

**Predicting the North:  
Sovereignty and the Canadian Brand in the Arctic**

**Abstract**

Turbulence sums up the Arctic of today, with significant implications for sovereignty and branding Canada. Climate change produces a level of interest in the region from a widening range of actors and confronts Canada with new challenges. The present study uses a forecasting model to assess the likely outcomes, under current conditions, across a range of substantively important issues in the Arctic. The work unfolds in four further stages. First, a forecasting model is introduced and linked to the present context. The second stage presents the expert-generated data used to forecast the future. Third, forecasts are produced and assessed in terms of implications for existing policy in areas ranging from search and rescue to transit of the Northwest Passage (NWP). The fourth and final stage offers conclusions about the Canadian brand in relation to the Arctic and suggests directions for future research.

Control over the Arctic is an issue on the Canadian foreign policy agenda, with significant implications for branding Canada.<sup>1</sup> “Canada”, as observed by Potter (2009: 270) in an authoritative work on national branding, “has an opportunity to capitalize on its “northernness” to promote its unique identity abroad. This northernness is probably the most understated and underutilized part of Canada’s diversity brand.”<sup>2</sup> Interest in the far north is building because of new possibilities for transportation and resource extraction; rising global energy prices and instability in the Middle East reinforce that trend (Hale, 2012: 45; Cohen, 2015). The situation, in a word, is turbulent. Not surprisingly, many states are enhancing their military capabilities in the Arctic (Huebert, 2011a: 197). All of this suggests that a new era of competition and volatility could be at hand for Canada as a major Arctic player. Thus the Canadian brand as a whole will depend significantly on the playing out of issues in the Arctic.

How do things stand right now? Canada, already branded to some degree as a circumpolar nation, is “rediscovering itself” (Huebert, 2011a: 216). Canadian activity in the Arctic is noteworthy. Commercial and military activities in the region include a new military and civilian deepwater resupply center under construction on Baffin Island; an Arctic Training Centre in Resolute Bay for the army; and efforts toward enhanced surveillance capability by the Canadian Forces (CF) (Huebert, 2011a: 215). Additionally Canadian military cooperation in the region continues to be active as recently as March 2016 when assets of the United States Navy

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<sup>1</sup> Recent general works on Canadian foreign policy include Hale (2012), James (2012) and Nord and Smith (2013); for comprehensive histories of Arctic diplomacy and sovereignty, see Elliot-Meisel (1998), Smith (2014) and Lajeunesse (2016).

<sup>2</sup> The literature on national branding is multifaceted; see Nimijean (2008), for example, on Canadian Studies in relation to cultural diplomacy.

and Canadian Forces cooperated in Ice Exercise 2016 (Commander, Submarine Force Public Affairs, 2016). These activities follow on from a highly viable but also controversial shift in the role of the CF during the era of the War in Afghanistan (Saideman, 2016).

While budget constraints impose serious limits on activity (Grant, 2010: 443), Canadian initiatives continue to accumulate. Summarized in Lackenbauer (2011a: 433), *Canada's Northern Strategy: Our North, Our Heritage, Our Future* is a government document from 2009 that confirms the rising significance of the Arctic on the Canadian policy agenda. Identifying potential for cooperation and conflict in the Arctic therefore becomes a significant priority in light of rapidly increasing interest from those identified, along with Canada, as Arctic states.<sup>3</sup> Most prominent among the potential flashpoints is the Northwest Passage (Grant, 2010: 449; Huebert, 2011a: 202; Lackenbauer, 2011b: 237; Hale, 2012: 146; James, 2012: 118; Lajeunesse 2016). With respect to this and other potential sovereignty-related matters for Canada, Lackenbauer (2011a: 425; see also Martin, 2008: 324) goes as far as to identify a “use it or lose it” mind-set. Ottawa must establish its presence in a more sustained way or risk erosion of its claim on the Arctic as a result of intrusions from other states. This is true especially of maritime regions (Huebert, 2011a: 195; see also Parker and Madjd-Sadjadi, 2010: 338). For example, non-Canadian vessels made at least two-thirds of the 52 transits of the NWP in 2012-2013 (Chase, 2014).

With rapid change underway – perhaps even described as turbulence – *forecasting* becomes a priority. Even among experts, uncertainty exists as to whether the Arctic will evolve into a zone of cooperation or conflict (Huebert, 2011a: 193; see also Emmerson, 2010: 314 and

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<sup>3</sup> A summary of the new geopolitics of the region for all of the Arctic states appears in Huebert (2011a: 205-216).

Parker and Madjd-Sadjadi, 2010). Forecasting is essential given the uncertainty about general tendencies toward conflict or cooperation in resolution of matters related to sovereignty. Given renewed emphasis in Ottawa on public diplomacy (Trudeau, 2015), all of that comes together under concern for the Canadian brand.

