, targets for local hiring, an $8 million initial investment plus ongoing contributions to a community-controlled fund, and a share of rental revenues (Partnership for Working Families 2014). In the

process of reaching these agreements, firms and communities exchange information about the project and the site, learn about each other's preferences and beliefs, and possibly develop relational contracts (Gibbons and Henderson 2012). The process provides the foundation for ongoing dialogue that can sustain the partnership (World Bank 2012) and is thus "a tool to earn a broader corporate social license to operate" (Noble and Fidler 2011:19). The result is greater certainty for the firm with respect to land access and project development, and less risk of litigation and conflict.

While CBAs can enhance access to land and the specific resources therein by reducing the probability of disruptions and delays caused by the local community, they are expensive for the firm. In addition to the resources committed to multiyear negotiation processes that often precede their signing, CBAs include provisions for local hiring and procurement (which can be costlier than alternatives), as well as substantial cash outlays. At one of the world's largest nickel mines, Voisey's Bay, the CBA is estimated to cost the company between 1.35 percent and 3.9 percent of gross revenues (O'Faircheallaigh 2015), depending on commodity prices.

Thus, when evaluating CBAs, investors must weigh their costs and benefits. In most instances, the costs assumed through CBAs are unknown to investors because the contents of the agreements remain confidential even after the public disclosure of their signing. The benefits of a CBA, however, can be approximated by assessing the probability that conflict with the local community will translate into denied access to the site, and thus into costly disruptions and delays. We argue that the mechanism through which CBAs create shareholder value is by increasing the firm's access to a specific site, and we propose that investors assign more value to a CBA signed with local communities that have strong property rights and histories of collective extra-institutional mobilization or institutional action. These local communities are more likely to deny the firm access to a valuable site, so obtaining their consent through a CBA adds value to the firm.

While we discuss separately how the value of CBAs varies with the strength of property rights in a local community, the community's history of extra-institutional mobilization, and its record of institutional action, we emphasize that the mechanism underlying all three relationships links the community's capacity to deny the firm access to a site to the firm's ability to extract value from the resources therein. Mitchell, Agle, and Wood suggest that a stakeholder "has power to the extent it has or can gain access to coercive, utilitarian, or normative means, to impose its will" (1997:865). Local communities can apply direct economic sanctions (Agle, Mitchell, and Sonnenfeld 1999) by excluding firms from accessing a high-value location. They can do so by exercising their property rights, through social mobilization, or through institutional action.

The strength of property rights and the value of CBAs. Property rights delimit the range of privileges granted to individuals to specific resources (Asher et al. 2005; Klein et al. 2012). They are defined as the right, or "bundle of rights" (Coase 1960), to exploit and alienate a resource (Alchian 1965; Demsetz 1967), and thus the right to exclude others from that resource. Property rights ultimately determine the distribution of value created through the use of a resource, and therefore strongly influence economic incentives and investment behavior within countries (Alston, Libecap, and Schneider, 1996; Besley, 1995; Keay and Metcalf, 2011) and across them (Claessens and Laeven 2003; Jandhyala 2013; Johnson, McMillan, and Woodruff 2002), as well as the governance of these investments (Oxley 1999; Zhao 2006).

A fundamental form of property rights is title over land. A land title gives its owner legal standing if there are disputes over the use of land or land transfers and holds the promise that, if necessary, the state will take action (police force and/or court action) to enforce the owner's property right to the land. The strength of property rights can therefore vary across countries as a function of the state's capacity to enforce property rights, as well as within countries as a function

of the extent to which an individual's or a community's claim to land has been recognized. In our single-country context, we focus on variation across communities by capturing the degree to which the property rights of various indigenous communities in Canada have been recognized.

We argue that the value of CBAs varies as a function of the strength of property rights of the local community with which the firm has negotiated. Strong property rights imply that the ownership claims of the local community to the land have been recognized, and that there is no ambiguity that they possess the right of excluding non-owners from that resource. By contrast, moderate and weak property rights imply that some ambiguity remains over how ownership is assigned—that is, over the extent to which community stakeholders are entitled to decide over the use of the land. Although firms may also write contracts to help them better specify claims to an asset where property rights are weak,[5] such contracts are likely to be viewed by investors as giving away value unnecessarily because communities with weak property rights possess fewer levers for excluding the firm from the use of the asset. Thus, when property rights are weak, remaining ambiguity over property rights reduces the risk of exclusion from the asset and diminishes the value of the CBA signed by the firm and the community. Building on these arguments, we propose:

> ***Hypothesis 1:*** *The value of community benefit agreements (CBAs) is higher when the local community has strong property rights.*

Extra-institutional mobilization and the value of CBAs. The threat of conflict with stakeholders is also more credible when these can organize as a group (Coff 1999) or social movement (B. G. King 2007). A local community is more likely to block a firm's access to a site when it can mobilize collectively using social movement tactics, such as protests, blockades, and

[5] Firms may opt to do this for a variety of reasons, including reducing ambiguity about who the residual rights holders are, or as part of company policy. For example, Rio Tinto, one of the world's largest mining companies, adopted a policy of negotiating CBAs with all indigenous communities adjacent to its mines regardless of legal requirements (C. O'Faircheallaigh 2015).

media campaigns, or when it can organize to take legal action or intervene in the regulatory process that oversees the firm's operations. In line with past research (Eesley and Lenox 2006; McAdam et al. 2010), we differentiate between extra-institutional mobilization (e.g., protests, blockades, social media campaigns) and institutional action (e.g., action taken via regulatory or legal channels). Extra-institutional mobilization refers to a community's actions outside existing institutional channels (regulatory procedures and the court system) intended to suspend a firm's operations or to alter its practices. In the earlier example of the Dakota Access pipeline, the Standing Rock Sioux tribe has organized more than 6 months of protests and sit-ins that prevented equipment and engineers from accessing the construction site and significantly delayed the construction schedule. Their protests have attracted considerable media and social media attention, gathering a broader audience into a debate about the pipeline project. The Sioux tribe has also filed a request for an injunction in a federal court, an institutional action that has drawn additional public attention and has put pressure on the U.S. government to review the regulatory approvals that oversee the construction of the pipeline.

With regard to extra-institutional mobilization, a growing body of research on social movements in markets has shown that movements target firms (Bartley and Child 2014), pressuring them to change their policies (King 2008; Lenox and Eesley 2009; Weber, Rao, and Thomas 2009) or risk a decline in performance (Bartley and Child 2012; King and Soule 2007; Vasi and King 2012), image, and reputation (Baron 2003; Bartley and Child 2012). In the context of site-specific investments, social movements have excluded investors from valuable locations even in the absence of formal property rights. In a study of protests against proposals for new Wal-Mart stores, Ingram, Yue, and Rao argue that "protests signal ideological opposition and, by implication, foretell the costs of entry and future profitability of operations

and enable executives to make decisions about where to locate operations" (2010:56). Investors also use the information provided by protests as a signal of constraints on future profitability (King and Soule 2007). While Wal-Mart may afford to "test for protest" to select among possible locations (Ingram et al. 2010), such an option is not available to firms that require access to location-specific assets. In the absence of explicit protest signals, firms and investors must rely on observable indicators of the likelihood of community mobilization, and therefore of the risk of disruptions brought about by social conflict. A community's history of extra-institutional mobilization provides information about the likelihood of such future action, because through collective mobilization communities forge deeper relationships and a collective understanding of the process, both of which lower the costs of future mobilization, therefore increasing its likelihood (Rowley and Moldoveanu 2003).

Local communities vary tremendously in the extent to which they can mobilize toward a common goal. For every example of successful community mobilization (such as that of the Standing Rock Sioux tribe), there are many stories of communities that never took collective action to oppose corporate practices having significant social and environmental impacts on their well-being (McAdam and Boudet 2012). We suggest that communities with demonstrated histories of extra-institutional mobilization pose a higher risk of costly social conflict for a firm. Consequently, investors are likely to assign more value to CBAs that reflect the consent of communities with a history of extra-institutional mobilization.

> ***Hypothesis 2:*** *The value of community benefit agreements (CBAs) is higher when the local community has a history of extra-institutional mobilization.*

Institutional action and the value of CBAs. Similarly, the threat of disruptions and delays is higher when local communities can resort to legal or regulatory action to block a firm's access to a site-specific resource. Local communities can take action through existing institutional channels—

through the judicial system or the regulatory process. Local communities can use the judicial system to file requests for injunctions; challenge exploration, exploitation, or construction permits; question property rights; or demand extensive compensation for disruptions to their well-being. Past research has highlighted that stakeholder actions against firms are more effective when they involve lawsuits that target the firm (Bartley and Child 2012; Lenox and Eesley 2009). Similarly, communities can use the regulatory process to disrupt a firm's plans or operations. For example, in many countries, an environmental and social impact assessment (ESIA) is required by law before regulatory approvals are issued in extractive and infrastructure industries. The ESIA involves a public consultation process and sometime requires evidence of the local community's free, prior, and informed consent. Local communities that are opposed to a project in their vicinity can leverage these regulatory processes to derail or delay a firm's proposed operations.

