

Uncertain Property Rights: The Supreme Court, Resource Industries and Aboriginal Rights in Canada

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Abstract

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Economists emphasize the important role played by stable and secure property rights in the process of economic growth and development. In theory, secure property rights are also a key determinant of sustainable natural resource investment and stock management decisions. The history of conflict between aboriginal rights and commercial access to Canadian resources stretches back into the eighteenth century. The Constitution Act of 1982 was expected to help resolve any residual uncertainty about resource access and ownership. In this paper we use an event study methodology to estimate the impact of a series of five landmark Supreme Court of Canada decisions that followed in the wake of the Constitution Act. These decisions significantly altered the landscape of aboriginal rights and commercial resource access in Canada, but representatives of Canada's natural resource industries have argued that these judgments created "cloud of uncertainty" surrounding the security of their property rights, constrained their access to resource stocks, and imposed significant economic costs on their commercial activities. We test these claims by examining the market's response to the Supreme Court decisions using firm level equity market and financial micro-data. Our results provide cautious support for claims that unexpected changes to formal property rights have measurable economic impacts. However, these impacts are not uniform in size or direction across decisions, industries, or firm-types.

Introduction

Economists often emphasize the important role played by stable and secure property rights in the process of economic growth and development.¹ From a theoretical perspective, this form of institutional quality facilitates transactions and promotes the efficient use of factors of production.² Secure, stable and predictable property rights are considered particularly important when stake-holders must make long run investment and management decisions that affect the sustainable and profitable use of natural resources.³ However, some scholars have expressed reservations about the vital role played by property rights, particularly more formal legal institutions that rely on the recognition and interpretation provided by the judiciary.⁴ Identifying the role of formal legal institutions empirically is difficult. Most efforts to empirically assess the relationship between property rights institutions and economic performance rely on context dependent case-studies, or analysis of international cross-section macro data that can suffer from endogeneity concerns or the confounding influence of coincident institutional discontinuities.⁵

In this paper we return to a setting exploited in our earlier work to measure the economic consequences stemming from disruptions in formal legal rights - the Supreme Court of Canada's (SCC) efforts to recognize and accommodate aboriginal rights under a new Constitutional provision.⁶ A series of landmark cases developed a set of formal legal entitlements for aboriginal people that directly affected Canada's commercial

¹ De Soto (2000) argues that stable and secure property rights are a key to the successful accumulation of capital and the promotion of growth. Acemoglu, Johnson and Robinson (2002), and Acemoglu and Johnson (2005) present theoretical models and panel-based empirical tests to establish the importance of property rights for long run growth.

² See e.g. North (1991) on importance of institutions, including legal institutions; see also Coase (1961) on role of legal entitlements as foundation for bargained outcomes, determinative of allocation where transactions costs high, and as a means to internalize externalities. Demsetz (1967) argues that property rights develop to allocate scarce resources, allow for internalization of externalities and the efficient use of resources, and to facilitate efficient transactions.

³ See e.g. the classic work by Hardin (1968) arguing that a lack of property rights in common resources leads to overexploitation and a profit dissipating race to exploit.

⁴ A significant body of work emphasizes the potential for informal institutions and norms to play a significant role as formal legal institutions in governing resource exploitation, see e.g. Ellickson (1991), Ostrom (1990), Ostrom and Schlager (1992), Rosenberg (1991) and Umbeck (1977).

⁵ An example of the former are the famous “lobster gangs of Maine”, for the latter, see e.g. Bohn and Deacon (2000) discussing nature of their “ownership security” measure, including variables on risk of revolution, major constitutional change, political assassination, and purges and guerilla warfare, at 535-540.

⁶ See Key and Metcalf (2011), focusing on impact of key decisions interpreting s. 35 (1) of the *Constitution Act 1982* for Forest industry and Canadian macroeconomy.

resource industries' property rights. We argue these decisions represented shocks to the stability and security of resource industry rights, in what was otherwise a stable and predictable legal environment. The text of the relevant constitutional provision, s. 35(1), is spare, and views on the nature of aboriginal rights varied widely prior to judicial clarification. The aboriginal rights recognized by the Canadian Supreme Court had significant potential to affect land access and use, potentially over-riding resource industry entitlements granted under ordinary legislation. Consistent with macroeconomic growth theory (and much cross-country evidence), representatives of Canada's resource industries and the media have been vocal in their claims that these judgments created uncertainty about the security of resource rights and imposed significant economic costs on the industries' operations.

This paper expands on our earlier study of Canada's forest industry to test these claims more broadly. We construct a new data set containing all firms listed on the TSX operating in the Forestry, Mining, and Energy sectors.⁷ Using this data set of 1699 firm-events and corresponding firm level micro-data we use an event study approach to provide evidence of the market response to the Supreme Court decisions for the resource sector overall, by industry and across firm characteristics. Our results indicate that the decisions generated statistically and economically significant effects, and generally provide support for the importance of secure formal property rights to the economic performance of resource industries. However, the results vary in size and direction across decisions, industries, and firm characteristics.

We argue that the decisions had the potential to affect our sample resource firms through at least three channels: (i) contemporaneous costs associated with access and use; (ii) the security of continued access into the future; (iii) market participants' perception of these costs and changes in security.⁸ We analyse each decision along these dimensions to predict expected market effects, which vary across the decisions. We break down our results by industry and firm characteristic to account for differential exposure to these channels of effects.

⁷ Our previous work was restricted to the smaller set of firms included in the forest industry index.

⁸ In Keay and Metcalf (2011), we use parameterized simulation models of Canada's forest industry to empirically breakdown these effects for two of our landmark cases, (*Van der Peet* and *Delgamuukw*). Here we focus more on the qualitative influence of these factors as explanations for different expectations about the event study results for our landmark cases.

In aggregate across the five SCC decisions we consider, the maximum net impact on all resource firms listed on the Toronto Stock Exchange *increased* market capitalization by approximately than \$1.3 billion or 0.2% of Canada's 1990 GDP.⁹ Clearly, the judicial recognition and interpretation of formal property rights institutions mattered, but the economic consequences were not necessarily consistent with the commercial resource industries' dire predictions. When we break down our results by industry, we find that the impact of the decisions is generally consistent across the resource industries. There is some variation in the strength and significance of the effects. A number of factors might influence the exposure of particular firms, such as geographic location, size, capitalization, and perhaps even reputation. We break down our results based on a set of available firm micro-data for the mining industry for our most recent landmark case, *Marshall-Bernard*. We do find that certain characteristics are associated with stronger abnormal returns, including having Canadian head offices, located in Western provinces, and effects are stronger for larger firms. However, further work is needed to clearly identify the influence of firm and industry specific factors in explaining the variation of abnormal returns, and the differential effect of the property rights disturbances in our landmark cases.

Property Rights and Efficient Resource Exploitation

Economists regard property rights institutions as fundamentally important for long run economic success. Secure, formal legal rights to private property are said to provide an institutional infrastructure that reduces transactions costs, facilitates investment, and promotes economic growth and development. Insecure property rights, particularly measured by a lack of effective, consistent enforcement, are thought to impose real economic costs from foregone profits and suppressed economic transactions.

The role of property rights is seen as particularly vital in the promotion of efficient and sustainable natural resource use. Perhaps most famously, Garrett Hardin (1968) coined the term “tragedy of the commons” to describe the overexploitation of resources that he traced to a lack of enforceable property rights; the inability to exclude

⁹ There is some possibility that mineral price volatility may have had a confounding effect on our estimate of the economic consequences for one of our decisions (*Delgamuukw*). The estimate of the overall effect above excludes abnormal returns for mineral sector firms for *Delgamuukw*.

other users resulted in a race to exploit that degraded the biological integrity of the resource in question. Even earlier, Gordon (1954) and Scott (1955) found that the lack of enforceable property rights that characterizes “open access” resources leads to inefficient overexploitation, dissipation of the potential economic value of the resource, and a consequent loss in social welfare. More recent empirical studies appear to confirm the relationship between secure property rights, socially beneficial investment, and long term, sustainable resource exploitation.¹⁰

Secure property rights are also thought to promote efficient resource use by facilitating transactions, moving resources to higher valued uses. This role is clear in Coase’s (1960) seminal work on the role of legal entitlements as a starting point from which prospective resource users negotiate to resolve problems caused by potentially conflicting uses.¹¹ More recently it has been emphasized in De Soto’s (2000) influential account of property rights and their contribution to economic growth.

Despite the apparent need for secure property rights, skepticism about the role of formal assignment of legal rights has been expressed by a number of authors. Elinor Ostrom (1990) has famously questioned the premise that only complete and secure formal property rights can provide a solution to the overexploitation of the commons. The reality of commons management can be complex, with informal norms, or community-generated rules playing an important role in regulating resource use. In work on the California gold rush, Umbeck (1977 and 1981) argued that district mining codes which arose from collective effort, without legal authority, provided effective rights to manage the resource. The district mining codes were so successful, according to Umbeck, that they persisted after the arrival of formal government law, and ultimately formed the basis for American mining law.¹² In his work on ranching in Shasta County,

¹⁰ See e.g. Bonn and Deacon (2000), Alston et al. (1996), (1999), Grafton (2000). On role of stable resource rights for economic growth more generally, see e.g. Libecap (2007) discusses the importance of secure title to mineral development in US, Wright (1990) on importance of resource access, particularly minerals, for US economic development and success.