Debate over the future of Arctic sovereignty for Canada can be sharply worded. On one side, Huebert (2011b) sees a high risk of intrusion into the far north as climate change moves forward. On the other side, Griffiths (2011: 401) labels such concern as a “pathetic fallacy.” Both sides in the debate could benefit from implementation of a rigorous model to produce support for their views about what will occur. This gap reinforces the policy relevance of the modeling exercise to be carried out here.

Lackenbauer (2011b: 227) calls for scenario-based thinking to derive an Arctic strategy.<sup>4</sup> In response to such priorities, the present study uses a forecasting model to assess likely outcomes across a range of substantively important issues in the Arctic. The findings will have academic value and also should inform policy-makers and non-governmental organizations concerned with more practical matters in the Arctic, such as the impact on the Canadian national brand. The work unfolds in four further stages. First, a forecasting model is introduced and linked to the present context. The second stage presents the expert-generated data used to forecast the future. Third, forecasts are produced and assessed in terms of implications for existing policy. The fourth and final stage offers conclusions about the Canadian brand and suggests directions for future research.

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<sup>4</sup> Byers (2009: 131-141) reports on a scenario worked out with students that conveys a sense of urgency about possible loss of sovereignty regarding the NWP. This scenario, however, is unique and does not constitute reproducible evidence.

### *The Forecasting Model*

Bueno de Mesquita's expected utility model (1984, 1994, 2002, 2009, 2011, 2014) is reported to have had a success rate of approximately 90% and is widely used and cited (2011). Importantly, the model outperforms expert predictions. A declassified CIA study reports that the forecasting model "has hit the bull's-eye about twice as often as the government's experts who provided [Bueno de Mesquita] with data" (2009: 51).

While a complete summary of the model (see Bueno de Mesquita, 2011) is beyond the scope of this study, key features are introduced here in accessible terms. The model's purpose is to "predict the process and outcome leading to the resolution of complex negotiations or potentially coercive situations, including the possibility that they end with agreement, breakdown, or even the use of force" (66). It is an iterative, as opposed to a repeated, model, which updates payoffs for participants based on the results of prior rounds (67). Given its iterative nature, the model is able to predict both how and when the interaction is expected to end. The process ends when:

either of two conditions is met: (1) the sum of player payoffs at the end of an iteration is greater than the projected sum of those payoffs in the next iteration, or (2) the sum of player utility, taking into account not only their payoffs from the game in which they are the primary players... is greater in the current round than the projected sum of utilities in the next iteration (72).

Rational choice models, such as the expected utility forecasting model, assume complete and transitive preferences, unidimensional issues, and that "actors' preferences for possible outcomes diminish steadily with distance from their ideal outcomes" (James and Lusztiq, 2000).

In addition to a full list of players, the model requires data for five variables: player position, player influence, issue salience for the player, player resolve, and veto player status (Bueno de Mesquita, 2011: 75). To obtain this information, we have consulted two experts on the Arctic.<sup>5</sup>

Our first expert was tasked with identifying the primary Canadian foreign policy concerns regarding the Arctic. The expert identified sovereignty over territory – both land and water – and resources claimed by the Canadian government as the overarching foreign policy concern. Specifically, the government is concerned about maintaining control over: seabed resources; fishing rights (migratory and non-migratory); transit of science vessels; transit of military vessels; indigenous rights (recognition and decision-making powers); constabulary powers; and search and rescue.

Our second expert was tasked with coding the variables.<sup>6</sup> The expert had freedom to adjust the list of issues as deemed necessary during the coding process. To the list generated by the first expert, our second expert added concerns over controlling the transit of privately owned and operated ships; and pollution and environmental protection.

We relied heavily on *The Predictioneer's Game* website (Bueno de Mesquita, 2013) to instruct our experts. We altered the instructions available there only to make language consistent

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<sup>5</sup> Our first and second experts, respectively, are Carolyn C. James (Pepperdine University) and Elizabeth Elliot-Meisel (Creighton University).

<sup>6</sup> While some readers may question consultation with just one expert to generate most of our data, evidence suggests that accuracy is *not* generally improved by using more than one coder (James and Lusztig, 2000; Bueno de Mesquita, 1994). Moreover, as described below, we use robustness checks to verify the stability of our results to variations in the data.

with our own or if additional details would be needed for a specific issue area. Consistent with other applications of forecasting models, we did not ask for their predictions (for example, see James and Luszti, 2000). Our full instructions are included in Appendix A.<sup>7</sup>

We told our experts that each issue had to be unidimensional. Our second expert was asked to identify the positions of each actor, as well as salient positions such as the status quo. Positions range from 0 to 100, the most extreme positions, with the other numbers being assigned in accordance with their substantive distance from both extremes. Players are defined as any group or individual with a stake in the outcome. In our case, actors could be national governments, subnational governments, international governmental organizations (IGOs), non-governmental organizations (NGOs), or private actors.