Just as with extra-institutional mobilization, however, local communities vary in the extent to which they have used institutional actions to assert their preferences on proposed projects. Institutional action requires not just an organizational capacity to collect signatures and file petitions, but also specialized institutional knowledge of legislation and regulatory processes, and how these can be used to stop the operations on the ground. Communities who have used institutional action in the past are more likely to have such institutional knowledge, or to have access to advisors who possess such knowledge. We therefore suggest that local communities with a history of institutional action represent a higher risk of disruptions and delays to a firm's operations. Consequently, investors are likely to assign more value to CBAs that reflect the consent of communities that have used institutional action in the past.

> ***Hypothesis 3:*** *The value of community benefit agreements (CBAs) is higher when the local community has a history of institutional action.*

RESEARCH SETTING AND METHODS

While the relationship between firms and local communities has historically been characterized as "relatively vague and informal" (Jones 1995:409), the incidence of formal contracts defining firm–community relations has increased considerably in recent decades. CBAs emerged in the extractive industries in Canada in the late 1980s, shortly after indigenous rights were recognized in the Constitution Act of 1982 (Holburn et al. 2014). In Australia, CBAs became widespread following the legislative recognition of indigenous groups' land rights through the Native Title Act 1993 (O'Faircheallaigh 2015). CBAs are now regularly negotiated in South America, Africa, Asia, and the former Soviet Union countries (O'Faircheallaigh 2013). In the United States, CBAs emerged in the late 1990s in response to community mobilization against new urban development (Parks and Warren 2009; Salkin and Lavine 2008). CBAs have gained popularity in industries as wide-ranging as extractives, agriculture, forestry, real estate, and project infrastructure including ports, transport corridors such as railways and pipelines, and wind farms (Cowell, Bristow, and Munday 2011).

We test our hypotheses by evaluating 148 legally binding CBAs signed in Canada between mining firms and indigenous communities between 1999 and 2013. We situate our empirical inquiry in one country (Canada) and one industry (mining) to isolate the effects of stakeholder attributes while minimizing country-level differences in the enforcement of property rights and cross-industry differences in the value of community agreements.

The Canadian context offers two additional benefits. First, historical differences in the property rights of Canadian indigenous communities enable us to study how stakeholders' perfect and imperfect property rights (Devinney, McGahan, and Zollo 2013) affect firms' ability to create value, advancing the empirical study of a property rights perspective on stakeholder governance (Asher et al. 2005; Klein et al. 2012). Second, we use to our advantage the confidentiality of CBAs

in Canada to analyze investors' reactions to their unexpected announcement. In Canada's mining industry, CBAs are negotiated in confidence, so their disclosure provides unexpected information for investors. For example, an analyst covering Goldcorp Inc. wrote of its CBAs with local communities, "I previously wrote about the political risk of being a miner but did not see this agreement coming" (Davis 2014). The public disclosure of CBAs therefore satisfies the 'unanticipated event' assumption central in any event study, and the confidentiality of the negotiation process limits the risk of information leakage before the date of the announcement (McWilliams and Siegel 1997). Moreover, the content of the agreements is not made public even *after* their announcement; only a handful of announcements provide information on financial outlays or share issuances associated with the CBA, and we control for this accordingly. As a result, investors learn only that the firm has signed a formal contract with a community and the identity of the community, without learning the level of benefits the company has promised in exchange for community consent. Market reactions therefore capture investors' assessment of a CBA based on information of its existence and its signatories.

Sample definition and data. We began with the complete list of 352 agreements signed between mining companies and indigenous communities in Canada as reported by Natural Resources Canada (NRCAN), the government agency responsible for resource development in Canada.[6] To confirm the coverage of the NRCAN list, we searched the Dow Jones FACTIVA database for announcements associated with each CBA. Similarly, we reviewed financial disclosures and reports in SEDAR,[7] comparing the details of signatories, the name of the project,

[6] NRCAN maintains a list of all agreements between indigenous communities and mineral resource developers and updates it annually using public information and input from analysts familiar with each mineral development.
[7] SEDAR, the System for Electronic Document Analysis and Retrieval, is an online filing system that provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators.

location, and type of CBA with the NRCAN list. About 21 percent of the agreements did not have an accompanying announcement, and these we excluded from our sample.

We also excluded 35 CBA announcements that overlapped with other company news, such as the disclosure of new reserves, management changes, or regulatory decisions, during the 10 days preceding and following the announcement of a CBA. These "confounding events" (McWilliams and Siegel 1997) are likely to trigger positive or negative shareholder reactions that are not associated with the event of interest—the signing of a CBA. In addition, we searched for any evidence of possible leakage of information prior to the press release and excluded any events for which such a risk existed. Finally, we removed events for which stock market or financial data were unavailable (i.e., private companies), and those that were unmatched in our selection model as detailed below. After removal of confounding events, agreements without an accompanying press release, and events with missing data, our dataset includes 148 agreements.

Dependent variable. We measure investors' reactions to CBA announcements using an event-study measure of short-term cumulative abnormal returns (CARs). For firm i and event date t, the abnormal return is $AR_{it} = R_{it} - E(R_{it}|R_{mt})$, where AR_{it}, R_{it}, and $E(R_{it}|R_{mt})$ are the abnormal, actual, and expected normal returns respectively at time t, and R_{mt} is the conditioning information for the normal return model. We estimate normal returns using the market model, which assumes a linear relationship between the market and the firm stock return (MacKinlay 1997). For firm i, the market model is $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$, with $E(\varepsilon_{it}) = 0$, and $\text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$, where $R_{it}$and R_{mt} are the returns on firm i and the market portfolio at time t, respectively; ε_{it} is the zero mean disturbance; and α_i, β_i, and $\sigma_{\varepsilon_i}^2$ are the parameters of the model. We estimate the market model over a period of 100 days that ends 10 days before the event, to avoid capturing the effect of possible news leakages or the anticipation of news. Our results are robust to

alternate estimation windows of 180, 240, and 360 days, respectively. Because most of the companies in our sample are listed on the Toronto Stock Exchange, we approximate R_{mt} using the S&P/TSX Composite Index for this exchange.

Using the parameters estimated by the market model, we predict daily normal returns for 1 day preceding the event, the event day, and 3 days following the event. We calculate the abnormal returns (AR_{it}) for each of these days and the CARs (CAR_i) for the 5-day event window. Since it is in the best interest of rational investors to respond immediately to announcements of CBAs, short event windows appropriately capture the market reaction to these reports (MacKinlay 1997). Stock market data were obtained from Yahoo!Finance and TMX Datalinx.

Independent variables. *Property rights.* Similar to the growing recognition of indigenous rights around the world, the rights of Canada's indigenous peoples have evolved significantly over the past four decades. Nonetheless, due to the varying impacts of colonization on indigenous rights to land, important variations in property rights persist among communities (O'Faircheallaigh 2015). We reviewed research and spoke to experts on Canadian indigenous communities' property rights to develop a 3-point coding scheme that differentiates between weak, moderate, and strong property rights, as we explain below. We subsequently validated our coding with an academic expert on property rights of indigenous communities in Canada.

Two broad categories of indigenous rights exist in Canada—Aboriginal and treaty rights—as recognized and affirmed in the 1982 Constitution Act. First, as it relates to property rights, Aboriginal title is a subset of Aboriginal rights, and is considered the weakest form of property rights. Aboriginal title to land is a *sui generis* interest in land that cannot be understood under traditional property laws. The community must prove historic land occupation prior to the assertion of sovereignty by Britain or Canada (Wright and White 2012), and there remains

continued ambiguity about its extent (Sosa and Keenan 2001). Prior to 2014, Canadian law generally circumscribed Aboriginal title to exist "only at sites that historically had been intensively used by the community, such as villages," (Alcantara and Morden, 2015) rather than their broader traditional territories.[8]

Second, treaty rights exist where the Canadian government (or the British government, before that) and an indigenous community have signed a treaty (Wright and White 2012). Treaty rights are considered a stronger form of property rights than Aboriginal title. "Historic treaties," signed in the 1800s and early 1900s, often included the ceding of title to large tracts of land in exchange for monetary payments and for hunting and fishing rights over the land (Sosa and Keenan 2001). While hunting and fishing rights granted in historic treaties provide moderate leverage for exclusion of mineral development, an increasing number of indigenous communities have been seeking greater control over land management.

