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Signature _____

Typed name: Sendhil Mullainathan

Signature _____

Typed name: Michael J. Hiscox

Signature _____

Typed name: Steven Pinker

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Does Analogical Reasoning Affect Political Attitudes? Evidence From Survey Experiments

A dissertation presented

by

David John Lynch

to

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ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

Dissertation Advisor: David C. King David John Lynch

Does Analogical Reasoning Affect Political Attitudes?

Evidence From Survey Experiments

Abstract

Do analogies affect political attitudes? A growing literature in political science and psychology suggests that there are many reasons to think they do, as analogies often structure how we think about an issue, particularly when it is characterized by uncertainty. Here I present evidence that analogies can affect our attitudes, though they seem likely to do so only when used early in a debate and only if people do not yet have well established views on a subject. The evidence I present comes from survey experiments, each of which asked a reasonably representative sample of a North American public political questions which likely involve significant uncertainty in citizens' minds. I first look at how an analogy to Kosovo affects Quebeckers' views about the likelihood of Quebec receiving international recognition if it were to declare independence without holding a referendum. I find that it does affect people's assessment of the likelihood of recognition, even among people opposed to Quebec sovereignty, and does so in a manner distinguishable from other persuasive statements. However, it generally had no effect on people's broader attitudes toward independence. Next I show that when I presented the same Quebeckers with an analogy to the Great Depression and asked them how confident they were in the economy and whether or not they supported stimulus spending, it had no effect. A third survey shows that despite economists' worries that people are prone to believing that trade is somehow like war, such an analogy does not have any negative impact on Americans' views about trade. Nor, however, do analogies for economists' notion of comparative advantage. It also shows that many respondents pay little attention to these analogies. The findings are discussed in the context of the existing literature on analogical reasoning in political science and psychology.

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CHAPTER 1:

INTRODUCTION

We reason by analogy every day. When we make decisions or reflect upon something, we often notice that one thing seems like another in some way, and wonder whether the two might be alike in others based on this apparent similarity. For instance, a friend might ask for advice regarding a family dilemma, prompting us to mention how it is similar to one we once faced, in the hope that our experience might provide them with some guidance. Or we might start a job that reminds us of another we had, and wonder whether what held true of the old job will hold true of the new one. Politics might also invite us to reason by analogy, as when a new politician reminds us of an earlier one, or when a debate reminds us of others we have heard in the past.

Situations like these often lead us to reason by analogy because they are highly uncertain – uncertain because they are situations in which we are hard pressed to identify all the possible outcomes and how likely each is to arise. It is hard to predict how much we will like a new job along the many dimensions we care about, or how our friend's many family members will react if she approaches them in some way. It is also hard to predict a politician's future or what policy will come out of a debate. When we face uncertainty like this, traditional decision trees do not seem to be of much help.

This sort of uncertainty arises often in politics, which means we often find ourselves reasoning by analogy regardless of whether we consider ourselves to be politically sophisticated, largely apathetic about what goes on in our nation's capital, or indeed, one

of the people actually in our nation's capital formulating policy. And every day, we are bombarded with analogies of all kinds from the many persuaders in the political arena trying to frame issues in our minds. The question I ask in this dissertation is, do these analogies actually affect our political attitudes? While our intuition and a burgeoning literature on analogies suggest they must, it is a question worth asking, not least because political science and psychology have taught us that so many other factors affect our attitudes as well. Given that most people have deeply held values, interests, and other notions about politics that inform their views, how much can analogies actually change them?

These questions are important for three reasons. First, analogies are used either implicitly or explicitly in political discourse every day, most often by people intent on changing attitudes and ultimately political outcomes as a result. Second, certain scholars have suggested that because they are central to how we think in general, analogies are a particularly powerful means of shaping people's political views. The implication is that, just by changing the analogy or metaphors in use, politicians and others have been able to make important changes in domains as varied as tax and foreign policy.[1] The problem, however, is that we do not know whether analogies actually shape people's views on these issues or whether they are simply shorthand for the views people have arrived at by other means. For example, some Americans may think Iraq is like Vietnam and support a withdrawal because they think Iraq is a mess, rather than support a withdrawal because they have been exposed to compelling Vietnam analogies. Third and finally, because analogies are often cited as one of the means by which people reason about politics,

[1] E.g., Lakoff (2008).

understanding when, where and how much they affect attitudes can tell us something about citizen competence. If, as the literature suggests, citizens must rely on cognitive shortcuts to make political judgments, and analogies are one of the more common ones they use, it is important to understand whether they move people or not.