Potential influence represents the ability of an actor to affect the outcome. Values range from 0 to 100. The scores are ratio level data. Therefore, an actor with a score of 50 would possess half the influence of an actor at 100. Saliency refers to importance of the issue vis-à-vis other issues. It represents the amount of time and energy that an actor will be willing to devote. Each actor is assigned a saliency score between 0 and 100.

Flexibility/resolve refers to the degree to which an actor is willing to be flexible in its position in order to ensure that an agreement is reached. Inputs for this variable can range from 0 to 100. A higher score refers to greater flexibility (lower resolve) and a lower score refers to higher resolve (lower flexibility).<sup>8</sup> Finally, the veto variable refers to the ability of an actor to veto any agreement. A veto player is assigned a 1 and a non-veto player is assigned a 0.

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<sup>7</sup> Appendix A is available at the author's website.

<sup>8</sup> While actors may misrepresent their bargaining position, the expert coder *infers* sincere positions for participants on the basis of all available knowledge.

Any study that involves coding of data must deal with uncertainty about accuracy. While we recruited a highly qualified expert coder, gave her detailed instructions, and allowed time needed to code each variable, uncertainty about estimates remains. Therefore, we assess how robust our findings are to variations in the inputs.

### *Data*

This section conveys data provided by our coder and a brief discussion of some of the factors that influenced coding. Given the type of data involved, such as national capabilities, the presence of a new government for one or more of the players will impact only at the margins and basic properties of the data will remain intact. For example, procurement issues suggest that Canadian military capabilities in the region will remain limited for the foreseeable future (Byers, 2014; Simpson, 2014). As another illustration, a bit later on, veto player status assigned by the model to Canada for an issue such as environmental protection will not change, if at all, for a very long time. Another instance concerns Canadian views toward sovereignty per se. Whether they tilt relatively left or right – Liberal or Conservative governments, respectively – concerns about Arctic sovereignty are maintained from one government to the next, even if for reasons that are not identical.

The data reveals that some of the models will not need to be run because only one actor has influence – when Canadian control over the issue area is uncontested or uncontestable. Some contestation remains possible – i.e. bureaucratic politics within Canada – but modeling a purely domestic process is beyond of the scope of this project.<sup>9</sup>

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<sup>9</sup> Constabulary powers are a largely uncontested area, with the possible exception of the NWP. However, even the US, which is generally the main opponent to Canada's claim, would likely



### *Search and Rescue*

This issue is divided between land and water search and rescue. Both take place within the context of the 2011 Arctic Search and Rescue Agreement, which gives considerable influence to the Arctic Council. Canada's position tends not to differ greatly from that of the Arctic Council – consistent with the multilateral element in the Canadian brand. For simplicity's sake, land and water models appear in the same table because the only difference is whether the Canadian Coast Guard (CCG) or Royal Canadian Mounted Police (RCMP) has jurisdiction. The data for search and rescue appears in Table 1.1. Note the status of the Arctic Council as a veto player, consistent with a liberal point of view that emphasizes a central rather than epiphenomenal role for institutions in the bargaining process.<sup>10</sup>

(Insert Table 1.1 about here)

### *Environmental Protection*

For coding purposes, environmental protection is broken down into land, internal waters, territorial waters, exclusive economic zone (EEZ), and NWP. However, with the exception of the NWP (and some overlapping EEZ claims for Canada and the US in the Beaufort Sea), Canadian control over the other areas is uncontested. Table 1.2 includes the coding for environmental protection in the NWP. The agreement between Canada and the Law of the Sea Conference (LOSC) signatories, both coded as 100 in the table, stems from the influence that Canada's support Canadian constabulary efforts. Indigenous rights are an internal, "nation-to-nation" issue (Trudeau, 2015).

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<sup>10</sup> Some controversy might ensue about granting this status to the Arctic Council because, to be exact, the treaty flowing from it *requests* better coordination involving national assets and policies.

Arctic environmental protection regulations (AWPPA) had on the LOSC's Article 234. The article "allows coastal states to enforce nondiscriminatory environmental rules on shipping in ice-covered areas" (Emmerson, 2010: 100). The US is not a member of the LOSC, but Washington agreed voluntarily in 1992 that its commercial ships would be subject to AWPPA. While all three participants are coded as veto players and low flexibility is attributed to the Canadian government, the nearly identical positions suggest a modest level of confrontation.

(Insert Table 1.2 about here)

### *Fishing Rights*

This issue is divided initially between straddling and migratory stocks, and non-migratory stocks. For straddling and migratory stocks, there is no contestation of Canadian control, even if the NWP is found to be an international strait. For non-migratory stocks, the issue is further subdivided into internal waters, territorial waters, EEZ, and disputed continental shelf beyond the 200nm limit. Like migratory stocks, control over internal waters, territorial waters, and EEZ is uncontested.