Broadly, two avenues of increasing autonomy of land management exist: an interim measure agreement (IMA) and "modern treaties." IMAs are in effect while a community negotiates a modern treaty with the government and are unique to each community's priorities. Where land and resource management is a priority, IMAs establish institutions that oversee the management of mineral rights (e.g., Akaitcho Interim Measures Agreement, 2001). Finally, "modern treaties," also known as land claims, establish the clearest set of rights with respect to land and often cover mineral rights (Sosa and Keenan 2001), effectively giving veto power over mineral development (O'Faircheallaigh 2015). Modern treaties are "designed to replace undefined aboriginal rights with

[8] The Canadian Supreme Court's decision in *Tsilhqot'in v. British Columbia* in June 2014 marked a turning point in recognition of Aboriginal title in Canadian law. Historically, several landmark Supreme Court cases between 1973 and 1997 on Aboriginal rights impacted the security of property rights of resource industries (Keay and Metcalf, 2011). Focusing our inquiry from 1999 to 2013 ensures that legal interpretations of property rights were relatively stable within our study period.

a new set of specific treaty rights," (Alcantara, 2007), and in contrast to historical treaties, modern treaties allow indigenous communities to "gain full control over subsurface resources in their treaty lands."(Alcantara, 2008) The first modern treaty was signed in 1975, and by 2014 there were 26 modern treaties providing indigenous ownership over 600,000km^2 of land (approx. the area of France) encompassing over 100 indigenous communities.

Our coding scheme reflects this variation in the strength of property rights. Specifically, we coded the *property rights* of communities that have only an Aboriginal title as 0 (weak); communities with a historic treaty as 1 (moderate); and communities with a modern treaty or IMA with land management rights or institutions as 2 (strong). Data on 637 indigenous communities' property rights were hand-collected from the Aboriginal and Treaty Rights Information System and from the 2015 status report on ongoing rights negotiations from Aboriginal Affairs and Northern Development Canada (AANDC), the government agency responsible for indigenous issues in Canada. A community's strength of property rights is coded over time, and the most recent information is used for the day of the announcement of the CBA. For example, the Tłı̨chǫ had moderate property rights via a historic treaty on April 7, 2000, when their CBA with Rio Tinto plc and Aber Diamond Corp. was announced. On April 25, 2003, the Tłı̨chǫ obtained the strongest level of property rights via a modern treaty. Therefore, any announcements of CBAs involving the Tłı̨chǫ on or after April 25, 2003, are coded as 2—strong property rights. In our sample of 148 events, 31 CBAs were signed with communities with weak property rights, another 73 with communities with moderate property rights, and 44 with communities with strong property rights.

Investors are aware of the importance of indigenous property rights because both the popular press and specialized outlets devote considerable attention to this subject. During the period covered by our sample (1999–2013), over 630 articles appeared in Canada's premier daily

newspaper, the *Globe and Mail,* referencing either Aboriginal title, rights, or land claims, and 50 such articles appeared in the *Canadian Mining Journal,* a monthly magazine popular with both industry analysts and investors. In addition, the press releases announcing the CBAs typically inform investors and analysts of the signatory communities' strength of property rights.[9]

Extra-institutional mobilization. To operationalize the likelihood that a community mobilizes collectively against a mining project, we take our cue from a prevalent finding in social movement research that the capacity for collective action is built through past mobilization episodes (McAdam 1982; Zald and McCarthy 1987). Through sequential episodes of mobilization, communities form a collective understanding of the process and relationships that lower the costs of future action (Rowley and Moldoveanu 2003).

Since the early 1980s, indigenous peoples have engaged in widespread extra-institutional mobilization in Canada, much of which has been reported in the media (Wilkes, Corrigall-Brown, and Myers 2010). Following common practice in social movements research (Earl et al. 2004), we coded media reports of mobilization events because investors learn about a community's past mobilization through the media. We searched the FACTIVA database, which covers over 25,000 media outlets, for media reports where the community name appears within 10 words of terms typically associated with extra-institutional mobilization (e.g., strike, rally, demonstration, protest, blockade) (Wilkes et al. 2010). To ensure comprehensiveness, we searched using multiple spellings of the same community name (e.g., "Na-cho Nyak Dun" or "Nacho Nyak Dun"), historical names (e.g., Snowdrift was renamed to Łutselk'e, also spelled

[9] For instance, one press release referencing Aboriginal title states, "the agreement recognizes and respects the aboriginal title and rights of the Upper Similkameen Indian Band to the lands comprising the Miner Mountain property" (Sego Resources 2007). Another referencing historic treaty rights states, "Wahnapitae First Nation is signatory to the Robinson-Huron Treaty of 1850" (Xstrata Nickel 2008). Finally, a modern treaty is referenced as follows: "the Na Cho Nyak Dun … affirmed their inherent right to self-government by approving their own Constitution and … the Parliament of Canada agreed by ratifying the Self Government Agreement" (Alexco Resources Corp. 2007).

Łutsel K'e), and names of tribal councils to which the community belongs.

Each article satisfying the search criteria was read to ensure that it referred to extra-institutional mobilization by the community, to count only unique mobilization events (without duplicates), and to record the date and the entity targeted through the mobilization event (e.g., a government agency or a specific company). Of the 637 indigenous communities in our sample, 237 engaged in extra-institutional mobilization, of which 123 had more than one mobilization event, for a total of 569 community extra-institutional mobilization events. *Extra-institutional mobilization* is the sum of all unique extra-institutional mobilization events that the signatory community engaged in prior to the announcement of the CBA, as reported in the media.

Institutional action. A community that doesn't hold strong property rights can nonetheless disrupt or delay a company's operations through court actions with respect to those rights. Although the 1982 Constitution Act recognized Aboriginal and treaty rights, the rules governing the specific nature of these rights have primarily evolved from legal proceedings in Canada's courts (Holburn et al. 2014; Wright and White 2012). Similar to the approach taken for extra-institutional mobilization, we relied on media-reported events of institutional action because investors learn about a community's past actions via the media.[10] We searched FACTIVA for media reports where the community name (and all its possible permutations, as described above) appears within 10 words of terms typically associated with legal action (e.g., petition, grievance, investigation, injunction, lawsuit, legal action, court). We read each article satisfying the search criteria to ensure that it referred to legal or regulatory action taken by the community, to count only unique events (without

[10] To ensure that our media-based measure of institutional action was reflective of other sources on which investors and analysts may base their reaction, we consulted a database of Supreme Court of Canada decisions in the area of Aboriginal Law. For all communities in our sample that were ever appellants in a Supreme Court of Canada case, our institutional action variable was greater than or equal to one, suggesting our media-based measure was reflective of alternative sources of information on institutional action.

duplicates), and to record the date of the legal action and its target (e.g., federal government or a company). Of the 637 indigenous communities in our sample, 318 engaged in institutional action, of which 190 took more than one institutional action, for a total of 872 unique community institutional actions. *Institutional action* is the sum of all unique institutional action events that the signatory community engaged in prior to the announcement of the CBA, as reported in the media.

Control variables. We control in our empirical estimation for a number of additional factors pertaining to the firm, the broader political climate and changes therein over time, the announcement and scope of the CBA, and the mine for which the CBA was signed.

Firm-level controls. We control for the sensitivity of a firm to stakeholder demands by counting the number of times the firm has been the subject of protest and legal action by an indigenous community in Canada, preceding the CBA announcement. First, firms that have experienced indigenous community mobilization in the past may be more likely to sign a CBA, and second, investors may react differently to the CBAs signed by these firms than to CBAs signed by firms with no history of conflictual relations. Using the data we coded on the history of extra-institutional mobilization and institutional action by indigenous communities, we identified the companies that were the target of such actions and created a count variable, *past mobilization against firm*, to reflect the firm's historical relations with indigenous communities.

We also control for the firm's sensitivity to the risk of conflict by estimating what portion of the value of the firm is represented in the mining project in the vicinity of that community. Investors are likely to value more positively CBAs governing firm–community relations when the mine represents a larger portion of the value of the firm. We calculated *mine value to the firm* by dividing the value of mineral resource estimates for each mining project by the firm's market capitalization in a given year. We obtained data on mineral resource estimates from the Raw

Materials Group database, and supplemented them with data from NI43-101[11] compliant resource estimates released by companies. We multiplied the volume of mineral resources (measured in billions of tonnes) by the prevailing spot price for the commodity in question at the time of the CBA announcement. We used commodity prices from the London Metal Exchange, and for those commodities not traded on an exchange (e.g., diamonds), we used estimated prices based on U.S. Geological Survey statistics.