¹¹ The existence of a property right over a resource is important to the Coasian story because of its role in creating an initial entitlement that facilitates bargaining. In the presence of high transactions costs, legal entitlements become determinative of the allocation of resources.

¹² This view is contested by, for example, Clay and Wright (2005), who argue that the mining codes did not provide property rights most conducive to efficient exploitation of the resource, and instead resulted in a commons-like race.

Robert Ellickson (1991) raised questions about the need for formal legal rules to allocate resources – particularly in the face of competing social norms or informal rules.

The questions raised with respect to the need for formality in the assignment of property rights also imply that the judiciary may not necessarily be capable of substantially altering a status quo that reflects pervasive social norms and practices through rights-based adjudication.¹³ In his empirical study of landmark US decisions, Gerald Rosenberg (1991) found that courts have been relatively ineffectual in producing any substantial change in outcomes associated with resource access and use.¹⁴ Brooks, Davidson and Faff (2003) fail to find any significant market response to Australian court decisions affecting aboriginal rights, despite their characterization of these decisions as "revolutionary" in terms of their implications for the Australian mining industry's formal legal property rights.¹⁵ According to this more skeptical view, and the case study evidence presented in its support, the practical and economic impact of formal legal rights may be uncertain under many circumstances.

In Canada, the legal recognition of aboriginal rights, particularly at a constitutional level, has been led by formal legal interpretation by the judiciary. Despite uncertainty within the literature, there seems to be considerable confidence in the Canadian courts' ability to affect economic outcomes. Supreme Court precedents are perceived as having exerted a strong practical effect on the behavior of both governments and private, commercial stake-holders.¹⁶ Representatives of Canadian resource industries (and the media), for example, have at various times suggested that the Supreme Court's efforts to recognize aboriginal rights have created pervasive uncertainty, discouraged

¹³ In Ellickson's study, legal rules neither served as a reference point in bargaining, nor determined the allocation of rights between the farmers and ranchers he surveyed. The formal law seemed largely irrelevant to the resolution of resource allocation problems.

¹⁴ Rosenberg's study of the practical impact of courts is extensive - he considers the role of important US Supreme Court precedents associated with the civil rights movement, including *Brown v. Board of Education*, abortion and women's rights, as well as environmental and criminal law cases.

¹⁵ Brooks, Davidson and Faff (2003) examine the impact of the decision in *Mabo v. Queensland (No.2)*, [1992] HCA 23 and *Wik Peoples v. Queensland*, [1996] HCA 40. The *Mabo* decision held that Australia was not *terra nullius* prior to its settlement and gave legal recognition to native title. The *Wik* decision held that pastoral leases did not automatically extinguish native title.

¹⁶ For discussion of practical impact of legal duty of consultation with aboriginal rights holders, see "Resource sector under pressure to consult more with native groups" (*Globe & Mail*, (January 28, 2013).

investment, and imposed significant economic costs.¹⁷ However, there is little in the way of empirical evidence to gauge the impact of the decisions.

The objective of this study is to extend the empirical effort to identify a relationship linking property rights and economic performance, by measuring the economic consequences imposed on Canada's commercial resource industries following in the wake of the Supreme Court of Canada's post-*Constitution Act* landmark aboriginal rights decisions. The results will contribute to the broader debates surrounding the importance of formal legal property rights in the pursuit of efficient resource management, and the power of the courts to substantively affect the practical application of property rights.

A Canadian Case Study: the Evolution of Aboriginal Rights in Canada

Canada's recognition of aboriginal rights presents a good case-study to contribute to the empirical literature on the importance of secure property rights for resource use and economic growth. In contrast with other more context-specific case studies in the literature, the resource industries in Canada that form the basis for our study are relatively large, operating in well-developed markets, and trading their products internationally. They form a substantial component of Canada's economy.¹⁸ The industries are capital intensive, making them excellent candidates to reveal the investment effects of property rights instability related to their basic natural resource entitlements. The relative capital intensity also results in significant participation by industry firms in Canada's largest equity market - the Toronto Stock Exchange (TSX). In 2005, resource producers accounted for more than 19% of the 1,962 firms listed on the TSX, and these firms were

¹⁷ In "We Need Action on Land Claims and We Need it Now", Gordon Peeling, President and CEO, Mining Association of Canada, submission to Standing Committee on Aboriginal Affairs (April 7, 2008: Ottawa), these decisions are said to have created a "cloud of uncertainty". Among many examples, media reports include: "Natives Win Land Rights: Top Court Rules that Oral History Gives Band Constitutional Claim in Absence of Treaty", *Globe & Mail* (December 12, 1997); "Ruling Extends Aboriginal Rights", *Financial Post* (December 12, 1997); "Provinces Must Respect Native Rights Judges Rule", *Globe & Mail* (June 1, 1990); "Natives Say Fishing Rights Victory will Help with Land Claims", *Ottawa Citizen* (June 1, 1990).

¹⁸ See e.g. Chen and Rogoff (2003: 136) although, "...Canada has a large and...developed industrial base...it continues to rely on commodity products such as base metals, forestry products, and crude oil." In the first decade of the 20th century, Canada's resource industries generated 16% of the aggregate income earned by Canadians, and 9% of the Canadian workforce and 17.5% of the reproducible capital stock was still employed by energy, forestry and mining firms, see Keay (2009).

disproportionately large, accounting for just less than 28% of the \$1.8 trillion in total market capitalization on the exchange. Given the size of the commercial resource industries in Canada, property rights over resource access and use clearly have the potential to substantively affect the performance of the aggregate economy and reveal the impact of stable legal entitlements more generally.

Another advantage of our Canadian setting is that it allows us to focus on the effect of a set of specific changes in legal rights in an otherwise stable, high quality institutional environment, where legal entitlements are generally secure and well-enforced. Canada has not experienced instability in its property rights rules as a result of political, social, or military upheaval - variables commonly used to measure the security of property rights in cross-sectional studies assessing the economic impact of strong property rights more generally. Particularly since 1982, changes in the domestic institutional environment have been evolutionary, rather than revolutionary.¹⁹

In this institutionally stable, resource intensive economic environment, the Supreme Court of Canada released a series of landmark decisions on s. 35 Constitutional Aboriginal rights. These decisions altered the legal status and potential scope of aboriginal land and resource claims, with consequent implications for the formal legal rules regulating stock access and use for Canada's commercial resource industries.²⁰ The lack of general, potentially confounding institutional instability, combined with significant, changes in the formal law affecting resource industry property rights, allow us to identify the impact of these key cases.

The existence of aboriginal interests in lands and resources, along with questions about their legal status, have been a part of the Canadian legal landscape from the country's earliest history. The British *Royal Proclamation*, issued following its conquest of the territory from France, reserved lands not already included within colonial government boundaries for the use of the Indians, and precluded any settlement until the lands were "ceded or purchased" from the aboriginal occupants by the Crown.²¹ A process of treaty making followed the *Proclamation*, but preceded British settlement.

¹⁹ The Canadian Constitution was "patriated" in 1982. This process imported into Canadian law the existing federal-provincial division of powers that had been established under British law, but also added a *Charter of Rights* and included our provision of interest, s. 35(1) recognizing and affirming Aboriginal rights.

²⁰ The discussion that follows draw on analysis included in Keay and Metcalf (2011).

²¹ See *Royal Proclamation* (1763), http://avalon.law.yale.edu/18th_century/proc1763.asp.

Both these developments seemed to recognize the legal status of aboriginal peoples' interests in their traditional lands under the new British legal regime. The treaty process was incomplete, however, and large areas of Canada were settled or left without any resolution of the status of aboriginal land claims.²² Subsequent legal decisions viewed the *Royal Proclamation* not as acknowledging any legal rights to the land, but merely granting personal and usufructory rights for aboriginal people to continue their traditional uses of the land, until such time as the Crown might choose to end these privileges.²³

The legal status of aboriginal rights, and particularly land claims, continued to weaken into the mid-twentieth century. By 1969, the Federal government considered aboriginal land claims to be too vague and insubstantial to amount to potential legal rights, relegating their status to outstanding political grievances that would best be addressed by eliminating legal distinctions that applied to aboriginal peoples.²⁴ However, the legal landscape began to shift shortly thereafter. In 1973 the case of the Nishga'a, seeking a declaration that they held un-extinguished aboriginal title to their traditional lands, reached the Supreme Court of Canada. While the decision in this case was a split decision that did not give the Nishga'a the declaration they were seeking, the majority of the Court regarded aboriginal title as a continuing legal interest in traditional lands.²⁵ The Crown might extinguish aboriginal title, but where it had not clearly done so, the aboriginal interest in lands and resources continued to have legal force. This judicial decision prompted a shift in the approach to aboriginal claims, requiring them to be addressed as legal rights, that might conflict with other property interests the government had created in lands and resources. While *Calder* was a significant legal development, the Crown's continuing unilateral power to extinguish aboriginal rights meant that any insecurity in access could be relatively easily repaired – at least in theory.

²² Prominent examples include the Maritime provinces, which are covered by “peace and friendship” treaties that do not specifically address any respective rights to land. British Columbia was also largely settled without any prior treaty resolution of competing aboriginal and colonial claims to land, and the process of treaty negotiation in that province is ongoing. Although much of the rest of Canada is the subject of treaties that purport to extinguish aboriginal claims to traditional lands in exchange for the allocation of reserve lands, their interpretation as land surrender treaties has been increasingly contested by aboriginal signatories.

²³ See *St. Catherine's Milling and Lumber Co. v. R.* (1888), 14 App. Cas. 46 (P.C.).