For the disputed continental shelf, Table 1.3 includes the coding for the Canadian government, UN Commission on the Continental Shelf, and US government. Canada and the US are at opposite points on the issue; in fact there are active boundary disputes between the two countries, specifically in that the maritime boundary between Alaska and Yukon has never been satisfactorily defined (Parker and Madjd-Sadjadi, 2010: 339). The UN Commission is a (presumably) neutral body so its position falls in the middle, with a high degree of flexibility. All three participants are veto players, which will tend to promote confrontation. Since Canadian and American influence is partially based on evidence they provide to support their claims to the continental shelf, we will use a greater probability of shocks when running this model.

(Insert Table 1.3 about here)

### *Military Vessels in Arctic Waters*

Military vessels in Arctic Waters is a multifaceted issue. For internal waters, there is no debate. Military vessels are fully subject to Canadian jurisdiction. This also is the case for territorial waters, but our coder identified an interesting possibility. Since Canada is the only actor with influence over the region, there is no model to be run. Given Canadian participation with the US Navy in ICEX 2016, and the possibility of future cooperation, Canadian flexibility for these waters is coded as 10, unlike the 0 for internal waters. The issue of military vessels in the NWP is more complex, with positions depending on whether it is viewed as Canadian waters or an international strait.

Table 1.4 provides the coding for military vessels in the NWP. The US has taken the strongest view in favor of the Passage as an international strait. The UN's position is complicated. The International Court of Justice's (ICJ) Corfu Channel ruling puts the UN closer to the American position, but provisions in Article 234 for ice-choked areas place the UN closer to the Canadian position.<sup>11</sup> So far, the UN has remained silent on the NWP. Other states generally agree with the American position, but also do not wish to alienate Canada. The US and Canada are veto players.

(Insert Table 1.4 tables about here)

### *Transit of Non-military and Privately Owned/Operated Ships*

For this issue, only control of the EEZ and NWP is contestable. In the EEZ, the Canadian government, legal shippers, illegal shippers, and insurance companies have some influence over the outcome. Ottawa is a veto player. Illegal shippers are not included in the model that we run,

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<sup>11</sup> It is understood that the ICJ is not *formally* part of the UN.

but are included in Table 1.5 below to demonstrate the complexity of the issue. They do not possess any formal influence, but they do have a veto of sorts based on their disregard for any decision. Insurance companies and legal shippers differ from the Canadian position slightly in that they prefer lower regulations.

(Insert Table 1.5 about here)

Coding for the NWP appears in Table 1.6. Although their choices and actions can affect the setting within which bargaining occurs, legal shippers and insurance companies are not included because they have no influence over who controls the NWP. Instead, we have a model that is similar to the one implemented for military vessels in the NWP. The Canadian and US governments are veto players.

(Insert Table 1.6 about here)

### *Transit of Scientific Vessels*

Transit of scientific vessels is an issue divided into internal waters, territorial waters, EEZ, and NWP. Canadian control of internal waters is uncontested. In territorial seas, the LOS stipulates that all vessels may have continuous and expeditious innocent passage. For the EEZ, Section XIII gives Canada the ability to set standards.

More complicated, as conveyed by the coding in Table 1.7, is the situation in the NWP. The US and Canada disagree over the status of the NWP. However, their agreement that US Coast Guard Cutters (USCGC) will ask for permission and share scientific information in return for automatic approval has largely resolved the issue. The situation is less clear for non-USCGC vessels. Therefore, the US is coded at 80. The International Maritime Organization's (IMO) position, which represents all other scientific vessels, is complicated. It is a neutral actor that will not want to antagonize Canada or the US. Despite the agreement, IMO's position is coded at 50.

Other states may not want to follow the Canada-US agreement, non-USCGC American vessels are not necessarily subject to the agreement, and the US still fundamentally opposes the idea of the NWP being considered internal Canadian waters.

(Insert Table 1.7 about here)

### *Seabed Resources*

There is potential contestation over the continental shelf beyond the 200nm limit, with Canada facing potential disputes with the US and Denmark (that is, claims remain uncertain). In Table 1.8, Canada's position is at the opposite end of the spectrum from the US, with the UN in the middle. All three actors in this issue area are veto players. Similar to fishing rights, the UN has the greatest flexibility since its decision is based on multiple factors, including the quality of the claims submitted. Since the claims are an ongoing process, we report results of a model with a higher probability of shocks.

(Insert Table 1.8 about here)

### *Results from the Forecasting Model and Analysis*

The forecasting model provides a wealth of data.<sup>12</sup> For simplicity's sake, we focus on some of the most important output categories. We ran ten rounds of each model. We begin with round-by-round player positions. In the initial round, the position is the one assigned by our coder. Subsequent positions reflect the results of previous rounds.

We also provide an issue forecast, which represents a weighted mean of all players' positions in that round. There are multiple versions of the issue forecast. We report the one favored by Bueno de Mesquita in the model's instructions: the smoothed version of the weighted

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<sup>12</sup> The output files are provided in Appendix B, available on the author's website.

mean. This measure is two-dimensional; it is a “weighted combination of their policy stance and their eagerness to reach an agreement or resist agreement” (Bueno de Mesquita 2013).