We also control for a firm's experience with CBAs by summing the number of CBAs the firm has signed prior to the focal CBA announcement date (*firm's past CBAs*). In our context of an emergent governance form (i.e. CBAs), investors may react more positively to CBAs announced by firms who can benefit from their past learnings in implementing this new governance mechanism, or due to investors' own learning about CBAs via the firm's past adoptions and communication. Finally, we controlled for a possible effect of *firm size* on investor reactions using the log of market capitalization, which we obtained from the Thomson Reuters Worldscope Database. Investors might value CBAs signed by large firms differently because these firms have more advanced operations (i.e. large operating mines) and are more visible targets for collective mobilization (Bartley and Child, 2014).

Political climate. We also control for the broader political climate in Canada by counting the prevalence of *indigenous political events* reported in the 30 days preceding the CBA announcement. Information transmitted through the media influences investors (Durand and Vergne, 2015; Pollock and Rindova, 2003) and can shape how they perceive new developments. An increase in news coverage of indigenous rights in the days leading to the announcement of a

[11] National Instrument 43-101 is a set of rules and guidelines for reporting information related to mineral properties within Canada in compliance with the *Standards of Disclosure for Mineral Projects*. We rely only on NI 43-101 compliant resource estimates to minimize risks of erroneous or misleading mineral resource data.

CBA can affect investors' reactions to the announcement. We collected data on the number of media mentions of political events involving North American indigenous peoples from the Global Database on Events, Language and Tone.

CBA-level controls. Investors' reactions are also influenced by the extent of media coverage (King and Soule 2007) and the contents of the announcement (Tetlock, Saar-Tsechansky, and MacSkassy 2008). Therefore, we control for the *press coverage* of the CBA by counting the number of news outlets that reported it. We also control for the salience of the CBA in the press release by coding announcements mentioning the CBA in the title or the first paragraph as *primary purpose* and all others as not. Investors may react more positively if management places the CBA front and center rather than buried below the headline, which may belie the CBA's importance.

We also control for whether the announcement included details on financial outlays associated with the CBA. In our final sample, 16 announcements included some information on financial or share issuance. They varied from the establishment of a $75,000 scholarship, to the issuance of common shares or warrants, to a combination of share issuance and cash payments. Although the absolute value of the financial details is generally quite small,[12] we nevertheless control for any such details disclosed in the CBA announcement using a dummy variable (*financial disclosure*).

The risk of community-related delays and disruptions over the life cycle of the project is also contingent on the nature of the CBA. Some CBAs are circumscribed to a particular phase (e.g., exploration agreements are CBAs that apply only to the exploration phase of a project) or are in effect while the firm and the community negotiate a CBA for the construction and operations

[12] For example: "Manicouagan has also agreed to issue, subject to regulatory approval, 250,000 warrants to the Mishkeegogamang Ojibway Nation having an exercise price of $0.15 cents and a term of five years" (Manicouagan Minerals 2010).

phase. In such cases, the firm and its shareholders have less certainty that the community will consent to the project as it progresses to more advanced stages of the mine life cycle. We coded the description of the CBA in the press release and included a dummy variable (*agreement type*) that differentiates agreements that provide more certainty (e.g., a CBA covering all phases of the mine life cycle) from those that provide less certainty to investors (e.g., exploration agreement).

Mine-level controls. We also control for the phase of the mining project at the time when the CBA was signed. Mining projects move through several stages, from early exploration to pre-feasibility and feasibility studies, to development (which includes permitting and planning), to construction and operations. The certainty of a project's future cash flows increases as it advances through the different phases. Therefore, a CBA signed for a project still in the exploration phase may be seen as less valuable by investors than a CBA signed during the construction phase, as investors have more confidence in the latter project to materialize into a revenue-generating mine. Further, the impact of conflict with the local community also depends on whether the phase of the mining project (Franks et al. 2014). We collected data that captures the phase of each mining project in a given year by reading the project's feasibility, pre-feasibility, and resource estimate reports obtained from company websites and SEDAR. Where such reports were not available (because mining companies only have to disclose information when they file a feasibility report) or appeared to be outdated (because the project was abandoned for a number of years), we supplemented the data with information available on company websites and in FACTIVA. The variable *mine phase* is a continuous variable reflecting whether the mine is awaiting exploration or suspended; in exploration; pre-feasibility or feasibility; in construction; or in operation.

We also include firm and year fixed effects in all of our models. Table 1 provides

descriptive statistics, and Table 2, correlations.

--- Insert Tables 1 and 2 about here ---

Selection control. To address the issue of potential endogeneity arising from selection into signing a CBA, we constructed a quasi-control group of matched mining projects in Canada with no CBA and employed a probit model that predicts whether or not a CBA is observed in a given mine–community dyad to obtain the selection parameter (lambda). We constructed our sample for the selection model using coarsened exact matching (Blackwell et al. 2010) to match each mine in our event study to another mine in the same province, in the same phase of the mining life cycle, and of the same mineral type.[13] We matched on province because regulatory requirements, and, accordingly, a company's incentives for signing a CBA, vary by province. We matched on the phase of the mine, as the cash flows associated with mineral deposits and the impact of social conflict vary as the project advances through the phases of the mining life cycle (as described above). Finally, we matched on the mineral because the environmental impact of mining varies with the mineral being extracted (e.g., uranium is commonly associated with the highest negative environmental impact), affecting the likelihood of local community opposition. Of the 101 mining projects in our original sample, 87 were matched, for a total of 174 mines in the selection model.

We constructed the set of mine–community dyads at risk of having a CBA by mapping each mine onto the Canadian Aboriginal Lands map from NRCAN's Geogratis database.[14,15]

[13] We matched to mining projects listed in the Raw Materials Group database, which contains over 1,000 mining projects at various stages of development in Canada.
[14] We used ArcGIS software for this mapping. The Aboriginal Lands map consists of polygon entities that depict the administrative boundaries of lands, both Indian Reserves (community locations) and lands covered by Land Claims (modern treaties), where the title has been vested in specific First Nations or lands which were set aside for their exclusive benefit. http://geogratis.gc.ca/api/en/nrcan-rncan/ess-sst/815dd99d-4fbd-47cc-be02-7ad4b03a23ec.html
[15] The Aboriginal Lands map excludes a small number of communities that have neither reserve lands nor land claim lands; therefore, we supplemented Natural Resources Canada's maps with latitude and longitude coordinates from AANDC, verified via GoogleMaps, for communities not contained therein.

Any community located within a 500km radius of the focal mine was included in the selection model sample.[16] For example, the Victor Diamond Mine, owned by De Beers, is within 500km of 31 indigenous communities, of which 5 had CBAs with De Beers as of April 2014, including one community residing more than 300km away from the mine. In total, the selection model contains 10,508 mine–community dyads, or an average of 60 indigenous communities within 500km of each mine.

To control for this selection process, we estimate the inverse Mills ratio (*lambda*) from the probit regression model that estimates the probability of observing a CBA in a mine–community dyad in a given year. The selection model includes all the community-, firm-, and mine-level covariates and fixed effects included in the analysis of abnormal returns. In addition, we also include an exogenous variable that counts, for every community across time, the number of CBAs already signed by *other* communities within a 300km radius. We expect the number of CBAs signed by neighboring communities to affect the propensity to sign a CBA (through the diffusion of information about the negotiation process and rent-capture opportunities), but not investors' reactions to a CBA announcement. Results from the probit model (not shown) indicate that the number of CBAs signed in preceding years by communities within 300km of the focal community are positively associated with the probability of a CBA within a mine–community dyad (p=0.000). However, the probability of a CBA does not vary with the community's property rights (p=0.362), its history of extra-institutional mobilization (p=0.919), or its institutional action (p=0.161).

RESULTS

We note first that the distribution of CARs is centered on zero, indicating that investors do not

[16] Although we also created smaller buffers of 300km and 100km, over 10 percent of mine-community-year observations with CBAs occur for communities located between 300km and 500km of a focal mine.

consistently assess CBAs as adding value to the firm or subtracting from it. A one-tailed t test of cumulative abnormal returns indicates that we cannot reject the null hypothesis that CAR is equal to zero (p=0.1533). Instead, there is considerable variation in investors' reactions to the announcement of CBAs. We seek to explain this variation by highlighting how information about the signatory community's property rights, extra-institutional mobilization, and institutional action affect the value investors assign to different CBAs.

Table 3 presents the results for CARs with fixed-effects estimates and robust standard errors. Models 1 to 4 present the analyses for each hypothesis, Model 5 includes all hypothesized effects, and, for comparison, Model 6 excludes the selection control (*lambda*).