Drawing on the psychology literature and empirical investigation in this dissertation, my answer to the question of whether analogies affect attitudes is a qualified "Yes". Yes, analogies can affect our attitudes, but they seem likely to do so only if they are used early in a debate and only if people do not yet have well established views on a subject. The evidence I present here suggests that, even when people are uncertain about what the future holds or how things work, an analogy on its own will not be enough to move them, insofar as we can tell from people's responses to survey questions.

This evidence is primarily meant to speak to two audiences: political scientists and psychologists. The two communities have tended to tackle this question from different angles and have generally faced two problems in answering it: identifying analogies' impact and doing so with samples that are representative of the general population. Political scientists, eager to say something about the public as a whole, have tended to ask representative samples of citizens what analogies they find appropriate to a situation, often without clear means of addressing the analogies' effect on people's attitudes. Where they have performed experiments with such samples, they have so far been unable to distinguish any effect analogical messages have on people's attitudes from similar ones that are more literal in nature. Psychologists, on the other hand, have been eager to

understand the underlying mechanisms of analogical reasoning. To do so, they have traditionally relied upon lab experiments to look at how analogies elicit inferences about various issues, including political ones. They have also looked occasionally at whether analogies actually persuade people one way or another about a political issue. While they have often succeeded in demonstrating how analogies can change some people's thoughts and attitudes, they have not done so with samples that are representative of the broader public. Their subjects have been college students or others conveniently obtained. While this is not always a problem, it certainly can be one for many political issues.[2] Students may lack many of the concerns that drive the broader public's views or have views that are otherwise systematically different. When given an analogy about international trade, for example, college students are likely to respond differently than people whose jobs and livelihoods will be directly affected by it.

This dissertation attempts to move the literature forward a step by using large-scale survey experiments conducted with online panelists that are more representative of the public. In using experiments, I hope to identify certain analogies' impact on people's attitudes. In using surveys with reasonably representative samples, I hope to see how they affect "real people", if at all. Survey experiments certainly have their limitations, but in this case, they should offer something the literature on analogies has not had to date.[3]

As mentioned, my findings are somewhat equivocal. Analogies, powerful as they may seem, do not seem to push people's buttons as much as we might think. And as we will

[2] Ansolabehere and Iyengar (1996, p. 107).
[3] For a most recent view on their limitations, see Kinder (2007).

see, the more complex they are, the less they seem to matter, not least because more complex analogies require more of a citizen's already scarce attention. This raises the possibility that it is not so much "average" citizens who are likely to be persuaded or "taken in" by an analogy, but rather the elites who are tasked with analyzing and making policy. Below, I begin the discussion of analogical reasoning with them, and move on to the citizens with which the rest of the dissertation will be concerned.

Analogical Reasoning in Political Science and Psychology

Political scientists first looked at analogical reasoning in the context of elite decision making several decades ago, and then focused later on how it affects citizens' attitudes.[4] Their view of analogical reasoning came from the psychology literature that has built up around the subject since the early 1970s. Broadly speaking, reasoning by analogy means reasoning about one thing in terms of another. When we see that some novel object *B* has similarities to a more familiar *A*, we often attempt to draw conclusions by thinking about how known aspects of A might correspond to unknown aspects of *B*. This ability to generate "plausible conjectures" can produce great insights – the wave theory of light, for example – and also great errors in judgment.[5] The conjectures people produce with them are often untrustworthy because there is no logical reason why two things must work in the same way simply because they share certain characteristics.[6] That they can produce such wildly divergent outcomes suggests they cannot always – or even usually – be trusted as tools of judgment.

[4] See for example May (1973); Jervis (1976); Khong (1992); Sunstein (1993); Peterson (1997); Gilboa & Schmeidler (1995, 2001); Schlesinger and Lau (2000); Lau and Schlesinger (2005); North (2005); Braman and Nelson (2007); Henry (2007).
[5] Gilovich (1981, pp. 797-798); Holyoak and Thagard (1995); Elster (2007, p. 259).
[6] Bartha (forthcoming).