Finally, we report whether or not an end-rule was satisfied. If an end-rule has been met, the smoothed mean is reported in bold. While it is customary to assume that the game will end when the first end-rule is met, there is no necessary reason to do so.

For each model, we also discuss the sensitivity of the model to shocks to any of the input variables. The use of shocks is important for two reasons. First, coding is inherently a subjective and difficult task. Second, unforeseen future events can alter one or more of the input variables. For each model, we ran an additional 20 simulations. In these shocked simulations, each input variable had a 10% chance of being adjusted by 10% in any round.<sup>13</sup> A graphical representation of the sensitivity of the predictions to shocks is provided in Appendix C.<sup>14</sup>

### *Search and Rescue*

Results are reported in Table 2.1. Given the initial similarity in the positions, it is somewhat surprising that the end-rule is met in so few rounds. However, it is met by round 3 and the predicted end result of 94.03 is close to the mid-point between the official Arctic Council

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<sup>13</sup> The fishing and seabed resources models had a 30% probability of a shock of a magnitude of 30%. We used higher probabilities and magnitudes here due to the greater uncertainty over the inputs.

<sup>14</sup> Appendix C is available on the author’s website. The graphs show the round by round smoothed mean for rounds that meet and do not meet the end-rule along with the quartiles for smoothed means from the 20 additional simulations. We use quartiles instead of standard deviations because the clustering of the smoothed means from the shocked rounds is rarely normally distributed.

position of full access and the greater flexibility favored by the Canadian Coast Guard and law enforcement agencies. As rounds progress, the predicted value moves closer to that favored by Canada, but an end-rule is not met between rounds 7 and 10. Canada can get a better result by avoiding the first round where the end-rule is met, but should be cautious that misperception or greed does not lead to a failure to reach a cooperative solution to a relatively simple issue.

(Insert Table 2.1 about here)

The additional simulations provide considerable support for the base model, with very little difference between the predicted value and the mean value of the additional simulations. However, there is a higher level of variance as the rounds progress. While not surprising, the increasing variance urges caution in drawing inferences regarding the trajectory of the outcome beginning in later rounds.

#### *Environmental Protection*

Results for environmental protection are reported in Table 2.2. The model predicts a rather rapid resolution to this issue at 97.88. However, unlike the search and rescue model, the end-result is met in several other rounds. While the end-result is not met in every round, the predicted value hovers around the same amount. While it does increase in the base model each round, the simulations using shocked rounds do not give us confidence that this increase will definitely occur. The additional simulations do, however, show that the predicted values are confined to a small range. The initial positions, along with stability of the predicted means, suggest that a quick and cooperative resolution is in each actor's interest.

(Insert Table 2.2 about here)

### *Fishing Rights and Seabed Resources*

Table 2.3 provides the results of both the fishing rights and seabed resources models. The results follow an interesting trajectory from the Canadian perspective and suggest potential for complications. There is an opportunity to reach an agreement in the third round at 59.21. This agreement is slightly more favorable to Canada, but is still a great distance from Ottawa's desired position. There is also room for agreement much later on in the process at a position much more favorable to Canada. However, all parties would need to endure several unsuccessful rounds to get there.

(Insert Table 2.3 about here)

Given that many parties still are developing the cases to support their claims, we used a greater probability of shocks of a higher magnitude when running the additional simulations. The additional simulations for the two models produce slightly different results, but are close enough to draw similar conclusions. They suggest that while the upward trajectory of the round by round forecasts is likely to occur, base predictions in later rounds are near the upper extremes of all of the simulations. Therefore, there is a very real possibility that the upward trajectory will be less steep than the base model predicts. We did use a far more cautious test of sensitivity in this case, however, so we should not overstate the importance of the differences between the simulations.

### *Military Vessels in Arctic Waters and Non-Military and Private Ships in the NWP*

Table 2.4 reports the outcome of both the military vessels and the transit of private ships in the NWP models. This issue can be resolved cooperatively at a few different points. The weighted mean position begins in a favorable position for the Arctic states and the UN (40.85). Forecasts then rise slightly before returning to a point near the initial position. Each agreement position is rather close to that of many other states; they view the NWP as an international strait,



but do not want to antagonize Canada. The best forecast for Canada is reached in the fourth round (44.56). Results of the shocked simulations suggest that while the pattern of a slight move towards the Canadian position followed by the return to the initial position is likely, we cannot come confidently to any conclusions about the exact round-to-round movement of the forecasts, except that they remain close to, but under, the midpoint.

(Insert Table 2.4 about here)

Our coder identified the possibility of Canada-US military cooperation in the NWP. This activity potentially would satisfy American concerns and fits within a broader pattern for these two states. While it is difficult to assess exactly where cooperation would fall on the position line, these results suggest its possibility.