--- Insert Table 3 about here ---

In hypothesis 1 we argued that the strength of a community's property rights positively affects the market's reaction to a CBA announcement. Model 1 shows that the strength of property rights (ranging from 0 = weak to 2 = strong) is positively associated with CARs following a CBA announcement (p=0.019), providing support for hypothesis 1. A one-standard-deviation increase in property rights is associated with a 47 percent increase in CAR, equivalent to nearly two-thirds of a standard deviation in CAR. Model 2 shows a similar effect when we measure property rights using indicator variables for strong and moderate property rights (weak property rights are the comparison category). The effect on CARs is the largest for strong property rights (p=0.032) and is lower for moderate property rights (p=0.053).

The sensitivity of the value of CBAs to property rights of the signatory community is nicely illustrated by investor reactions to the announcements of CBAs at Diavik Mine, one of Canada's largest diamond mines. On April 7, 2000, Rio Tinto plc announced the signing of a CBA for the construction and operation of the mine with Tłı̨chǫ communities. Thirteen years later, on September 11, 2013, Rio Tinto announced the signing of a new CBA, with renewed terms, for the

same mine with the same communities. The former announcement was met with negative investor reaction (5-day CAR = −7.18%), whereas the latter was met with a positive reaction (5-day CAR = +2.65%). Given that the principal owner and the communities were identical, and that the mine was already halfway through its mine life (i.e., asset under contract was less valuable), what could account for the difference? The only observable difference was that the Tłı̨chǫ signatories had moderate property rights when the first CBA was announced, and had strong property rights when the second CBA was announced, after signing a modern treaty in August 2003.

In hypothesis 2 we proposed that a signatory community's past extra-institutional mobilization will positively affect the market's reaction to a CBA announcement. In Model 3, extra-institutional mobilization is positively associated with CARs following a CBA announcement (p=0.001), providing support for hypothesis 2. A one-standard-deviation increase in extra-institutional mobilization is associated with a 142 percent increase in CAR, equivalent to 1.92 of a standard deviation in CAR.

Conversely, in Model 4 we find that a community's capacity for institutional action is negatively associated with the market's reaction to a CBA announcement (p=0.022). A one-standard-deviation increase in past institutional action (i.e., past legal actions by the community) is associated with a 36 percent decrease in CAR, equivalent to 0.49 of a standard deviation in CAR. This results runs contrary to our expectation that CBAs signed with communities that engaged in institutional action in the past provide value by reducing the likelihood of social conflict (Hypothesis 3). Instead, our results suggest that investors perceive such communities as more likely to extract a lot of value from the firm, more likely to initiate legal action against the firm in the event of noncompliance with the CBA, or perhaps more likely to renegotiate the CBA in the future (Asher et al. 2005; Williamson 1985).

We investigated this further by disaggregating institutional action into actions targeting a private enterprise and actions targeting government. When including the disaggregated variables into our model (results not shown), we find that investors are negatively disposed to CBAs signed with communities who took institutional actions against private enterprises (p=0.000), while the effect size is smaller and less significant for past institutional actions that targeted government (p=0.055). Nonetheless, because experience with institutional action targeting government prepares indigenous communities to use similar strategies against firms, all past institutional actions should be considered when assessing the probability that a local community uses such actions to disrupt or delay a firm's operations.

Model 5 shows that our results are unchanged when all key independent variables—the strength of property rights, extra-institutional mobilization, and institutional action—are included in the same model along with all the control variables. In the full model, a one-standard-deviation increase in property rights is associated with 0.95 of a standard deviation increase in CAR (p=0.001). A one-standard-deviation increase in extra-institutional mobilization capacity is associated with 2.34 of a standard deviation increase in CAR (p=0.000). Finally, a one-standard-deviation increase in institutional action is associated with 1.15 of a standard deviation decrease in CAR (p=0.000).

In addition to our hypotheses, several of the control variable coefficients are in the expected direction. First, after controlling for all community-level covariates, investors react more positively to CBAs when the mine represents a larger portion of the value of the firm (p=0.000), as we expected. We also find that when the CBA is announced by a firm with more experience with CBAs, investors react more positively (p=0.022). Similarly, we observe that firm size is positively associated with the market's reaction to a CBA announcement (p=0.000). Turning to the

announcement itself, we see that investors react more positively when the CBA was the primary purpose of the announcement (p=0.000) and negatively when the announcement mentioned specific financial outlays (p=0.000). Finally, we observe that investors react more negatively to CBAs announced at later stages of the mine life cycle (p=0.000), presumably because local communities have fewer levers to delay or disrupt the mine once it is up and running (Franks et al. 2014).

In Model 6 we remove the selection control (*lambda*), estimated from the probit model predicting whether a CBA is observed in a mine–community dyad, for comparison. The exclusion of the selection parameter has no material impact on our hypothesized results.

Robustness checks. We also perform several robustness checks (Table 4), to ensure that our results hold across different model specifications. First, we conducted the analysis excluding CBAs whose announcements included some form of disclosure about financial outlays or share issuances to the community (Model 7). It is possible that investors evaluate these CBAs differently and are not reacting to their presence alone. The results remained substantively the same. In Model 8 we explored the possibility that the effects of the mine phase are nonlinear by creating dummy variables for each phase (projects awaiting exploration are the comparison category). We observe that investors react negatively to CBAs announced in the late stages of mine development, especially once the mine is already operating (p=0.000), suggesting that investors view conflict with local communities as less consequential once the mine is up and running. Third, since all the firms in our sample are mining companies that are sensitive to commodity price shifts, we also conducted the analysis by estimating predicted returns using the S&P Global Mineral Index in Model 9. Because the index is only available beginning in 2007, we lose 20 observations. All of the variables of interest remained significant and in the same direction. In Model 10, we replace our 3-point measure of property rights with a 4-point measure of property rights that differentiates communities that have

modern treaties (strongest) from those that have IMAs (strong). While our interviews with experts on the property rights of Canadian indigenous communities suggest to us that communities with IMAs have property rights that are equivalent to those obtained through a modern treaty, leading us to a 3-point scale for the measurement of property rights, it is possible that investors do not perceive these as equivalent. Our results remain the same in this specification as well.

In Model 11, we include mineral fixed effects to account for the possibility that investors assess the impact of conflict with the local community differently across mineral types, as the environmental impact and controversy surrounding extractives varies considerably with the type of mineral being extracted. Our results remain substantively unchanged. Finally, we re-ran the analysis controlling for the value of the underlying asset under contract (*mine value)*, rather than what portion that value represents of the firm's market capitalization (*mine value to firm*). We used the log value of annual mineral resource estimates for the mine, described above, to obtain *mine value*. Although our hypothesized results remain substantively unchanged, the value of the mine alone does not appear to affect investor reactions to the CBA (p=0.356).

--- Insert Table 4 about here ---

DISCUSSION AND CONCLUSION

Our study builds on recent calls for a property rights perspective on stakeholder governance (Asher et al. 2005; Klein et al. 2012) to advance our understanding of stakeholders' involvement in value creation and appropriation (Coff 1999; Garcia-Castro and Aguilera 2015). We also respond to calls to recognize that stakeholder collective mobilization is an important factor underlying stakeholder influence (B. G. King 2007:23). Our study shows that contractual agreements that govern relationships with stakeholders are not always perceived by investors as adding value to the firm. Instead, their value changes as a function of the strength of stakeholders'

property rights and their history of institutional action and extra-institutional mobilization.

To our knowledge, we provide one of the first empirical studies to demonstrate the financial value of contractual agreements with nonmarket stakeholders outside the value chain of suppliers, firms, and consumers. In an increasing number of sectors, a large portion of firms' value creation relies on the cooperation of autonomous actors (Gulati et al. 2012), where hierarchical governance (Williamson 1985) is not an option. Novel forms of organizing and governance that emerge in such contexts beg theoretical consideration. Extant research on governance has focused almost exclusively on explaining the relationships between two or more for-profit entities, leaving interorganizational alliances that cut across the for-profit, not-for-profit, and government sectors at the research frontier of this field (Kale and Singh 2009). Our study highlights the performance implications of one such type of alliance—that between firms and local communities who control access to valuable site-specific resources—but many of the insights we provide also apply to other types of alliances with nonmarket stakeholders, including alliances between firms and not-for-profit organizations (A. King 2007; Seitanidi and Crane 2009) and public–private partnerships (Mahoney, McGahan, and Pitelis 2009), where the autonomous or sovereign nature of the partner makes hierarchical governance impractical.