²⁴ See government DOJ White Paper (1969).

²⁵ See *Calder v. British Columbia (Attorney General)*, [1973] S.C.R. 313.

A very significant change in this position followed from the inclusion of aboriginal rights in the repatriated *Constitution Act* (1982). A new constitutional provision, s. 35(1) provided that, “...the existing aboriginal and treaty rights of the aboriginal people of Canada are hereby recognized and affirmed.” While the intention was to further develop the content of these rights through negotiation and subsequent amendment of the Constitution, these plans have not materialized. Fleshing out the meaning of the new constitutional aboriginal rights was left to the courts. This resulted in the series of decisions that we draw from for our study. We examine a set of five key cases that provided precedents settling key issues regarding the scope and content of the Aboriginal rights protected by s. 35(1). We briefly discuss the decisions below, and indicate our expectation about the way each influenced Canadian resource firms, via direct effects associated with short run costs of access and use and more general uncertainty about the security of continued resource rights into the future.²⁶

The Supreme Court of Canada first considered the meaning of s. 35(1) in a decision released on May 31, 1990 - *R. v. Sparrow*, [1990] 1 S.C.R. 1075. A number of significant implications for general resource rights flowed from the decision. First, the Court in *Sparrow* adopted the view that aboriginal rights protected by s. 35(1) were affirmed in an un-regulated form. The existence of a regulatory regime that governed potentially competing and conflicting claims to a resource did not in itself indicate that aboriginal rights were extinguished, or even limited in scope by the existing regulations. The Court did not lay out a test for identifying s. 35(1) aboriginal rights in *Sparrow*, but did state that these rights were based on a pattern of historic use and occupation. However, rights were not affirmed in a “frozen” form - the court emphasized they could evolve to be exercised in a “modern” form. Once established, government could not interfere with aboriginal rights without meeting a test for constitutional justification. This test involved a two-pronged approach, requiring that government pursue objectives of sufficient importance, and that the way in which aboriginal rights were limited respected the special fiduciary relationship between the Crown and aboriginal peoples.

²⁶ The discussion of our first three landmark cases, *Sparrow*, *Van der Peet*, and *Delgamuukw* largely reproduces the analysis in Metcalf and Keay (2011) at 797-803. In this study we expand our set of landmark cases to include two more recent decisions, *Haida Nation*, *infra* and *R. v. Marshall*; *R v. Bernard*, *infra* on the duty of consultation and aboriginal title respectively.

The Court interpreted both prongs narrowly in *Sparrow*. Acceptable purposes could include resource conservation or protecting the safety of rights-holders, but limitations “in the public interest” were impermissibly vague. The fiduciary relationship required prioritizing aboriginal rights to resources, which in the case itself was interpreted as a first claim to the resource. The implication was that aboriginal rights could take precedence over competing rights to access and use resources, even if such government allocations could be justified.

Opinions varied widely on the legal implications of s. 35(1) prior to the release of *Sparrow*, ranging from there being no content to s. 35(1) to it incorporating full self-governance and territorial autonomy for Aboriginal people. Relative to the legal *status quo* prior to the decision, *Sparrow* increased the scope of aboriginal rights that could potentially conflict with resource industry rights. While it did suggest that government might justifiably limit these rights, the grounds accepted appeared narrow and prioritized aboriginal rights over industry interests. We expect that *Sparrow* would have a negative effect on contemporaneous stock and access rights, because of the increase in potentially conflicting Aboriginal claims. Its effect in terms of market perceptions about the general security of resource rights into the future is more difficult to gauge, as it did resolve some of the uncertainty surrounding s. 35 by providing the beginning of a legal framework for the provision, but in doing so had clearly put limits on government’s ability to guarantee industry that its resource tenures were secure. Overall, we expect *Sparrow* to have been perceived as having a negative impact on the stability and security of resource industry access, tenure and use rights.

Our second “landmark” case addressed the legal standard for recognizing an aboriginal right, and spelled out more precisely how limits on these rights might be justified. On August 26, 1996 the Court released *R. v. Van der Peet*, [1996] 2 S.C.R. 507, and *R. v. Gladstone*, [1996] 2 S.C.R. 723 as companion cases.²⁷ In *Van der Peet* the Court set out the test for establishing an aboriginal right under s. 35(1). The Court anchored the purpose of s. 35(1) in an effort to “reconcile” the prior existence of

²⁷ The Supreme Court of Canada often hears “companion cases” that raise complementary or similar issues on important points of law, particularly in its aboriginal rights cases. The decisions are released simultaneously and intended to be linked as a set of coherent and unified statements on the law. We will refer to the decisions collectively as “*Van der Peet*”.

aboriginal peoples as distinctive communities with the assertion of Crown sovereignty. This proved important for two reasons. First, it led the Court majority to structure the test for aboriginal rights around the culture of aboriginal societies in the pre-contact period, restricting rights to those “practices, customs or traditions” that were “integral to the distinctive culture” at that time. This was a relatively narrow view of the scope of aboriginal rights.²⁸ Also, while the *Van der Peet* test does not preclude claims for commercial aboriginal rights, the need to show that rights claimed were culturally distinctive pre-contact made it very difficult to establish rights to harvest resources commercially.²⁹ With respect to Ms. Van der Peet's specific claim, the Court found that while the Sto:lo had traditionally exchanged salmon for other goods, the practice was incidental and not culturally integral to Sto:lo society. The majority also rejected the claim that the right to fish for subsistence in pre-contact times could translate into a modern right to harvest and sell fish for the contemporary equivalent to pre-contact subsistence - a “moderate livelihood”.

A second implication of the decision's effort to reconcile prior existence by aboriginal peoples with Crown sovereignty became clear in *R. v. Gladstone*, [1996] 2 S.C.R. 723, a decision released on the same day as the *Van der Peet* ruling. In *Gladstone*, the Court laid out a more flexible test for constitutionally permitted limits to aboriginal rights. The Court indicated that constitutional purposes consistent with “reconciliation” could extend to “pursuit of economic and regional fairness” and recognition of historic reliance on, and participation in, a commercial resource industry by non-aboriginal groups. In addition, the Court held that when aboriginal rights with commercial dimensions were established, the meaning of “priority” for aboriginal rights changed - instead of placing aboriginal claims ahead of other commercial users, justified limits would require that government take account of the rights in allocating the resource, possibly offering compensation and consultation, or facilitating aboriginal participation.

²⁸ Dissenting opinions by Justices L'Heureux-Dube and McLachlin in *Van der Peet* made this point.

²⁹ A successful claim to harvest herring roe on a commercial scale was made by the Heiltsuk in a case released simultaneously with *Van der Peet*, *R. v. Gladstone*, [1996] 2 S.C.R. 723.

Van der Peet was an important decision for Canada's resource industries. Aboriginal rights could potentially be established across the country.³⁰ *Sparrow* had suggested a broad scope for these rights, and a restrictive ability to justify limits if commercial resource regimes conflicted. In *Van der Peet*, the Court established a relatively clear test for aboriginal rights, taking a much narrower approach. The test was novel, in that it departed from any common law precedent and was much more restrictive than possible alternatives.³¹ The test made the establishment of potentially conflicting commercial aboriginal resource rights very unlikely, and suggested greater deference to government limits on any commercial rights aboriginal people might establish. We expect that the dominant effect of *Van der Peet* was to increase the short run security of resource rights, and to decrease general legal uncertainty about the impact of s. 35(1) aboriginal rights for the resource sector.

The legal status of aboriginal title under s. 35(1) first came to the Supreme Court in the case of *Delgamuukw v. British Columbia*, [1997] 3 S.C.R. 1010. The Gitskan and Wet'sewet'en aboriginal people brought claims of "ownership and jurisdiction" over their traditional lands in British Columbia, arguing that their title had never been extinguished. In this decision, the Court outlined a test to establish title, requiring proof of exclusive aboriginal use and occupancy prior to the assertion of Crown sovereignty, with a degree of continuity to present occupation. Once established, title becomes a constitutionally protected right that gives aboriginal peoples exclusive rights to use and occupy the land for purposes that need not be in themselves aboriginal rights.³² The court did not hold that determining occupancy would be by application of either exclusively common law or aboriginal law concepts, and instead drew on the core purpose of reconciliation that underlies s. 35(1) to conclude that aboriginal title was a *sui generis* legal right, that

³⁰ Even in areas covered by treaties, aboriginal people often retained the right to exercise their rights through activities such as hunting, trapping and fishing. For example, see *Mikisew Cree First Nation v. Canada*, [2005] 3 S.C.R. 388.

³¹ The dissent in *Van der Peet* by Justice McLachlin argues for an approach closer to common law, while Justice L'Heureux-Dube favoured a "dynamic rights" approach – both would have been potentially more accommodating of commercial aboriginal rights.

³² Aboriginal title is also characterized by special features that distinguish it from *fee simple* title - it is held by the collective, cannot be alienated except by surrender to the Crown, and cannot be put to uses that are irreconcilable with the inherent cultural ties to the land that are subsumed in the historic occupation of the land by aboriginal people. The latter "internal limit" precludes some resource harvesting that might otherwise conflict with other users' claims, for example mining or forestry practiced in ways that could damage the land.

incorporated perspectives from both cultures. So, both aboriginal law and physical occupation might be relevant to the test for title. In *Delgamuukw* the Court also adopted a principle that the admissibility of evidence should be approached sensitively and flexibly in the context of aboriginal rights claims. Specifically, oral tradition could be admitted as evidence of historic use and occupation.³³ Both the approach to establishing title through occupancy and the evidentiary rulings expanded the potential scope for title claims.