#### *Transit of Non-military and Private Ships in the EEZ*

Results are reported in Table 2.5. Satisfaction of the end-rule is *extremely* volatile: only five of ten rounds comply. While it appears possible to reach an agreement extremely quickly at 90.83, a position along the continuum that would see Canada granting some concessions to shippers and insurance companies over transit through Canada's EEZ, the majority of early rounds do not satisfy an end-rule. A noteworthy pattern emerges when looking at the evolution of player positions. Canada continues to be rigid in its position, but those of the legal shippers and insurance companies move in opposite directions until they meet. Once their positions are sufficiently close, the end-rule is satisfied with a far greater frequency. The results suggest that the legal shippers and insurance companies will come to an agreement of their own and this compromise position will be used in negotiations with Canada. Interestingly, throughout this entire process, the round by round forecast hovers around 91. In the simulations using shocked inputs, there is a small degree of increased volatility in the forecasts as the rounds progress, but

none of the simulations predict substantively different results. This is not surprising given that the initial discrepancy in position is relatively small.

(Insert Table 2.5 about here)

### *Transit of Scientific Vessels*

Table 2.6 provides results for the transit of scientific vessels model. Apparent is a high level of early instability – five of the first six rounds do not comply with either end-rule. The forecasts show a slight downward trajectory away from the Canadian and American positions. Thus from the Canadian and USCG’s perspective, the earlier the agreement (that is, at 81.08 in round 2), the better, as the weighted mean issue position becomes increasingly less favorable as time goes on. This is particularly the case for Canada because the forecasts never diverge greatly from the USCG’s position. It should be noted that while shocks do not greatly affect the predictions, volatility in later rounds is sufficient to make difficult any firm conclusions about the trajectory of the forecasts.

(Insert Table 2.6 about here)

### *Summary of Results*

Table 3 conveys a summary of the results across the issues. Analysis of this table will provide a sense of the overall profile of the likelihood of cooperation and conflict in the Arctic, with implications for the Canadian national brand as a whole.

(Insert Table 3 about here)

One question to answer is if a rapid conclusion – assessed on the basis of whether an agreement can be reached in the first round – is possible for a given issue. Table 3 reveals this to be feasible in three of eight issues, with all models having satisfied at least one end-rule by the

third round. It should be noted that, when we refer to agreement, we do not necessarily mean that each actor is happy with the outcome, but that one of the end-rules has been met.

Stability is assessed in Table 3 on the basis of the proportion of the ten rounds in which at least one end-rule is met: total (10); high (6-9) or low (0-5). The table reveals that *all* models have low stability. The five most stable issues have only five rounds where an agreement is possible. In sum, we find a high degree of instability between rounds as to whether an end-rule has been met. We find a tendency towards an end-rule being satisfied in one or two early rounds, along with some successful rounds late in the model. While it is likely often the case that the first possible satisfaction of the end-rule is taken, further study of when this does not occur would be interesting. In some instances, continuing to future rounds is advantageous for one of the actors.

What about distance of outcomes to the Canadian initial position? Results in Table 3 reflect the following coding: low (less than five units apart); medium (less than ten units apart); high (ten or more units apart). While another coding scheme might produce somewhat different results by category, an overall pattern of mixed results is clear to see: one high, two medium and five low. In one of those final five cases, Canada made a smaller adjustment in position than its primary opponent. We also see the possibility of Canada-US cooperation in the NWP, perhaps the most important of all issues from the standpoint of policy significance. The NWP is an issue on which both countries hold completely opposing positions, but where they have managed to find creative ways to avoid conflict in the past. Given the long history of military cooperation in North America and Canada's limited capacity in the Arctic, cooperation in the NWP may be an ideal solution for both parties. Cooperation may become more attractive as Russia reasserts itself. A re-analysis of this issue after the 2016 US Presidential election would be interesting.

Interesting to ponder in terms of a sense of urgency for Canada is the rather opposite-looking results pertaining to proximity to the Canadian position and change in outcomes across iterations. The forecasted results generally are at a distance from preferred Canadian positions, yet some issues are moving across iterations in Canada's direction. This pattern would tend to support the value of negotiations across the board but without a rush to judgment.

*The Canadian Brand in the Arctic 'The Day after Tomorrow'*

White notes that "many, perhaps most, Canadians' perception of the Arctic owes more to mythology than to a solid understanding of real places with real and vexing social and political issues" (2011: 748). In order to help bring clarity to the future of the Arctic, this study has applied a forecasting model to a range of sovereignty-related issues. The results are mixed but generally favorable to continuation of Canadian sovereignty in the far north in terms of *process* and to a lesser degree *outcomes*. This suggests a somewhat complex pathway toward promoting the Canadian brand as an Arctic state while at the same time minding reputational issues related to cooperation and multilateral action.