Nevertheless, people are often forced to reason by analogy when other means of judgment and decision making are too time consuming or simply not possible, as is often the case under conditions of political uncertainty. By uncertainty, I mean situations in which it is not seen as possible to identify all possible states of the world or the probability distributions associated with them.[7] In such situations, rational choice theory, for example, may not be a useful or robust means of understanding behavior because people's interests are not readily defined.[8] To have preferences, one needs beliefs, and forming beliefs under conditions of uncertainty typically requires reasoning.[9] Analogies and the mental models they create are an important source of such reasoning, leading North and Denzau to suggest that "An understanding of how such models evolve and the relationships among them is the single most important step that research in the social sciences can make to replace the black box of the "rationality" assumption used in economics and rational choice models."[10]

Fortunately, psychologists have learned much about mental models and analogical reasoning over the past several decades. In doing so they have come to believe that the

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[7] The uncertainty referred to here is of the kind described by Frank Knight – that is, *unmeasurable uncertainty* (Knight, 1921). Knight contrasted this type of uncertainty with *risk*, which he defined as *measurable uncertainty*. As North (2005, p. 13) notes, the terms have undergone some "semantic alteration" since Knight's time. Steinbrunner (1974, p. 18) uses the term "structural uncertainty" to describe such conditions. Some scholars refer to such circumstances as conditions of "ignorance"; Zeckhauser (1986, p. 257) uses the term "....to describe situations in which states of the world or alternatives are simply unknown" (p. 257). Gilboa and Schmeidler (2001, pp. 44-45) use the term "structural ignorance" to describe these situations.

[8] Or, as Ostrom and Job (1986) put it, "...the raw materials of rational choice are absent" (p. 543).

[9] Gilboa, Postlewaite and Schmeidler (2008).

[10] Denzau and North (1994, p. 5); reprinted in Lupia, McCubbins and Popkin (2000). Kinder (2007, p. 160, n3) also points to reasoning by analogy as a promising means of understanding how people make sense of political issues.

ability to reason by analogy is central to human cognition. As Holyoak, Gentner and Kokinov put it:

> What cognitive capabilities underlie our fundamental human achievements? Although a complete answer remains elusive, one basic component is a special kind of symbolic ability—the ability to pick out patterns, to identify recurrences of these patterns despite variation in the elements that compose them, to form concepts that abstract and reify these patterns, and to express these concepts in language. Analogy, in its most general sense, is this ability to think about relational patterns.[11]

To identify these patterns, analogical reasoning draws on our basic ability to identify similarities and differences between objects and accordingly permeates virtually every aspect of our thought.[12]

Analogies Vs. Metaphors

Analogies and metaphors work by describing a "target" phenomenon in terms of some "source" which is often more familiar to people. The widely accepted *structure-mapping* theory of analogical reasoning describes the process as follows:

> In a typical reasoning scenario, one or more relevant analogs stored in long-term memory must be *accessed*. A familiar analog must be *mapped* to the target analog to identify systematic correspondences between the two, thereby aligning the corresponding parts of each analog. The resulting mapping allows analogical inferences to be made about the target analog, thus creating new knowledge to fill gaps in understanding. These *inferences* need to be evaluated and possibly *adapted* to fit the unique requirements of the target. Finally, in the aftermath of analogical reasoning, *learning* can result in the generation of new categories and schemas, the addition of new instances to memory, and new understandings of old instances and schemas that allow them to be accessed better in the future.[13]

As the name of the theory suggests, mapping is the crucial phase. People are thought to draw inferences from a source analog when its components can be mapped to the target on a one-to-one basis, such that no component of the source maps to more than one

[11] Holyoak, Gentner and Kokinov (2001, p. 2). Knight (1921, pp. 204-206) also regarded analogy as central to reasoning.
[12] Holyoak (2005).
[13] Holyoak, et al. (2001, pp. 9-10). Authors' original emphasis.

component of the target.[14] Psychologists consequently use computer simulations to explore how these mappings can lead to different inferences.

In everyday use, generating and understanding analogies requires an ability to distinguish *structural* similarities between a source and target from *superficial* or *surface*-level similarities that might exist between them.[15] Superficial similarities are similarities in the surface attributes or properties of the source and target – for example, their color or aspects of their physical appearance. Structural similarities, in contrast, represent similarities in the relationships interior to each of the source and target. When someone says, "That's like the pot calling the kettle black" we do not look for a black object and a white object in the situation at hand. Rather, we look for one party accusing another of having some undesirable attribute they possess themselves.