Once proven, the court held in *Delgamuukw* that aboriginal title is constitutionally protected against any unjustified government infringement. Government allocated commercial resource rights that overlap with lands subject to aboriginal title claims would thus be potentially unconstitutional. The test for justification was expanded in *Delgamuukw* to include a broader range of objectives, including for example development of mining or forest resources. The concept of priority for aboriginal rights that characterized the second branch of the test for justified limitation of rights in *Sparrow* was modified in *Delgamuukw*. In relation to aboriginal title, both the process by which a resource is allocated and the actual allocation must reflect the prior interest of aboriginal rights-holders. The Court was unclear about exactly what this would require, but used the example that resource rights should reflect the prior occupation of aboriginal title-holders, and that title-holders should participate in resource development. This linked to a second aspect of justified interference with aboriginal title developed in *Delgamuukw* – aboriginal rights-holders had to be consulted about interference with their rights. The obligation of consultation occupied a spectrum that ranged from provision of notice to a possible veto – depending on the nature of the interference with aboriginal title. The duty of consultation reflected aboriginal peoples’ inherent right to decide what activities should take place on their titled lands and meant they had to be involved in decision making that affected the use of titled lands that interfered with their exclusive rights. The court also suggested that there is a need for “fair compensation” when title is infringed. Despite the fact that the test for justified infringement of title appeared more

³³ This effectively overturned the rulings from the courts below that dismissed the claim on the basis of insufficient evidence of occupation. The Supreme Court held that the courts should have considered the claimants’ oral tradition evidence in the form of a collection of highly formalized stories (known as *adaawk*) and spiritual songs and dances (*kungax*).

flexible than the initial approach in *Sparrow*, the test outlined in *Delgamuukw* is very vague.

The *Delgamuukw* decision provoked a highly critical response from Canadian resource industry participants.³⁴ Analysis of the decision supports this view, as its broad and flexible approach to title rendered existing resource rights more fragile, and created a complex, contextual and vague test for justified infringement. We expect that *Delgamuukw* negatively affected the security of contemporaneous rights of access and use³⁵, and also generated substantial general legal uncertainty about resource entitlements in the future.³⁶

Our next landmark companion cases *Haida Nation v. British Columbia (Minister of Forests)*, [2004] 3 S.C.R. 511 and *Taku River Tlingit First Nation v. British Columbia (Project Director)*, [2004] 3 S.C.R. 550, addressed the legal duty to consult aboriginal people and accommodate their asserted rights prior to having these rights proven through the litigation of a successful claim. The case also raised the issue of whether *Delgamuukw*'s duty to consult attached to private stake-holders, such as resource firms, that might interfere with aboriginal rights through their commercial activities. The decisions affirmed a broad duty of consultation whenever the Crown (i) had notice of a prospective aboriginal right and (ii) contemplated actions that could interfere with it. The content of this duty was flexible, depending on the strength of the aboriginal claim and the degree of interference with the right. The decision placed the duty exclusively on government, absolving private parties of any obligation to consult as a legal matter. The decision anchored the duty of consultation in the “honour of the Crown”, leaving it somewhat unclear whether the duty was constitutional in origin. The decision clearly

³⁴ See e.g. “Natives Win Land Rights: Top Court Rules that Oral History Gives Band Constitutional Claim in Absence of Treaties”, *Globe & Mail* (Dec. 12, 1997) (cloud of uncertainty over BC mining and logging industries); “Ruling Extends Aboriginal Rights”, *Financial Post* (Dec. 12, 1997) (vast areas at stake, particularly in BC, potential for more than \$1 Bn in investment to be withheld from resource industries).

³⁵ This effect was apparent from instances in which aboriginal people secured injunctions to stop resource exploitation pending consultation about their rights, and moratoria on granting new resource tenures that were adopted in the immediate aftermath of the decision, see e.g. “Courts Block Logging in B.C.: Miners, Loggers Fear a Wave of Lawsuits as Indians Invoke Delgamuukw Decision”, *Globe & Mail* (June 17, 1998); “Native Grievances Need to Be Heard”, *Financial Post* (Feb. 7, 1998) (reporting on moratoria on resource tenures in B.C.).

³⁶ This seems to have been perception in the industry, see e.g. “The Land-Claims Ruling is a Breath Taking Mistake”, *Globe & Mail* (Dec. 16, 1997), describing judgment as undermining all Crown title in BC, increasing uncertainty by order of magnitude.

rejected the Crown argument that the consultation obligation was in the nature of a common law right to procedural fairness, such that legislatures could define or modify it through legislation.³⁷

The need to consult aboriginal rights-holders and incorporate them in a broad range of decisions that was recognized in *Haida-Taku* had the potential to affect the way in which many resource management decisions had traditionally been made. *Haida* itself invalidated the transfer of a long-term timber license - previously automatic under the statutory regime - for failure to consult on prospective aboriginal rights. At the very least, the Court's confirmation of an expansive *ex ante* consultation requirement increased the transactions costs associated with resource development and limited the autonomy of industries' harvesting rights. We would expect these aspects of the decision to reduce access and increase uncertainty associated with resource rights into the future. The consultation requirement has promoted a reconfiguration in Canadian governments' resource and environmental decision-making structures, and produced a substantial volume of litigation.³⁸ However, for industry, an important aspect of *Haida* was to clarify that they had no direct legal responsibility to negotiate with aboriginal people who might be affected by their operations. This aspect of the decision shifted the responsibility for the additional transactions costs of consultation to the government. This dimension of the case would have reduced the costs of resource access, from an industry perspective.

The final decisions we consider arguably tightened and clarified the "cloud of uncertainty" embodied in *Delgamuukw*. In the companion cases of *R. v. Marshall* and *R. v. Bernard*, [2005] 2 S.C.R. 220, the Supreme Court faced potentially extensive title claims in Nova Scotia and New Brunswick. Lower courts had adopted approaches to the requirement for occupation that potentially allowed for very extensive claims. In *Marshall-Bernard* the Supreme Court addressed the requirement for occupation directly. The Court focused on analogizing aboriginal title to common law title, and moved away

³⁷ In *Haida*, the Crown failed to meet its consultation obligations when provisions for the automatic renewal of timber harvesting licenses that could be transferred between private parties were created. Although there was a consultation process at the "operational" level when cutting permits were to be issued, this was held not to be sufficient. Involvement at the "strategic" stage which would feed into decisions about the allowable annual harvest were required. As a consequence of failing to meet its consultation obligations, the automatic transfer of licenses became invalid.

³⁸ Metcalf (2008) discusses the impact of *Haida-Taku* on resource and environmental decision-making, and reviews subsequent litigation.

from characterizing title as a *sui generis* legal right. Aboriginal perspective was to remain important, but the decision appears to firmly anchor the legal requirements in common law concepts. This should have helped reduce the uncertainty associated with the boundaries of potential title claims. The decision was perceived as setting a relatively high bar for establishing title, due to the intensity of use required to establish exclusive occupation.³⁹ *Marshall-Bernard* largely extinguished claims to title that had more than covered the Maritime provinces' land area.⁴⁰

These five landmark decisions are only a sub-sample of the Supreme Court's decisions addressing the meaning of s. 35(1). We have selected these particular examples (and referred to them as "landmark" decisions) because they are widely regarded as important in terms of their impact on the security of property rights for commercial resource industries. These decisions were the first precedents on the critical issues of: the existence and scope of aboriginal rights; the implications for government-granted access and regulations of potential conflict with aboriginal rights; and the extent to which aboriginal rights-holders would need to be directly involved in decision-making about resource use. The decisions established legal standards in previously uncharted territory, and the Court's approach often departed from any common law precedent to craft a unique body of law. This uniqueness diminished the degree to which the results of the decisions could be easily anticipated, and increased the discontinuous nature of the information contained within the rulings.

Measuring the Consequences: Event Study Methodology and Data

The announcement of unexpected information relevant to firms' economic performance provides researchers with an opportunity to use an "event study" analysis.

³⁹ For an example, see Firm News Update: Lawson Lundell, "Implications of the Recent Supreme Court Decision in *R v. Marshall; R v. Bernard*."

⁴⁰ This discussion focuses on the title aspect of the decision. The decision also addressed the question of whether rights to harvest and trade to obtain a "moderate livelihood", protected under the 1861 Peace and Friendship treaty, extended to an ability to harvest timber commercially from Crown lands. The Court ruled that this use of resources could not have been in the contemplation of the parties to the treaty, so would not be covered by the treaty rights and Aboriginal people would require government licenses to harvest timber. One implication is that unspecified traditional harvesting rights contained in treaties cannot evolve into rights to harvest resources commercially, particularly for uses of resources unknown at the time of the treaty. This aspect of the decision should also have helped secure commercial rights, particularly in the Maritime provinces covered by the treaties in question.

Sparrow, *Van der Peet*, *Delgamuukw*, *Haida-Taku*, and *Marshall-Bernard* altered the landscape of formal legal Canadian property rights in a way that could not have been easily predicted prior to their release dates. Because market participants had no way of knowing in advance which of the competing positions on aboriginal rights would be endorsed by the Court, we treat the release of the decisions as events that produced new and unanticipated information relevant to the security and predictability of resource rights.⁴¹ We test to determine if market participants deemed this information to be statistically and economically relevant to the economic performance of Canada's energy, forestry and mining firms.