Our findings also highlight the importance of taking a dynamic view of stakeholder salience (Mitchell et al. 1997). As the power of stakeholders changes over time (e.g., as they gain property rights as in the Tłı̨chǫ example above), managers who can properly perceive the stakeholder field and match governance to changing stakeholder attributes are better positioned to create firm value. Furthermore, the CBAs we examine fit well within the rubric of corporate social responsibility (CSR), as companies are likely to report their focus on training of the local workforce and their use of local suppliers as CSR initiatives. While recent CSR research aims to "uncover the

contingencies that determine the benefits of CSR so as to allow managers to determine whether particular acts of CSR are wise investments for their firms" (Barnett 2007:812), few studies have investigated whether the value of CSR varies as a function of stakeholder characteristics. Our study highlights such contingencies by drawing attention to specific stakeholder attributes that affect the value that firms derive from one type of CSR activity: CBAs.

Our work is intentionally situated in a single institutional context—the mining sector in Canada—to isolate the effects of stakeholders' property rights, institutional action, and extra-institutional mobilization on firm value. Nonetheless, we expect the broader institutional environment to shape the extent to which CBAs reduce conflict with a local community and add value to a firm. On one hand, weak institutions reduce firms' incentives to negotiate formal contracts with stakeholders; on the other, collaborations with stakeholders serve as "additive institutions" that supplement weak institutions (Dorobantu, Kaul, and Zelner 2016). In such environments, where stakeholders are more likely to demand that firms provide public goods (Marquis and Raynard 2015), both local communities and firms operating nearby may prefer to lock in the firms' commitment to provide public goods through CBAs. Future research could extend our study by examining how the value of formal contracting between firms and nonmarket stakeholders (including local communities) varies with the institutional environment.

REFERENCES

Agle BR, Mitchell RK, Sonnenfeld JA. 1999. Who Matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal* **42**(5): 507–525.

Alcantara C. 2007. Explaining Aboriginal Treaty Negotiation Outcomes in Canada: The Cases of the Inuit and the Innu in Labrador. *Canadian Journal of Political Science* **40**(01): 185–207.

Alcantara C. 2008. *Deal? Or No Deal? Explaining Comprehensive Land Claims Negotiation Outcomes in Canada*. University of Toronto.

Alcantara C, Morden M. 2015. Aboriginal title one year after Tsilhqot'in. *Policy Options* **36**(May): 64–66.

Alchian AA. 1965. Some economics of property rights. *Il Politico* **30**(4): 816–829.

Alexco Resources Corp. 2007, March. Memorandum of Understanding Signed between Elsa Reclamation and Development Company Ltd. and Na-Cho Nyak Dun First Nation Supporting Alexco Resource Corp. in the Keno Hill Silver District. *Alexco Resources Corp. press release*.

Alston LJ, Libecap GD, Schneider R. 1996. The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier. *Journal of Law, Economics, and Organization* **12**(1): 25–61.

Asher CC, Mahoney JM, Mahoney JT. 2005. Towards a property rights foundation for a stakeholder theory of the firm. *Journal of Management and Governance* **9**(1): 5–32.

Baker G, Gibbons R, Murphy KJ. 2002. Relational Contracts and the Theory of the Firm. *The Quarterly Journal of Economics* **117**(1): 39–84.

Barnett ML. 2007. Stakeholder Influence Capacity and the Variability of Financial Returns To Corporate Social Responsibility. *Academy of Management Review* **32**(3): 794–816.

Baron DP. 2003. Private Politics. *Journal of Economics & Management Strategy* **12**(1): 31–66.

Bartley T, Child C. 2012. Movements, Markets and Fields: The Effects of -Anti-Sweatshop Campaigns on U.S. Firms, 1993-2000. *Social Forces* **90**(2): 425–451.

Bartley T, Child C. 2014. Shaming the Corporation The Social Production of Targets and the Anti-Sweatshop Movement. *American Sociological Review* **79**(4): 653–679.

Besley T. 1995. Property Rights and Investment Incentives: Theory and Evidence from Ghana. *Journal of Political Economy* **103**(5): 903–937.

Blackwell M, Iacus S, King G, Porro G. 2010. Cem: Coarsened exact matching in Stata. *Stata Journal* **9**(4): 524–546.

Boutilier R. 2009. *Stakeholder Politics: Social Capital, Sustainable Development, and The Corporation*. Stanford University Press: Stanford, CA.

Brandenburger AM, Stuart HW. 1996. Value-Based Business Strategy. *Journal of Economics & Management Strategy* **5**(1): 5–24.

Cain C. 2014. Negotiating With the Growth Machine: Community Benefits Agreements and Value-Conscious Growth. *Sociological Forum* **29**(4): 937–958.

Capron L, Mitchell W. 2012. *Build, Borrow, or Buy: Solving the Growth Dilemma*. Harvard Business Review Press: Boston.

Claessens S, Laeven L. 2003. Financial Development, Property Rights, and Growth. *The Journal of Finance* **58**(6): 2401–2436.

Coase RH. 1960. The Problem of Social Cost. *Journal of Law and Economics* **3**: 1–44.

Coff RW. 1999. When competitive advantage doesn't lead to performance: The resource-based view and stakeholder bargaining power. *Organization Science* **10**(2): 119–133.

Cowell RJW, Bristow GI, Munday MCR. 2011. Acceptance, acceptability and environmental justice: the role of community benefits in wind energy development. *Journal of Environmental Planning and Management* **54**(4): 539–557.

Davis C. 2014. Goldcorp Signs Agreement With The First Nations - Reducing Political Risk Goes A Long Way. *Seeking Alpha*.

Demsetz H. 1967. Toward a Theory of Property Rights. *The American Economic Review* **57**(2): 347–359.

Devinney TM, McGahan AM, Zollo M. 2013. A Research Agenda for Global Stakeholder Strategy. *Global Strategy Journal* **3**(4): 325–337.

Dorobantu S, Henisz WJ, Nartey LJ. 2015. Not all sparks light a fire: Stakeholder and shareholder reactions to critical events in contested markets.
Dorobantu S, Kaul A, Zelner BA. 2016. Non-market strategy through the lens of new institutional economics: A review and future directions. *Strategic Management Journal* (Forthcoming).
Durand R, Vergne J-P. 2015. Asset divestment as a response to media attacks in stigmatized industries. *Strategic Management Journal* **36**(8): 1205–1223.
Dyer JH, Singh H. 1998. The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *The Academy of Management Review* **23**(4): 660–679.
Earl J, Martin A, McCarthy JD, Soule SA. 2004. The Use of Newspaper Data in the Study of Collective Action. *Annual Review of Sociology* **30**: 65–80.
Eesley C, Lenox MJ. 2006. Firm responses to secondary stakeholder action. *Strategic Management Journal* **27**(8): 765–781.
Elsbach KD, Sutton RI, Principe KE. 1998. Averting Expected Challenges Through Anticipatory Impression Management: A Study of Hospital Billing. *Organization Science* **9**(1): 68–86.
Franks DM *et al.* 2014. Conflict translates environmental and social risk into business costs. *Proceedings of the National Academy of Sciences* **111**(21): 7576–7581.
Freeman RE. 1984. *Strategic management: a stakeholder approach*. Pitman: Boston.
Friedman M. 1962. *Capitalism and Freedom: Fortieth Anniversary Edition*. University Of Chicago Press: Chicago.
Garcia-Castro R, Aguilera R V. 2015. Incremental value creation and appropriation in a world with multiple stakeholders. *Strategic Management Journal* **36**(1): 137–147.
Gibbons R, Henderson R. 2012. Relational Contracts and Organizational Capabilities. *Organization Science* **23**(5): 1350–1364.
Gulati R, Puranam P, Tushman M. 2012. Meta-organization design: Rethinking design in interorganizational and community contexts. *Strategic Management Journal* **33**: 571–586.
Harrison JS, Bosse DA, Phillips RA. 2010. Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal* **31**(1): 58–74.
Healy J. 2016, August. North Dakota Oil Pipeline Battle: Who's Fighting and Why. *The New York Times*.
Healy J, Schwartz J. 2016, September. U.S. Suspends Construction on Part of North Dakota Pipeline. *The New York Times*.
Henisz WJ, Dorobantu S, Nartey LJ. 2014. Spinning gold: The financial returns to stakeholder engagement. *Strategic Management Journal* **35**(12): 1727–1748.
Hoben M, Kovick D, Plumb D, Wright J. 2012. *Corporate and Community Engagement in the Niger Delta: Lessons Learned from Chevron Nigeria Limited's GMOU Process*. Washington, DC.
Holburn GLF, Loudermilk M, Wilkie A. 2014. *The Duty to Consult and Accommodate Aboriginal Groups in Canada*.
Ingram P, Yue, Rao H. 2010. Trouble in store: probes, protests, and store openings by Wal-Mart, 1998–2007. *American Journal of Sociology* **116**(1): 53–92.
Jandhyala S. 2013. Property rights and international investment in information technology services. *Strategic Management Journal* **34**(7): 877–889.
Johnson S, McMillan J, Woodruff C. 2002. Property Rights and Finance. *The American Economic Review* **92**(5): 1335–1356.
Jones TM. 1995. Instrumental stakeholder theory: a synthesis of ethics and economics. *The Academy of Management Review* **20**(2): 404–437.
Kale P, Singh H. 2009. Managing strategic alliances: What do we know now, and where do we go from here? *Academy of Management Perspectives* **23**(3): 45–62.
Keay I, Metcalf C. 2011. Property Rights, Resource Access, and Long-Run Growth. *Journal of Empirical Legal Studies* **8**(4): 792–839.
King A. 2007a. Cooperation between corporations and environmental groups: A transaction cost perspective. *Academy of Management Review* **32**(3): 889–900.
King BG. 2007b. A Social Movement Perspective of Stakeholder Collective Action and Influence. *Business & Society*.
King BG. 2008. A political mediation model of corporate response to social movement activism. *Administrative Science Quarterly* **53**(3): 395–421.