There is still room for confusion, however, because the structural similarities are not always clear at first glance. When someone suggests a new analogy to us, we often experience a moment of hesitation as we try to map its meaning. Unsure of the underlying similarities, we often focus on the superficial ones and draw unintended or erroneous inferences about the target as a result. For instance, an urban planning expert might say that "Traffic is like water flowing through a pipe" to explain how traffic jams occur based on a fluid dynamic model of traffic flow.[16] Given that simple statement, however, her audience might think about how blockages occur in the pipes below their

[14] Mullainathan, Shwartzstein and Shleifer (2008) refer to this process as "transference" in certain contexts.
[15] Blanchette and Dunbar (2000).
[16] E.g., Greenberg (1959). Note that this expert would not necessarily need to refer to "fluid dynamic models" at all in doing so.

kitchen sink and wonder what the corollary is for traffic. Or they might expect tunnels to be important in the explanation because roads covered by tunnels superficially resemble pipes in a way that uncovered roads do not. Making matters worse, they might drift to this view because tunnels *can* cause traffic jams for reasons unrelated to the analogy. Tunnels often experience flooding and cause traffic jams because they lack access lanes permitting emergency vehicles to reach accidents. But of course, this would not be the point of the analogy. In this case, traffic is being compared to water because its density and velocity can be modeled like the density and velocity of a fluid, helping researchers understand what makes it stop. Tunnels, in this case, can act as "bottlenecks" that slow down the traffic (fluid) because they often have fewer lanes than the roads feeding into them.[17] When the intended structural features of an analogy are not apparent to people, they will often assume others based on superficial similarities or circumstances frequently associated with the source analog (in this case, water flowing through pipes).

Psychologists have found that people do this in problem solving settings as well. Most experimental subjects attempt to draw inferences about the structure of a target from sources with superficially similar characteristics even when prompted to look deeper.[18] As Pinker says, "...when experimentalists lead the horse to water, they can't make it drink."[19] In sum, how people interpret analogies hinges on the types of similarities they see between the source and target. Structure-mapping theory attempts to predict which relationships and structures they will identify.

[17] Downs (2004, p. 58)
[18] Gick and Holyoak (1980; 1983)
[19] Pinker (2007, p. 275).

Most students of political behavior will be more familiar with the Lakovian understanding of metaphors, exemplified in statements like LOVE IS A JOURNEY and ARGUMENT IS WAR.[20] Adherents to the structure-mapping view consider many of these metaphors to be analogies that also involve comparisons of superficial attributes.[21] For example, saying "My job is a jail" draws an analogy. In contrast, saying "Tires are like shoes" invokes a metaphor because it suggests both structural similarities between the source and target (tires and shoes function as points of contact with the ground) and superficial similarities (tires are made of rubber, as are many shoes).[22]

These may seem like minor differences, but they exist in part to differentiate the structure-mapping view from the Lakovian one, which also makes another, stronger claim: that metaphors *are* thought.[23] This goes too far for adherents to the structure-mapping view, though they still recognize Lakoff's groundbreaking contributions to the literature. Pinker, for instance, argues that "[t]hinking cannot trade in metaphors directly. It must trade in a more basic currency that captures the abstract concepts shared by the metaphor and its topic—progress toward a shared goal in the case of journeys and relationships, conflict in the case of argument and war—while sloughing off the irrelevant bits."[24]

This is not a debate that will end soon. But the structure-mapping approach does appear to have two main advantages for those interested in understanding how analogies affect

[20] Lakoff and Johnson (1980).
[21] Gentner, Bowdle, Wolff and Boronat (2001).
[22] Ibid.
[23] Lakoff and Johnson (1999).
[24] Pinker (2007, p. 250).

political behavior. First and foremost, it provides a framework for thinking about analogies in which the relationships between the source and target domains are made explicit. Second, this clarity makes operational manipulations of the analogies – whether of their underlying structure or their superficial elements – readily identifiable, transparent, and open to scrutiny. In contrast, it is not always obvious what Lakovian metaphors such as ARGUMENT IS WAR actually entail – guarding one's supply lines, for instance, is not something one does in an argument.[25] Political metaphors are fuzzier still because they are often crafted to be ambiguous in the first place, providing politicians and commentators with some latitude over what they entail. It therefore seems more prudent from a political research perspective to begin by looking at how people respond to particular models and analogies that are well understood, and then move toward classifying and ultimately generalizing about them.

Do Analogies Affect Political Behavior?

This brings us to the question that has concerned political scientists: do analogies actually affect people's political behavior? While scholars have paid some attention to this question, a satisfactory answer still eludes us because research on the subject to date has generally failed to clear two main hurdles. The first hurdle is to determine whether people's analogical reasoning about a situation has played a genuinely causal role, rather than acting merely as a correlate of other causes, a rationalization, or a piece of strategic communication. Interests loom large in what people say, and while analogies can help them identify their interests, people's interests can also influence their choice of analogy, making it difficult to sort out whether analogies play a causal role. Even where such a

[25] Pinker (2007, p. 250).

causal role can be identified, a second hurdle must be overcome. That is to determine whether a distinctly *analogical* reasoning process is affecting the situation, rather than some other type of reasoning. Together, these two hurdles constitute the problem of identifying analogies' effects that I discussed earlier. Below I review the existing literature with these challenges in mind.