The methodology of an event study is based on the "efficient markets hypothesis", which posits that equity markets rapidly process and absorb information, and an assumption that in equilibrium firms' equity prices reflect the present discounted value of their expected stream of net returns.⁴² These twin assumptions imply that the impact of events that reveal new information about a firms' economic environment can be determined by looking at stock price responses immediately following the announcement of the event.⁴³ Event studies have been employed in a remarkably wide range of contexts, and it has been suggested (Bhagat and Roman, 2002, Pg. 141) that they are one of the most effective means of empirically identifying the economic impact of legal and policy changes.⁴⁴

The application of the event study approach is quite straightforward.⁴⁵ First the researcher must identify an unanticipated event of interest - if the time at which

⁴¹ The SCC deliberation process is highly confidential and judgments are released under tightly controlled circumstances at a clearly identifiable point in time. For a detailed description of the Court's procedure for releasing judgments, see Supreme Court of Canada, Media Portal, Decisions of the Court, Release of Decisions of the Court (<http://www.scc-csc.gc.ca/mediaportal/decisionscourt/index.asp>). The *Sparrow* decision was released on May 31, 1990; the *Van der Peet* decision was released on August 21, 1996; the *Delgamuukw* decision was released on December 11, 1997; the *Haida-Taku* decision was released on November 18, 2004; and the *Marshall-Bernard* decision was released on July 20, 2005. Because decisions are always released at 09:45 EST, closing prices for the release date [0,0] are the relevant measure of the decisions' initial impact on available information.

⁴² See Fama, Fisher, Jensen, Roll (1969) for a seminal paper developing the event study methodology and laying out the importance of these assumptions.

⁴³ See also Fama (1991).

⁴⁴ Fama (1991) provides a review of papers dealing with the efficient markets hypothesis. See also the general methodological review provided by MacKinlay (1997).

⁴⁵ The following discussion draws primarily on MacKinlay (1997), although similar descriptions of the event study methodology appear in numerous references, including Bhagat and Romano (2002a) (legal

information becomes available cannot be pinned down fairly precisely, the event study methodology cannot be used.⁴⁶ Because the exact moment at which investors have access to information is imprecise, and because markets may not react instantly and completely to new, complex information, the usual practice is to specify a wider “event window” with which to assess the impact of the information on firms' equity prices.⁴⁷ This window should be specified as narrowly as possible, since the power of statistical results will diminish, conditional on sample size, as the window is expanded.⁴⁸

The next step is to measure the observed return on the affected equity prices and compare this with the expected return to determine the response to the event, known as the "abnormal return" (*AR*). Event studies can be carried out to examine the impact of a single event on a single firm or industry, or they can be carried out for aggregate samples that average results across affected firms, industries, and events. To assess the impact of an event on a single firm, the abnormal return for firm *i* in period *t* is equal to:

$$AR_{it} = R_{it} - E(R_{it} / X_{it})$$

Where X_{it} is the conditioning information to determine the expected return. The most common approach to estimating expected returns in the literature is to employ either the Capital Asset Pricing Model (CAPM), or the market return (MR) model. The CAPM model assumes that the expected return on any given security is a stable linear function of the market return (*RM*), the TSX composite index for example, and a risk free return (*RF*), the domestic daily call loan rate for example, which can be formally modeled as:

$$(R_{it} - RF_t) = \alpha_i + \beta_i (RM_t - RF_t) + e_{it}$$

Where e_{it} is a random disturbance term with $Var(e_{it}) = \sigma_{e_i}^2$.⁴⁹

audience), Binder (1998), Brown and Warner (1985) (technical audience), Gupta and Goldar (2005), Rock (2003) (applications).

⁴⁶ For discussion of the application of the methodology in studies of the impact of regulatory changes, which involve less precision in identifying the event, see Lamdin (2001).

⁴⁷ The move to a wider event window implies a relaxation of the efficient markets hypothesis, towards what is often referred to as the "semi-strong efficient markets" hypothesis.

⁴⁸ For discussion of the impact of changes in the length of the event window for various sample sizes, see MacKinlay (1997), Pg. 29-34. The key results are summarized in Bhagat and Romano (2002a).

⁴⁹ Other models may be used to calculate expected returns, including the factor loading approach, which is a more complex version of the standard market model, offering marginal gains in precision at a cost of imposing additional data requirements (MacKinlay (1997), Pg. 18-19). The CAPM and MR models have been criticized because they may fail to conform to OLS estimation assumptions, including non-normality and dependence in residuals, as well as instability in estimated coefficients (MacKinlay (1997), and Coutts, Mills and Roberts (1994), for example). However, Cable and Holland (2000) report that normality of the

The expected return equation can be estimated by OLS over a pre-event estimation window, [-201,-1] for example. Under the maintained assumptions of the model, OLS yields both consistent and efficient parameter estimates.⁵⁰ With estimates of α and β , the CAPM model can be used to predict the expected return for firm i at any time t . The difference between the predicted and actual returns yield abnormal returns (AR). During an "event window" immediately following the release of new information, these abnormal returns provide a measure of the market's perception of the economic impact of the event on the present value of the stream of future returns for firm i .

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i(RM_t - RF_t) - RF_t$$

The abnormal return during the event window, therefore, is simply the out-of-sample forecast error of the CAPM model. If the sample period for estimation of expected returns is long enough, then abnormal returns will be normally distributed, with $E(AR_{it}) = 0$ and $\sigma_{AR_{it}}^2 = \sigma_{e_i}^2$.

If we accept a semi-strong markets hypothesis, we can assess the statistical significance of the event by aggregating abnormal returns over event windows $[T_1, T_2]$ that extend beyond the event date itself. Supreme Court judgments relating to constitutional rights, particularly judgments that provide landmark rulings relating to uncharted legal territory, are unlikely to have been fully disseminated and understood without opinions from legal experts. This implies that response times for our events are likely to have been longer than the of one or two day windows typically associated with financial market events, such as earnings forecasts, mergers, regulatory actions or tort suits. We consider event windows from one to five days in length, estimating cumulative abnormal returns (CAR) for each firm i over the event windows: [0,0] [0,1] [0,2] [0,3] and [0,4].

$$CAR_i(T_1, T_2) = \sum_{T_1}^{T_2} AR_{it}$$

The variance of the cumulative abnormal returns for firm i over an event window $[T_1, T_2]$ is: $\sigma_i^2(T_1, T_2) = (T_2 - T_1 + 1) \sigma_{e_i}^2$; and firm-specific null hypotheses $H_0: CAR = 0$ can be tested with simple Z -tests $\sim N(0, \sigma_i)$.

errors in these standard models is not generally a problem when returns are averaged over a portfolio of a size common in event studies (>60 firms).

⁵⁰ See MacKinlay (1997), Pg. 20.

An event study's results can be aggregated not just across event windows, but across multiple firms and/or events. For our study, we aggregate cumulative abnormal returns across resource firms (N) that experience five common events (the release of the SCC landmark aboriginal rights decisions). We report results from significance tests that have been conducted using average cumulative abnormal returns ($CAAR$), with appropriate adjustments made to the variance in these returns:

$$CAAR(T_1, T_2) = \frac{1}{N} \sum CAR_i(T_1, T_2)$$

$$\sigma_{CAAR}^2 = \frac{1}{N^2} \sum \sigma_i^2$$

Again, the null $H_0: CAAR = 0$ can be tested with a simply a Z -test.⁵¹

For the *Sparrow*, *Van der Peet* and *Delgamuukw* decisions hard copies of the *TSX Monthly Review* for the month of each release date were used to manually-collect information on the: sector; business; firm name; stock ticker label; end of month market capitalization; inclusion in a TSX sector or industry index; and inter-listed status on multiple equity markets, for all firms listed on the TSX that were identified as paper and forest products producers, mining firms, or oil, gas and energy producers. Using both ticker labels and firm names, the Canadian Financial Markets Research Centre (CFMRC) Summary Information Database was then searched for daily closing common share prices for each of the resource firms identified from the *TSX Monthly Reviews*.⁵² For the *Sparrow*, *Van der Peet* and *Delgamuukw* decisions, additional information on head office location, nation of origin, original TSX list date, and survival on the TSX as of November 2012 was collected for each firm using firm name and ticker label internet searches. For the *Haida-Taku* and *Marshall-Bernard* decisions, the resource firms were identified and all firm-specific information was collected from searches of the *TSX eReview* for the

⁵¹ MacKinlay (1997) Pg. 24, emphasizes that large samples of firms or events, and long estimation windows for the CAPM, are required to avoid inefficiencies due to the asymptotic distributional properties of the event study methodology. A further problem with statistical inference for $CAAR$ measures can arise from a failure of the assumptions of independent, identical distributions for the firm-specific AR . “Clustering” of the events in calendar time and a sample of firms drawn exclusively from specific industry groups can lead to the violation of these assumptions by creating cross-sectional dependence (see Brown and Warner (1980) and (1985), Binder (1998) or Mackinlay (1997)). We use a 200-day estimation window, five events spread over 15 years, four industries, and 1,700 firms to derive our $CAAR$.