King BG, Soule SA. 2007. Social Movements as Extra-Institutional Entrepreneurs: The Effect of Protests on Stock Price Returns. *Administrative Science Quarterly* **52**(3): 413–442.
Klein PG, Mahoney JT, McGahan a. M, Pitelis CN. 2012. Who is in charge? A property rights perspective on stakeholder governance. *Strategic Organization* **10**(3): 304–315.
Lavie D. 2007. Alliance portfolios and firm performance: A study of value creation and appropriation in the U.S. software industry. *Strategic Management Journal* **28**(12): 1187–1212.
Lenox MJ, Eesley C. 2009. Private Environmental Activism and the Selection and Response of Firm Targets. *Journal of Economics & Management Strategy* **18**(1): 45–73.
Macaulay S. 1963. Non-Contractual Relations in Business: A Preliminary Study. *American Sociological Review* **28**(1): 55–67.
MacKinlay CA. 1997. Event Studies in Economics Finance and. *Journal of Economic Literature* **35**(1): 13–39.
Mahoney JT, McGahan AM, Pitelis CN. 2009. Perspective—the interdependence of private and public interests. *Organization Science* **20**(6): 1034–1052.
Manicouagan Minerals. 2010, October. Mishkeegogamang Ojibway Nation and Manicouagan Minerals Sign Exploration Memorandum of Understanding. *Manicouagan Minerals press release*.
Marquis C, Battilana J. 2009. Acting globally but thinking locally? The enduring influence of local communities on organizations. *Research in Organizational Behavior* **29**: 283–302.
Marquis C, Glynn MA, Davis GF. 2007. Community isomorphism and corporate social action. *Academy of Management Review* **32**(3): 925–945.
Marquis C, Raynard M. 2015. Institutional Strategies in Emerging Markets. *Academy of Management Annals* **9**(1): 291–335.
McAdam D. 1982. *Political Process and the Development of Black Insurgency, 1930-1970*. The University Of Chicago Press: Chicago.
McAdam D *et al.* 2010. 'Site Fights': Explaining to Pipeline Projects Opposition in the Developing World. *Sociological Forum* **25**(3): 401–427.
McAdam D, Boudet HS. 2012. *Putting Social Movements in their Place: Explaining Opposition to Energy Projects in the United States, 2000-2005*. Cambridge University Press: New York, NY.
McWilliams A, Siegel D. 1997. Event Studies in Management Research: Theoretical and Empirical Issues. *Academy of Management Journal* **40**(3): 626–657.
Mitchell RK, Agle BR, Wood DJ. 1997. Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review* **22**(4): 853–886.
Natural Resources Canada. 2014. Aboriginal Participation: Table of Agreements. Available at: http://www.nrcan.gc.ca/mining-materials/aboriginal/14694 [23 February 2015].
Noble B, Fidler C. 2011. Advancing Indigenous Community - Corporate Agreements: Lessons from Practice in the Canadian Mining Sector. *Oil, Gas & Energy Law Intelligence* **9**(4).
O'Faircheallaigh. 2015a. *Negotiations in the Indigenous World: Aboriginal Peoples and the Extractive Industry in Australia and Canada*. Taylor & Francis: New York.
O'Faircheallaigh C. 2013. Community development agreements in the mining industry: an emerging global phenomenon. *Community Development* **44**(2): 222–238.
O'Faircheallaigh C. 2015b. Social Equity and Large Mining Projects: Voluntary Industry Initiatives, Public Regulation and Community Development Agreements. *Journal of Business Ethics* **132**(1): 91–103.
Oxley JE. 1999. Institutional environment and the mechanisms of governance: the impact of intellectual property protection on the structure of inter-firm alliances. *Journal of Economic Behavior & Organization* **38**(3): 283–309.
Parks V, Warren D. 2009. The Politics and Practice of Economic Justice: Community Benefits Agreements as Tactic of the New Accountable Development Movement. *Journal of Community Practice* **17**(1–2): 88–106.
Partnership for Working Families. 2014. Policy & Tools: Community Benefits Agreements and Policies in Effect. Available at: http://www.forworkingfamilies.org/page/policy-tools-community-benefits-agreements-and-policies-effect [23 January 2015].
Pollock TG, Rindova VP. 2003. Media legitimation effects in the market for initial public offerings. *Academy of Management Journal* **46**(5): 631–642.

Rowley TJ, Moldoveanu M. 2003. When will stakeholder groups act? An interest- and identity-based model of stakeholder group mobilization. *Academy of Management Review* **28**(2): 204–219.
Salkin P, Lavine A. 2008. Negotiating for social justice and the promise of community benefits agreements: Case studies of current and developing agreements. *J. Affordable Hous. & Cmty. Dev. L.* **17**(1–2): 113–144.
Sego Resources. 2007, September. SGZ Sego Resources makes Miner Mountain MOU with Indians. *Sego Resources press release*. FACTIVA, accessed June 1, 2014.
Seitanidi MM, Crane A. 2009. Implementing CSR Through Partnerships: Understanding the Selection, Design and Institutionalisation of Nonprofit-Business Partnerships. *Journal of Business Ethics* **85**(S2): 413–429.
Sosa I, Keenan K. 2001. *Impact benefit agreements between aboriginal communities and mining companies: Their use in Canada*. Canadian Environmental Law Association: Ottawa.
Tetlock PC, Saar-Tsechansky M, MacSkassy S. 2008. More Than Words: Quantifying Language to Measure Firms' Fundamentals. *The Journal of Finance* **63**(3): 1437–1467.
Vasi IB, King BG. 2012. Social movements, risk perceptions, and economic outcomes: the effect of primary and secondary stakeholder activism on firms' perceived environmental risk and financial performance. *American Sociological Review* **77**(4): 573–596.
Weber K, Rao H, Thomas LG. 2009. From Streets to Suites: How the Anti- Biotech Movement Affected German Pharmaceutical Firms. *American Sociological Review* **74**(1): 106–127.
Wilkes R, Corrigall-Brown C, Myers DJ. 2010. Packaging Protest: Media Coverage of Indigenous People's Collective Action. *Canadian Review of Sociology/Revue canadienne de sociologie* **47**(4): 327–357.
Williamson OE. 1985. *The Economic Institutions of Capitalism*. Free Press: New York; London.
Williamson OE. 1996. *The Mechanisms of Governance*. Oxford University Press.
World Bank. 2012. *Mining Community Development Agreements: Source Book*.
Wright L, White JP. 2012. Developing Oil and Gas Resources On or Near Indigenous Lands in Canada: An Overview of Laws, Treaties, Regulations and Agreements. *International Indigenous Policy Journal* **3**(2).
Xstrata Nickel. 2008, June. Xstrata Nickel and Wahnapitae First Nation sign participation agreement. *Xstrata Nickel press release*.
Zald MN, McCarthy J. 1987. *Social Movements in an Organizational Society*, Reprint ed. Transaction Publishers: New Brunswick, U.S.A.
Zhao M. 2006. Conducting R&D in countries with weak intellectual property rights protection. *Management Science* **52**(8): 1185–1199.