With respect to process, three issues are predicted to converge quickly toward cooperation: transit of military vessels, and transit of commercial vessels in the EEZ and NWP. A cooperative solution can be found relatively quickly for the other issues. However, in several of the cases, it may take some time to reach an agreement if the first solution point is missed.

What about outcomes? Three issues – search and rescue, environmental protection, and transit of commercial vessels in the EEZ – feature forecasts that fall within 10 points of the Canadian position. The forecast for five issues – search and rescue, environmental protection, fishing rights, transit of commercial vessels in the EEZ, and seabed resources – are closer to

Canada's original position than to that of its primary opponent. Only the forecasts for the transit of military, commercial, and scientific vessels in the NWP are both more than 10 points from the Canadian position and closer to the position of Canada's opponent.

Results tend to support a middle ground in the debate, involving Huebert (2011b) and Griffith (2011), over the sustainability of Canadian sovereignty in the Arctic. Some processes lean toward a forecast of cooperation, while others do not. In terms of outcomes, Canada gets close to its ideal point in a few issues, but the pulling and hauling of bargaining makes compromise at some distance from Canadian preferences the anticipated result most of the time. Thus the recommendations from Lackenbauer (2011b: 219) ring true. He calls for a balanced policy, not "alarmism or pessimism", and advocates "bilateral and multilateral cooperation" (2011b: 241). This may be the best way to pressure and build upon the Arctic component of the Canadian brand through sustained public diplomacy.

In light of the complex results from the preceding analysis, which vary significantly across issues, a prudent approach that acts upon the specific findings about timing and other tactical aspects would seem in order if Ottawa hopes to achieve the best overall outcome with regard to Arctic sovereignty and the national brand in an overall sense. This is in line with a hybrid environment for action, with elements of conflict and cooperation at work simultaneously.

With regard to future research, it would be interesting to explore the causal mechanisms behind the results. The mixture of cooperation and conflict also suggests a middle-ground between realism and liberalism with regard to the Canadian brand. States that depend economically on resource rents and/or are autocratic become more likely to pursue exclusionary policies in the Arctic. Both Canada and the US fall at the low end of the scale on that dimension, which suggests that each will tend to eschew power projection and therefore remain relatively

open to negotiated settlement of issues.<sup>15</sup> In sum, the overall implications of the forecasting results for the Arctic reveal that Canada possesses the opportunity to promote its national brand while also facing challenges across a complex set of issues.

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<sup>15</sup> The need for posturing to please audiences at home, however, could stand in the way of cooperation with the US (Bergh, 2012). Hale (2012) draws attention to the tendency in Canada to underestimate the importance of US domestic coalitions in constraining government action.

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**Table 1.1:** Search and Rescue (on land and in water Canada claims)

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Saliency</b>	<b>Flexibility</b>	<b>Veto</b>
Arctic Council (Arctic S&R Agreement 2011)	100	100	85	100	1
Canadian Coast Guard (water S&R) or RCMP and any other local law enforcement agencies (land S&R)	45	90	90	90	0

**Table 1.2:** Environmental Protection – Northwest Passage

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Salience</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	50	100	99	10	1
US	100	95	80	50	1
UN/LOSC signatories	50	100	60	50	1

**Table 1.3:** Fishing Rights – Non-migratory stocks (Continental Shelf beyond the 200 nm limit)

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Salience</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	90	100	99	10	1
UN Commission on the Continental Shelf	100	50	99	50	1
US (in any area in dispute w/ Canada)	80	0	80	10	1

**Table 1.4:** Military Vessels in Arctic Waters – Northwest Passage

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Salience</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	50	100	99	10	1
US	100	0	80	10	1
LOSC signatories (particularly Arctic states)	50	40	60	50	0
UN	50	50	60	50	0

**Table 1.5:** Transits of Non-military and Privately Owned/Operated Ships – EEZ

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Salience</b>	<b>Flexibility</b>	<b>Veto</b>
Canada (Article 234 and NORDREG)	100	100	99	5	1
Legal Shippers	50	75	80	50	0
Illegal Shippers	0 – no influence over the formal outcome	0	?	Not at any table for discussion of issues or positions.	1 (by ignoring the agreement or rules)
Insurance companies	50	85	90	50	0



**Table 1.6:** Transits of Non-military and Privately Owned/Operated Ships – Northwest Passage

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Saliency</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	50	100	99	10	1
US	100	0	80	10	1
LOSC signatories (particularly Arctic states)	50	40	60	50	0
UN	50	50	60	50	0

**Table 1.7:** Transit of scientific vessels – Northwest Passage

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Saliency</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	100	100	90	35	1
US	80	80	80	20	1
UN/IMO (Representing all other scientific vessels)	100	50	60	20	1