⁵² For additional information on the construction and composition of the daily price and index series see documentation provided at: Computing in the Humanities and Social Sciences, University of Toronto (CHASS) Data Centre (<http://ww.chass.utoronto.ca/cgi-bin/chassnew/display.pl?page=index>).

month of each release date, and daily common share price information for each firm was again taken from the CFMRC. To be included in our sample resource firms had to have trades recorded through the [-201,-1] estimation window, and in each of the five event windows; [0,0], [0,1], [0,2], [0,3], [0,4]. On average over the five SCC decisions, 78.5% of the resource firms listed on the TSX had sufficient trades through the estimation and event windows to allow for their inclusion in the study. For all five decisions the TSX Common Share Price Composite Index was used as a measure of the market return (RM), and the daily call loan rate was used as a measure of the risk free rate of return (RF). This conditioning information was also available on a daily basis from the CFMRC.

Event Study Results

Resource Sector Results

The first question we address with our event study results is whether the judicial recognition of aboriginal rights in the SCC landmark cases, with consequent implications for the security and predictability of resource rights, generated economically and statistically significant effects on the value of resource firms. Our results indicate that participants on Canada's largest equity market did attribute large and statistically significant economic consequences stemming from all five of the decisions we consider. However, in contrast to the views expressed by representatives of Canada's commercial resource industries and the print media, these consequences are by no means uniformly and consistently negative. A naïve story that links “instability” in the security of property rights through the court’s aboriginal rights cases to negative economic outcomes is not apparent in our data. Instead, the market responses reflect more nuanced effects of the decisions, based on their implications for current security of resource rights and the level of general legal uncertainty into the future.

Insert Table 1

In Table 1 for each of the five decisions we consider, we report the number of resource firms included in our sample, the cumulative abnormal return for each event window averaged over all firms, the p -value from the test of the null $H_0: CAAR = 0$, and the economic value of the largest statistically significant $CAAR$. "Economic value" is

measured as the change in end of month TSX market capitalization, and the percentage change in end of year Canadian nominal GDP. For the *Sparrow* decision we find negative *CAAR* for three of the five event windows, with large and statistically significant abnormal returns during the [0,3] and [0,4] windows. The 2.47% abnormal reduction in the resource firms' common share prices through the [0,4] window amounts to a drop in market capitalization of over \$3 billion (nearly 0.5% of Canadian GDP in 1990). For *Van der Peet* we find positive and significant abnormal returns during four of the five event windows, with the largest *CAAR*, accounting for 0.34% of Canadian GDP in 1996, amassed through the [0,4] window.

The results for *Delgamuukw* illustrate that caution is required in the interpretation of the event study results. Our legal interpretation suggests that the contemporaneous costs and uncertainty over future resource access embodied in this decision should almost certainly have been viewed in a negative light by market participants.⁵³ However, from Table 1 we see that three of the five event windows have positive *CAAR*, and during the [0,4] window the resource firms' abnormal returns were 4.28% higher than expected - an increase in TSX market capitalization of more than \$10.5 billion. This marked departure from our expectations likely reflects the impact of confounding events in the mining sector.⁵⁴

During the last weeks of 1997 and early 1998, international mineral prices were unusually volatile. On December 10, 1997 (the day immediately prior to the release of *Delgamuukw*) gold prices, for example, hit an 18 year low, on January 6, 1998 copper prices hit their 52 week low, and on December 28, 1997 silver prices hit their 52 week high. We suspect this mineral price volatility is confounding our effort to isolate the release of the *Delgamuukw* decision as a distinct event affecting mining firms' common share prices. A better indicator of the economic consequences stemming from *Delgamuukw* is the *CAAR* derived from the energy and forestry firms alone. In Table 1 we report the *Delgamuukw CAAR* for energy and forestry firms, and as expected, we find large and statistically significant negative responses through all five windows.

⁵³ This is certainly the view taken in reports on the decision in Canadian media, see e.g. notes 34-36 *supra*.

⁵⁴ Controlling for the possibility of confounding events is key to valid causal interpretation of event study results. We use a number of strategies to look for confounding events, including testing for significant effects in the pre-event windows and media searches. Details of robustness checks are discussed in the section following results.

For the *Haida-Taku* decision, three of the five event windows have statistically significant positive *CAAR*, with the largest, 1.53% or over \$5 billion in market capitalization, again found in the [0,4] window. This result is somewhat unexpected, given our view that the decision resulted in uncertainty about the ability to exercise resource rights; however, it is consistent with the view that a significant effect was to clearly transfer the burden of the transaction costs of negotiation to the Crown, away from industry. The positive and significant *CAAR* found through four of the five event windows following the release of *Marshall-Bernard* not only complete the results reported in Table 1. They are also consistent with our expectations, reflecting the positive impact of reduced scope for title and greater precision in the legal test by which it was to be identified. Overall, the results suggest two main qualitative conclusions: (i) the SCC aboriginal rights decisions triggered large economic responses; (ii) these responses were not uniformly negative. At least three of the five landmark aboriginal rights decisions triggered positive abnormal returns for Canadian resource firms on the Toronto Stock Exchange, and over all five decisions the maximum *CAAR* for all resource firms actually *increased* TSX market capitalization by more than \$1.3 billion or 0.2% of Canada's 1990 GDP.⁵⁵

While we are interested in these overall resource industry market responses to the decision, we also break out our results by industry.

Insert Table 4

In Table 4 we include the results for *Van der Peet*, *Delgamuukw*, and *Marshall-Bernard*. These cases most directly address the legal tests for the substantive aboriginal rights that have potential to overlap with commercial resource rights. They also produce consistent effects for both the scope and uncertainty associated with these rights, with *Van der Peet* decreasing both the immediate scope and uncertainty of aboriginal rights, *Delgamuukw* increasing both, and *Marshall-Bernard* decreasing both. In general we find industry level results that are consistent with these expectations, consistent across industries, and consistent with the results for the resource sector overall (averaging across all industries). The influence of the metals price volatility is evident in the divergent results for the

⁵⁵ This estimate excludes the mining sector impact from *Delgamuukw*, assuming this is due to confounding events.

mining industry in response to the *Delgamuukw* decision. The results for the Energy sector, while being similar in sign are not as strong as those for Forestry and Mining for the *Van der Peet* and *Marshall-Bernard* decisions. This variability raises questions about what might be driving differences in the market response across industries. In the next section, we begin to break down our results by industry and by firm, to examine potential sources of variation in responses to the shocks to resource rights in the landmark cases.

Abnormal Returns and Exposure

While the fact that abnormal returns vary across decisions and industries might initially seem surprising, when we think carefully about the content of the decisions and the channels through which they could have affected our measure of firms' economic performance, it is not unreasonable to expect divergent responses.

The property rights disruptions embodied in the SCC decisions could have affected firms' contemporaneous transactions costs and, at least for some sub-set of firms, interfered with the physical access and freedom of use for their *in situ* natural resource assets. In addition, the interpretation of some of the decisions, *Sparrow* and *Delgamuukw* for example, could have led stake-holders to believe that important dimensions of the pre-existing property rights regime had been undermined, thereby creating uncertainty and instability with respect to firms' continued resource access and use in the future. Other decisions, *Van der Peet*, *Haida-Taku* and *Marshall-Bernard* for example, could have been interpreted in a very different light, such that stake-holders believed that some of the uncertainty and instability embodied in earlier decisions had been resolved. And finally, we must consider the impact of our methodological choice - the economic consequences we measure with our event studies do not capture the contemporaneous costs and uncertainty effects stemming from the SCC decisions directly, they only capture market participants' perception of the size and net value of these effects.

Not only does the content of each of the landmark aboriginal rights decisions we consider differ in terms of their potential to affect contemporaneous costs and access, and future uncertainty and instability, but firm-specific characteristics determine individual producers' exposure to these effects. The specificity of the facts associated with each decision implies that firms in particular industries, and firms operating in certain regions

may be more exposed to the direct and immediate costs, and the access and use restrictions that are embodied in the Court's findings. Firms that are less flexible and/or less able to diversify away from region or stock-specific risk and instability, due to their nationality, size or age, may be more exposed to the uncertainty associated with each decision.⁵⁶ And market participants responses may be influenced by firms' reputations - believing some firms to be more exposed to contemporaneous costs, or less flexible and less able to diversify due to their size, age or "importance".

Insert Table 2

In this section we use our available micro-data and firm-specific abnormal returns to illustrate the extent to which the impact of property rights disruptions can vary across firm-specific characteristics. In the results below, we focus only on the most recent landmark aboriginal rights decision in our sample, *Marshall-Bernard*, released on July 20, 2005.⁵⁷ In Table 2 we reproduce the average cumulative abnormal returns, originally reported in Table 1, for all 296 resource firms across five event windows following the release of *Marshall-Bernard*. We find large, positive and statistically significant CAAR during four of the five event windows, peaking at 1.19% three days after the event [0,3]. However, from Table 2 we can see that these abnormal returns were not uniform across the industry groups in our sample. The 93 firms involved in the extraction and processing of energy resources appear insensitive to the release of the *Marshall-Bernard* decision, and with the exception of the [0,1] window, forestry firms also appear unmoved by the Court's findings. The common share prices for the 185 mining firms, on the other hand, moved sharply upwards during the first, second and third days after the decision was released. Because the facts being considered in *Marshall-Bernard* concerned aboriginal title in Nova Scotia and New Brunswick, two Maritime provinces with virtually no oil production and very little natural gas production, energy firms, at least, may have been considered unaffected by the decision.

⁵⁶ Large, fully integrated resource firms must make significant, often irreversible investments in physical capital, technology and particular resource stocks. Diversification may be difficult for these firms. Other resource firms are small exploration firms with virtually no fixed assets.

⁵⁷ We have derived CAAR by industry and firm characteristics for all five decisions we consider. The disaggregated results for the other four decisions are available upon request. The results from *Marshall-Bernard* are generally representative of the results from all decisions.