Table 1: Summary statistics

Variable	No. of Obs	Mean	Std. Dev.	Min	Max
CAR (-1 to +3 days)	148	0.06	0.74	-0.22	8.91
Property rights (continuous)	148	1.09	0.71	0	2
Strong property rights (0/1)	148	0.30	0.46	0	1
Moderate property rights (0/1)	148	0.49	0.50	0	1
Weak property rights (0/1)	148	0.21	0.41	0	1
Extra-institutional mobilization	148	0.55	1.26	0	6
Institutional action	148	1.14	2.13	0	12
Past mobilization against firm	148	0.09	0.39	0	3
Mine value to firm	148	0.08	0.26	0	2
Firm's past CBAs	148	0.91	1.60	0	10
Firm size	148	17.98	2.20	13.34	25.74
Indigenous political events	148	0.60	0.30	0.00	1.94
Press coverage	148	3.10	1.60	1	9
Primary purpose (0/1)	148	0.99	0.12	0	1
Financial disclosure (0/1)	148	0.11	0.31	0	1
Agreement type (0/1)	148	0.30	0.46	0	1
Mine phase	148	1.55	0.91	0	4

Table 2: Correlation matrix

No.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	CAR (-1 to +3 days)	1.000													
2	Property rights (continuous)	0.099	1.000												
3	Extra-institutional mobilization	-0.031	-0.252	1.000											
4	Institutional action	-0.043	0.028	0.501	1.000										
5	Past mobilization against firm	0.005	-0.028	0.152	0.034	1.000									
6	Mine value to firm	0.444	0.000	-0.024	0.032	0.061	1.000								
7	Firm's past CBAs	-0.046	0.206	-0.177	-0.052	0.213	0.033	1.000							
8	Firm size	-0.066	0.120	-0.132	-0.161	0.124	0.004	0.446	1.000						
9	Indigenous political events	0.028	0.057	0.091	0.042	0.091	-0.044	-0.050	-0.104	1.000					
10	Press coverage	-0.006	-0.104	-0.072	0.004	-0.180	-0.125	-0.119	0.044	-0.213	1.000				
11	Primary purpose (0/1)	-0.010	0.015	0.051	0.035	0.027	0.033	0.067	0.082	-0.067	0.044	1.000			
12	Financial disclosure (0/1)	-0.013	-0.013	0.004	-0.136	-0.023	-0.105	-0.075	-0.141	-0.117	0.046	0.041	1.000		
13	Agreement type (0/1)	-0.062	0.128	0.034	0.005	0.121	-0.117	0.317	0.448	-0.028	-0.060	0.076	-0.036	1.000	
14	Mine phase	-0.054	-0.076	-0.035	-0.104	0.152	0.034	0.399	0.570	0.048	-0.053	0.072	-0.166	0.485	1.000

Table 3: Cumulative abnormal return (−1 to +3 days) regression results

	(1)	(2)	(3)	(4)	(5)	(6)
Property rights (H1)						
Property rights (continuous)	0.666				0.985	0.753
	(0.283)				(0.289)	(0.210)
Strong property rights (0/1)		1.681				
		(0.782)				
Moderate property rights (0/1)		1.456				
		(0.754)				
Extra-institutional mobilization (H2)			1.124		1.370	1.351
			(0.344)		(0.181)	(0.200)
Institutional action (H3)				-0.168	-0.397	-0.316
				(0.073)	(0.075)	(0.061)
Past mobilization against firm	-0.067	0.122	-1.536	-1.135	0.966	0.053
	(0.653)	(0.783)	(0.529)	(0.550)	(0.663)	(0.435)
Mine value to firm	2.472	2.349	3.600	3.092	2.726	3.061
	(0.988)	(0.995)	(0.943)	(1.074)	(0.516)	(0.561)
Firm's past CBAs	0.119	0.191	0.193	0.116	0.237	0.184
	(0.108)	(0.135)	(0.098)	(0.089)	(0.104)	(0.087)
Firm size	0.507	0.424	0.893	0.483	0.797	0.874
	(0.213)	(0.208)	(0.236)	(0.201)	(0.120)	(0.142)
Indigenous political events	-0.379	-0.348	-0.402	-0.244	-0.345	-0.308
	(0.240)	(0.231)	(0.250)	(0.251)	(0.155)	(0.171)
Press coverage	-0.014	-0.008	-0.008	-0.043	-0.020	-0.018
	(0.033)	(0.031)	(0.044)	(0.034)	(0.028)	(0.027)
Primary announcement (0/1)	0.604	0.529	1.233	0.268	1.301	1.366
	(0.312)	(0.287)	(0.409)	(0.298)	(0.253)	(0.292)
Financial disclosure (0/1)	-0.923	-0.718	-1.227	-1.213	-0.783	-0.945
	(0.406)	(0.436)	(0.394)	(0.480)	(0.248)	(0.255)
Agreement type (0/1)	0.290	0.227	0.132	0.026	-0.017	-0.021
	(0.163)	(0.161)	(0.161)	(0.155)	(0.134)	(0.148)
Mine phase	-0.480	-0.441	-0.932	-0.756	-0.595	-0.717
	(0.212)	(0.222)	(0.265)	(0.252)	(0.156)	(0.164)
Lambda	3.456	4.341	-0.989	-1.358	5.586	
	(1.855)	(2.362)	(0.933)	(1.110)	(1.970)	
Constant	-6.245	-3.353	-21.284	-11.920	-5.220	-14.525
	(5.465)	(6.355)	(5.735)	(5.367)	(4.096)	(2.913)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	148	148	148	148	148	148
Log likelihood	-20.742	-18.070	-16.026	-28.619	34.201	23.608

Robust standard errors in parentheses.

Table 4: Cumulative abnormal return (−1 to +3 days) regression robustness checks

	(7)	(8)	(9)	(10)	(11)	(12)
Property rights (H1)	0.960	0.949	0.954		0.950	1.429
	(0.291)	(0.311)	(0.296)		(0.272)	(0.443)
Property rights - 4 point scale (H1)				0.647		
				(0.183)		
Extra-institutional mobilization (H2)	1.370	1.315	1.356	1.292	1.356	1.061
	(0.239)	(0.180)	(0.178)	(0.181)	(0.181)	(0.271)
Institutional action (H3)	-0.434	-0.373	-0.390	-0.398	-0.391	-0.506
	(0.082)	(0.075)	(0.075)	(0.073)	(0.074)	(0.121)
Past mobilization against firm	0.929	0.707	0.703	1.297	0.861	2.330
	(0.764)	(0.675)	(0.716)	(0.720)	(0.624)	(0.899)
Mine value to firm	2.827	2.646	2.824	2.736	2.829	
	(0.503)	(0.572)	(0.526)	(0.519)	(0.511)	
Firm's past CBAs	0.298	0.222	0.235	0.193	0.220	0.450
	(0.117)	(0.105)	(0.102)	(0.101)	(0.103)	(0.157)
Firm size	0.780	0.720	0.834	0.771	0.793	0.541
	(0.152)	(0.134)	(0.122)	(0.123)	(0.122)	(0.156)
Mine value						-0.024
						(0.026)
Indigenous political events	-0.295	-0.286	-0.283	-0.256	-0.340	-0.209
	(0.154)	(0.180)	(0.201)	(0.161)	(0.162)	(0.220)
Press coverage	-0.011	-0.017	-0.019	-0.013	-0.019	-0.099
	(0.028)	(0.037)	(0.030)	(0.030)	(0.029)	(0.051)
Primary announcement (0/1)	1.247	1.231	1.327	1.176	1.327	0.707
	(0.297)	(0.274)	(0.260)	(0.236)	(0.260)	(0.315)
Financial disclosure (0/1)		-0.762	-1.022	-0.854	-0.779	-0.354
		(0.362)	(0.284)	(0.250)	(0.250)	(0.268)
Agreement type (0/1)	0.052	-0.033	-0.014	-0.025	-0.011	-0.357
	(0.133)	(0.140)	(0.143)	(0.138)	(0.138)	(0.199)
Mine phase	-0.662		-0.594	-0.634	-0.589	-0.524
	(0.162)		(0.168)	(0.156)	(0.158)	(0.231)
Mine phase exploration (0/1)		-0.453				
		(0.306)				
Mine phase feasibility (0/1)		-1.310				
		(0.434)				
Mine phase construction (0/1)		-1.813				
		(0.482)				
Mine phase operations (0/1)		-13.633				
		(3.167)				
Lambda	3.588	5.172	3.580	5.456	4.772	10.157
	(2.797)	(2.815)	(2.718)	(1.885)	(1.854)	(2.867)
Constant	-4.345	-16.248	-8.556	-4.841	-11.537	8.446
	(5.307)	(3.544)	(2.854)	(4.223)	(3.647)	(4.963)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Mineral fixed effects	No	No	No	No	Yes	No
Observations	132	148	128	148	148	148
Log likelihood	30.062	30.215	21.616	33.467	32.849	-14.815

Robust standard errors in parentheses. Model 7 excludes observations where the CBA announcement included financial details. Model 8 uses mine phase dummies. CAR in Model 9 is estimated using the S&P Global Mineral Index. Model 10 uses a 4-point scale for the strength of property rights. Model 11 includes mineral fixed effects. Model 12 controls for the value of the mine rather than the ratio of mine to firm value.