**Table 1.8:** Seabed resources – Continental shelf beyond the 200 nm limit (Disputed areas)

<b>Player</b>	<b>Influence</b>	<b>Position</b>	<b>Saliency</b>	<b>Flexibility</b>	<b>Veto</b>
Canada	90	100	99	10	1
UN Commission on the Continental Shelf	100	50	99	50	1
US	80	0	80	10	1

**Table 2.1: Search and Rescue**

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Arctic Council	100	97.83	96.08	93.95	92.57	91.67	91.09	90.71	90.46	90.3
Canada	90	90	90	90	90	90	90	90	90	90
Round by Round Forecast										
Mean	96.04	95.4	<b>94.03</b>	92.85	91.85	<b>91.2</b>	90.78	90.51	90.33	90.26

**Table 2.2: Environmental Protection**

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Canada	100	100	99.86	99.86	99.86	99.86	99.86	99.86	99.86	99.86
US	95	95.73	96.27	96.27	96.76	97.06	97.92	98.35	98.68	98.93
UN	100	99.7	99.33	98.84	98.51	98.39	98.46	98.68	98.9	99.08
Round by Round Forecast										
Mean	97.65	97.75	<b>97.88</b>	97.96	<b>98.03</b>	<b>98.28</b>	<b>98.56</b>	<b>98.86</b>	99.07	99.17

**Table 2.3: Fishing Rights and Seabed Resources**

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Canada	100	100	100	100	100	100	100	100	96.28	95.61
UN	50	50.65	60.78	70.01	77.86	84.16	88.98	92.49	94.92	95.34
US	0	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
Round by Round Forecast										
Mean	55.17	56.55	<b>59.21</b>	62.78	65.84	68.32	70.24	71.21	<b>71.52</b>	<b>71.39</b>

**Table 2.4:** Transit of Military Vessels and Transit of Privately Owned/operated Vessels in the NWP

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Canada	100	98.57	98.57	98.57	96.29	93.23	93.23	93.23	93.23	93.23
US	0	0	0	0	0	0	0	0	0	0
Arctic States	40	45.64	56.65	64.41	69.1	59.65	51.35	52.91	53.66	54.2
UN	50	52.77	57.95	58.56	53.56	54.92	55.93	55.14	54.62	54.47
Round by Round Forecast										
Mean	<b>40.85</b>	41.86	43.48	<b>44.56</b>	44.09	42.8	41.76	<b>41.43</b>	<b>41.5</b>	<b>41.52</b>

**Table 2.5: Transit of Non-Military and Commercially Owned/Operated Vessels (EEZ)**

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Canada	100	100	100	100	100	100	100	100	100	100
Legal Shippers	75	75	75	75	77.71	78.88	80.21	81.56	82.03	82.03
Insurance Companies	85	84.48	83.58	81.84	80.68	82.22	83.59	82.75	82.16	82.1
Round by Round Forecast										
Mean	<b>90.83</b>	90.74	90.48	<b>90.37</b>	90.54	91.06	91.51	<b>91.73</b>	<b>91.74</b>	<b>91.72</b>



**Table 2.6:** Transit of Scientific Vessels

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7	Rd 8	Rd 9	Rd 10
Round by Round Position										
Canada	100	100	100	100	100	83.25	76.26	81.13	84.57	86.98
US	80	84.54	86.32	88.38	90.51	92.53	92.53	92.53	92.53	92.53
UNIMO	50	50	50	50	50	50	50	50	50	50
Round by Round Forecast										
Mean	80.68	<b>81.08</b>	81.92	82.51	80.78	77.87	<b>75.42</b>	<b>75.61</b>	<b>77.11</b>	<b>77.77</b>

**Table 3:** Summary of Results – Cooperation vs. Conflict

<b>Issue</b>	<b>Rapid Conclusion?<sup>a</sup></b>	<b>Stability (Number of Agreement Rounds)</b>	<b>Distance from Canadian Position at Agreement Round</b>	<b>Does the Canadian Position Move Less than Main Competitor?</b>
Search and Rescue	No (3)	Low (2)	Medium (5.97)	Yes
Environmental Protection	No (3)	Low (5)	Low (2.12)	Yes
Fishing Rights	No (3)	Low (3)	High (40.79)	Yes
Transit of Military Vessels	Yes (1)	Low (5)	High (59.15)	No
Transit of Commercial Vessels (EEZ)	Yes (1)	Low (5)	Medium (9.17)	Yes <sup>b</sup>
Transit of Commercial Vessels (NWP)	Yes (1)	Low (5)	High (59.15)	No
Transit of Scientific Vessels	No (2)	Low (5)	High (18.92)	No <sup>c</sup>
Seabed Resources	No (3)	Low (3)	High (40.79)	No

<sup>a</sup> An issue is considered to have a rapid conclusion if an end-rule is reached in the first round. The first round where an end-rule is reached is noted in parentheses.

<sup>b</sup> The Canadian position is compared to the average of the positions favored by the insurance companies and legal shippers.

<sup>c</sup> The Canadian position is compared to that of the United States.