When we narrow our focus even further to consider the abnormal returns associated with mining firms alone, we find that firms with a head office located outside of Canada have fairly large abnormal returns, but they are not statistically distinguishable from zero. Firms with Canadian head office locations, particularly head offices in the west (Manitoba, Saskatchewan, Alberta and British Columbia), have statistically significant positive *CAAR* during the first and second days following the decision's release. We also find that the largest firms (by market capitalization), firms that list on more than one exchange (*Inter-Listed*), firms that are included on the TSX Mining Index ("representative" firms), and firms that survive to be listed on the TSX in November 2012 all have large, positive and statistically significant abnormal returns over multiple event windows. During the [0,3] event window for example, the average firm with a market capitalization in the top quartile of all mining firms listed on the TSX experienced an unanticipated 3.43% increase in their common share price during the three days after *Marshall-Bernard* was released. In contrast, the average mining firm with a market capitalization in the bottom quartile experienced an unanticipated, statistically insignificant 0.75% reduction in its common share price during this window. Among the characteristics we consider, only the firms' initial list date on the TSX (*Age*) seems largely uncorrelated with firms' *CAAR*, although the older firms did have significant positive abnormal returns during the first day after the event.

The results reported in Table 2, therefore, indicate that there is considerable variation in abnormal returns across firm-types. Mining firms with a western Canadian head office; large TSX market capitalization; inter-listed on multiple exchanges; included on the TSX Mining Index; surviving at least until late 2012; and with an older initial list date; appear to have been considerably more sensitive to the content of the *Marshall-Bernard* decision than their smaller, more transient, younger, and less important energy and forestry counterparts. This combination of firm-specific characteristics may well be associated with greater exposure to the decision's immediate costs and access restrictions and/or fewer diversification opportunities, but formal testing for the marginal effects of exposure requires a more structured empirical approach which our current results do not allow us to test. In ongoing work, we are collecting additional firm data that will allow us to use regression analysis, and test for these marginal effects.

Robustness Testing

The use of an event study methodology to measure economic consequences following in the wake of judicial disruptions in formal legal property rights, requires the researcher to make certain assumptions with respect to market participants' expectations, appropriate conditioning information for these expectations, and the identification of unique, discontinuous "events". These assumptions may not be innocuous, and proponents of event studies strongly recommend careful robustness testing to ensure that the researcher's decisions have not affected the results and to ensure that measured abnormal returns can confidently be ascribed to the event of interest.⁵⁸

Insert Table 3

The average cumulative abnormal returns reported in Tables 1 and 2 have been generated under the assumption that the evolution of Canadian resource firms' daily common share prices can be captured with a capital asset pricing model. The other most common model used for this purpose is the "market model", which does not use risk free rates of return as an explanatory variable. In Table 3 we report the *CAAR* for all resource firms over five event windows following the release of the *Marshall-Bernard* decision using the market model in place of the CAPM.⁵⁹ We can see that with the use of the market model the sign, significance and relative size of the abnormal returns through all five windows matches the results reported for *Marshall-Bernard* in Table 1.

In Table 3 we also report the *CAAR* for all resource firms when we use alternate risk free rates of return in place of the Canadian call loan rate in our CAPM estimating equation: long run Canadian government bond yields⁶⁰; and the US 26 week Treasury Bill rate. Again, sign, significance and relative size of the abnormal returns are unaffected (with the *CAAR* from the [0,4] window using Canadian Government bond yields, which is marginally insignificant, being the sole exception).

⁵⁸ See Bhagat and Romano (2002), for example.

⁵⁹ All robustness tests have been performed for all five decisions (except where noted). Results from these tests are available upon request.

⁶⁰ Weekly Canadian long term Government bond yields for the close of trading every Thursday are reported in the CANSIM database (Matrix 172-0041). Linear interpolation has been used to generate daily rates. Other interpolation techniques generate similar results (Key and Metcalf (2011), Pg. 806).

On average over our period of study (1990-2005), energy, forestry and mining firms make up between 20-30% of the total number of firms and total market capitalization of the Toronto Stock Exchange. Because we are identifying abnormal returns in response to the Supreme Court's aboriginal rights decisions by measuring the difference between resource firms' common share prices and the TSX Composite Index, it is possible that the inclusion of the resource firms in the Composite Index may be muting our measures of these *CAAR*. In Table 3 we can see that even after removing the resource firms from the TSX Composite, we still find that the *Marshall-Bernard* decision triggered strongly positive and significant abnormal returns through the [0,1], [0,2], [0,3], [0,4] windows.

By construction, our event studies assume that by looking for abnormal returns during the days immediately following the release of the SCC decisions, we are capturing the full market response to these property rights disruptions. However, if market participants are anticipating the decisions and/or there is some information leakage in advance of the decisions, it is possible that our post-event *CAAR* might not be capturing the "net" value of the market's response.⁶¹ In Table 3 we report the abnormal returns for all resource firms from "pre-event" windows up to four days prior to the release of the *Marshall-Bernard* decision. We find no statistically significant abnormal returns through the four days prior to the July 20, 2005 release of the decision.

To be confident that the abnormal returns we measure can be attributed to the release of the SCC decisions, rather than some other chronologically coincident shock

⁶¹ As discussed in Key and Metcalf (2011), another potential source of information leakage is the lower court decisions in each of the cases we consider. If markets respond to the lower court decisions as well as the SCC decisions, then the market's assessment of the "net" economic consequences should include the abnormal returns following the release of the lower court and SCC decisions. To address this possibility we have performed a media search surrounding the release dates for the lower court and Court of Appeal judgments for each of our cases. There is virtually no media coverage of these lower court decisions, with the exception of *Delgamuukw* and to a lesser extent *Van der Peet*. For the forestry firms alone, we have performed event study analysis on the release dates for all levels of court for these decisions. There are no abnormal returns for the initial decisions. While we do find significant abnormal returns for the Court of Appeal release, this exception poses difficulty for any empirical analysis. The BC Court of Appeal released eight aboriginal rights cases simultaneously on June 25, 1993, including its decisions in both *Delgamuukw* and *Van der Peet*. While the (limited) media response on this date focused on the decision in *Delgamuukw*, we cannot separate out the impact of any single decision empirically. The abnormal returns we find for June 25, 1993 were negative and significant (over some windows). Because the media response to the Court of Appeal's *Delgamuukw* decision was largely negative, we interpret the Supreme Court decisions as building on earlier uncertainty, so our *CAAR* are likely to be a lower bound estimates of the net responses to the decisions from all levels of judgment.

affecting Canada's energy, forestry and mining firms, we must search for "confounding events". We have performed media searches through eight major Canadian newspapers, including the principal business media, looking for mention of significant domestic or international events that may have affected the economic performance of the resource industries (or any of the major firms included in our sample).⁶² We find media coverage of our landmark cases, but with the exception of unusually volatile mineral prices coincident with the release date for the *Delgamuukw* decision, we cannot identify any other substantive, breaking news stories relevant to the Canadian industries.⁶³ As a final check for confounding events that may have affected Canadian resource firms, but had some international origin (ignored by Canadian print media), we test for significant abnormal returns among US and international resource firms following each of the SCC decisions' release dates. For these tests we use the daily New York Stock Exchange Composite Index as the market return, the US 26 week Treasury Bill rate as the risk free rate of return, and daily common share price indexes for energy firms (the Dow Jones US Oil and Gas Index for *Sparrow*, *Van der Peet*, *Delgamuukw* and the Amex Oil Index for *Haida-Taku*, *Marshall-Bernard*) and mining firms (the *Yahoo-Finance* Global Mining Index) as a measure of US and international market responses for resource intensive producers. In Table 3 we report the CAAR from the Global mining index and US energy index during the four days immediately following the release of the *Marshall-Bernard* decision. Over some of the event windows, the abnormal returns from both indexes are large, but none are statistically distinguishable from zero.

Across all five decisions we consider, our robustness checks are generally consistent with the results reported in Table 3 for *Marshall-Bernard*: CAAR are largely unaffected by our use of CAPM, our choice of the risk free rate of return, or inclusion of the resource firms in the TSX Composite; US and international resource firms were not significantly responding to the release of the Canadian decisions; there were no obvious confounding events (other than mineral price volatility coincident with *Delgamuukw*); and there is little evidence of premature abnormal returns. Although with event studies

⁶² The newspaper search included the *Vancouver Sun*, *The Province*, *The Globe & Mail*, *The Financial Post*, *The National Post*, *The Toronto Star*, *The Ottawa Citizen*, and *The Victoria Times Colonist*. Our tests for significant CAAR during pre-event windows is another check for pre-mature confounding events.

⁶³ Our searches covered one calendar week: 2 days prior to release date; the release date itself; and four days following the release.

caution is always prudent, none of our robustness tests cause us to seriously question the strength of our qualitative conclusions.

Conclusions

The need for stable and secure property rights to encourage investment and efficient, sustainable resource use, is a common theme both in macroeconomic growth literature and in the claims made by Canadian commercial stake-holders in response to the recognition of aboriginal rights through a series of landmark post-*Constitution Act* Supreme Court decisions. Others, particularly legal scholars studying informal property rights and social norms, questioned the strength of the relationship between judicial interpretation of formal rights and substantive economic costs. In this paper, we measure the market response to five judicial decisions that recognized aboriginal rights, and in doing so upset expectations about the security of commercial resource rights. We find that these judicial disruptions to Canadian property rights generated statistically and economically significant responses. However, these responses were not uniform nor consistent across decisions, industries, or firm-types, and the aggregate net response among Canadian resource firms to four of the five decisions we consider was positive. Because these decisions have the potential to affect firms' contemporaneous costs and resource access, the security and certainty of their costs and access into the future, and market participants' perception of these costs and changes in access, we suggest that the differential responses to the SCC decisions reflect differences in exposure to these channels by different industries and firms. Energy firms, forestry firms, and larger-well established firms operating in western Canada seem more sensitive to the property rights disruptions embodied in the *Sparrow*, *Van der Peet*, *Delgamuukw*, *Haida-Taku* and *Marshall-Bernard* decisions.

Given the size of the effects we measure and their rather idiosyncratic characteristics, it seems sensible to suggest that there is a need to seek still more detailed and structured empirical measures of the economic consequences of property rights disruptions resulting from the recognition of aboriginal rights across a wider range of firms and contexts. The idea that these disruptions to the legal landscape have been costly for resource intensive producers is pervasive. It is important to try and address the

accuracy of these claims, so policy-makers can gauge the importance of trying to clarify and streamline the process of incorporating aboriginal rights into the fabric of property rights and resource law.

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**Table 1: Event Study Results
Natural Resource Firms' Abnormal Returns**

	No. Firms	Event Window					Maximum Response	
		[0,0]	[0,1]	[0,2]	[0,3]	[0,4]	000,000 \$	% GDP
<i>Sparrow</i> (May 31 1990)	379	0.0049 (0.250)	0.0082 (0.167)	-0.0058 (0.429)	-0.0140* (0.096)	-0.0247*** (0.009)	- 3,035.44	-0.0045
<i>Van Der Peet</i> (August 21 1996)	356	0.0035 (0.0205)	0.0083** (0.035)	0.0108** (0.026)	0.0122** (0.029)	0.0133** (0.033)	2,774.34	0.0034
<i>Delgamuukw</i> (December 11 1997)	374	-0.0040 (0.194)	-0.0008 (0.858)	0.0048 (0.367)	0.0090 (0.142)	0.0428*** (0.000)	10,597.48	0.0124
<i>Energy + Forestry Only</i>	157	-0.0119*** (0.001)	-0.0209*** (0.000)	-0.0292*** (0.000)	-0.0297*** (0.000)	-0.0238*** (0.002)	-7,353.86	-0.0086
<i>Haida-Taku</i> (November 18 2004)	294	0.0008 (0.781)	0.0141*** (0.001)	0.0124** (0.013)	0.0042 (0.472)	0.0153** (0.018)	5,006.49	0.0039
<i>Marshall-Bernard</i> (July 20 2005)	296	-0.0018 (0.533)	0.0110*** (0.006)	0.0116** (0.017)	0.0119** (0.034)	0.0104* (0.097)	6,045.49	0.0044

Note: Abnormal returns derived for all energy, forestry and mining firms (unless otherwise noted) listed on TSX at each event date with trades through estimation window [-201,-1]. Derivation of abnormal returns described in text. Maximum response = largest statistically significant abnormal return × end of month market capitalization of all firms, expressed in millions of current CAD and as share of current year Canadian GDP. *P-values* (reported in parentheses) reflect z-test of the null $H_0: CAAR = 0$. *, **, *** indicate statistically significant abnormal returns with at least 90%, 95%, 99% confidence, respectively.

**Table 2: Event Study Results (By Industry and Firm Characteristics)
Marshall-Bernard (July 20 2005)**

	No. Firms	Event Window				
		[0,0]	[0,1]	[0,2]	[0,3]	[0,4]
<i>All Resource Firms</i>	296	-0.0018 (0.533)	0.0110*** (0.006)	0.0116** (0.017)	0.0119** (0.034)	0.0104* (0.097)
<i>x Industry:</i>						
<i>Energy</i>	93	-0.0072 (0.146)	-0.0007 (0.925)	0.0089 (0.302)	0.0075 (0.453)	0.0082 (0.460)
<i>Forestry</i>	18	-0.0065 (0.296)	0.0185** (0.036)	0.0072 (0.506)	0.0069 (0.582)	-0.0084 (0.545)
<i>Mining</i>	185	0.0015 (0.689)	0.0161*** (0.002)	0.0134** (0.036)	0.0146** (0.048)	0.0133 (0.104)
<i>x HO Location (Mining):</i>						
<i>East</i>	69	-0.0010 (0.863)	0.0156* (0.066)	0.0065 (0.530)	0.0095 (0.430)	0.0127 (0.344)
<i>West</i>	83	0.0025 (0.624)	0.0152** (0.032)	0.0168* (0.053)	0.0163 (0.104)	0.0107 (0.339)
<i>Foreign</i>	31	0.0027 (0.802)	0.0186 (0.223)	0.0196 (0.295)	0.0176 (0.416)	0.0181 (0.453)
<i>x Market Cap (Mining):</i>						
<i>Top Quartile</i>	53	0.0069 (0.153)	0.0293*** (0.000)	0.0329*** (0.000)	0.0343*** (0.000)	0.0266** (0.013)
<i>Bottom Quartile</i>	42	-0.0118 (0.257)	-0.0016 (0.915)	-0.0103 (0.566)	-0.0075 (0.717)	-0.0001 (0.987)
<i>x List Status (Mining):</i>						
<i>Inter-Listed</i>	49	0.0055 (0.260)	0.0252*** (0.000)	0.0267*** (0.002)	0.0286*** (0.004)	0.0212* (0.053)
<i>Only TSX</i>	136	0.0000 (0.998)	0.0128* (0.053)	0.0085 (0.291)	0.0095 (0.310)	0.0105 (0.314)
<i>x Index Inclusion (Mining):</i>						
<i>Index</i>	30	0.0048 (0.307)	0.0205*** (0.002)	0.0246*** (0.002)	0.0222** (0.018)	0.0108 (0.304)
<i>No Index</i>	155	0.0001 (0.848)	0.0152** (0.012)	0.0112 (0.133)	0.0131 (0.127)	0.0138 (0.149)
<i>x Age (Mining:)</i>						
<i>List Date < 1991</i>	53	0.0035 (0.585)	0.0205** (0.022)	0.0151 (0.166)	0.0184 (0.145)	0.0209 (0.139)
<i>List Date > 2003</i>	48	0.0001 (0.955)	0.0103 (0.387)	0.0149 (0.309)	0.0139 (0.410)	0.0126 (0.504)
<i>x Survivor (Mining):</i>						
<i>Listed November 2012</i>	98	0.0020 (0.658)	0.0222*** (0.000)	0.0210*** (0.006)	0.0259*** (0.003)	0.0222** (0.025)
<i>Not Listed November 2012</i>	87	0.0009 (0.879)	0.0092 (0.278)	0.0048 (0.645)	0.0017 (0.887)	0.0033 (0.804)

Note: Abnormal returns derived for firms listed on TSX at each event date with trades through estimation window [-201,-1]. Derivation of abnormal returns described in text. *P-values* (reported in parentheses) reflect z-test of the null $H_0: CAAR = 0$. *, **, *** indicate statistically significant abnormal returns with at least 90%, 95%, 99% confidence, respectively.

**Table 3: Event Study Robustness Checks
Marshall-Bernard (July 20 2005)**

	<i>Event Window</i>				
	<i>[0,0]</i>	<i>[0,1]</i>	<i>[0,2]</i>	<i>[0,3]</i>	<i>[0,4]</i>
<i>Market Model</i>	-0.0012 (0.671)	0.0118*** (0.003)	0.0124*** (0.010)	0.0130** (0.019)	0.0115* (0.064)
<i>Alternate Risk Free Rate: Gov't Canada Bonds</i>	-0.0019 (0.501)	0.0110*** (0.005)	0.0110** (0.022)	0.0116** (0.037)	0.0098 (0.116)
<i>Alternate Risk Free Rate: US T Bill</i>	-0.0007 (0.790)	0.0134*** (0.001)	0.0147*** (0.002)	0.0166*** (0.003)	0.0162*** (0.009)
<i>Resource Firms Removed from Composite</i>	-0.0019 (0.502)	0.0108*** (0.006)	0.0120** (0.013)	0.0124** (0.026)	0.0107* (0.087)
<i>Global Mining Index</i>	0.0135 (0.518)	0.0187 (0.528)	0.0336 (0.353)	0.0391 (0.349)	0.764 (0.102)
<i>US Energy Index</i>	0.0151 (0.307)	0.0074 (0.725)	0.0348 (0.174)	0.0448 (0.130)	0.0386 (0.243)
	<i>[-4,0]</i>	<i>[-3,0]</i>	<i>[-2,0]</i>	<i>[-1,0]</i>	<i>[0,0]</i>
<i>Pre-Event Windows</i>	-0.0211 (0.197)	-0.0039 (0.789)	-0.0029 (0.820)	0.0034 (0.741)	-0.0024 (0.745)

Note: Abnormal returns derived for all natural resource firms listed on TSX. *Global Mining Index* uses NYSE Composite Index and *Yahoo Finance* Global Mining Index. *US Energy Index* uses NYSE Composite index and Dow Jones US Oil and Gas Index. Derivation of abnormal returns and robustness tests described in text. *P-values* (reported in parentheses) reflect z-test of the null $H_0: CAAR = 0$. *, **, *** indicate statistically significant abnormal returns with at least 90%, 95%, 99% confidence, respectively.