Do Analogies Affect Elite Behavior?

Beginning with Ernest May's *"Lessons" of the Past*, Jervis' *Perception and Misperception in International Politics*, and culminating with Khong's comprehensive *Analogies at War*, international relations scholars have looked closely at the analogical reasoning used by political leaders to explain their actions during the many foreign policy crises and wars in which uncertainty reigns.[26] This research program has proved fruitful in explaining not just how leaders justify their actions to other elites and the public, but also in explaining how they generate, evaluate and dismiss policy options.[27] It has also built explicitly on psychologists' understanding of how analogical reasoning works, and the tendency of people's (analogical) beliefs to persist in the face of new evidence. Four conclusions are worth noting.[28] First, people tend to use analogies that are available to them.[29] For political leaders in foreign policy crises, available analogies tend to come from the period during which they came of "political age".[30] Second, people also tend to

[26] See May (1973); Jervis (1976); and Khong (1992), pp. 1-18. Record (2002) follows this line of research as well.
[27] *Ibid.*
[28] These tendencies hold best in crises – i.e., when time is short, possible states of the world are unclear, and information is fragmented. When actors have more time and resources, they may use them differently. Peterson (1997) documents how competing analogies were developed, evaluated, and used strategically by the US and USSR as they sought to shape outer space law during the cold war.
[29] Khong (1992), p. 214.
[30] Khong (1992), p. 214.

pick analogies based on surface similarities rather than structural ones, a tendency found in the behavior of both political leaders and laboratory test subjects.[31] Third, Khong finds that, once source analogs have been selected, political leaders frequently fail to consider obvious structural *dis*similarities and how they might bear on the inferences they make. Fourth, social psychologists and political scientists generally agree that people will continue to adhere to their analogical conception of a situation even in the face of contradictory evidence.[32] This "perseverance effect" is very powerful, and helps to explain why persuaders might want others to think in terms of an analogy they choose.

Critics argue, however, that this research has not cleared the first hurdle described above.[33] Yee takes issue with the methods:

> For example, Khong's congruence derived conclusion that the Korea analogy caused American policymakers to choose gradual and moderate Vietnam decisions instead of the "harsher or harshest options" in the air war and in the ground war does not consider adequately whether the analogy coexisted with other geopolitical factors (i.e., fear of nuclear war with China and the Soviet Union) and domestic considerations (i.e., unwillingness to mobilize reserve troops and the economy for the war) that were sufficient to prompt policymakers to choose the same moderate options.[34]

This worry about other correlates is complemented by Taylor and Rourke's worry that analogies are all talk and no walk. They examine Congressional debates about the first Gulf War and show that speakers' choices to invoke either the Munich or Vietnam analogies were significantly correlated with their ideology and party, and not at all with their age or experience in office, as one might expect.[35] They take this to indicate "...that

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[31] Khong (1992), pp. 217-218.
[32] Khong (1992, pp. 223-225).
[33] For a brief discussion of this problem in elite decision making contexts, see Mercer (2005, p. 9)
[34] Yee (1996, p. 77).
[35] Taylor and Rourke (1995). Age cohorts are *very* rough proxies for the salience of a given analogy, not least because age might by correlated with other factors influencing their choice of analogy, or the reasons for their position on the issue. Voss, Kennet, Wiley and Schooler (1992) discuss the various metaphors employed in the Senate debate as well.

members of Congress used analogies primarily to justify the endorsement of the continuation of sanctions or the authorization of presidential force."[36] In contrast, a paper by Breuning takes seriously the idea that rhetoric can represent how people think and looks at the use of analogies in the 1950 Senate hearings on the Act for International Development. It finds that the Marshall Plan was not the analogy people were working from, as is often thought.[37] Moreover, other styles of reasoning – rule-based, for example – were frequently used in these debates, leading Breuning to worry that research on analogies is asking "which analogies" were used in specific cases rather than the critical question of "whether analogies" mattered and that it is thus not clearing the second hurdle.[38]

These types of speeches, however, are unlikely to be good sources for understanding how these political elites think. They were public and the speakers expected them to be heavily scrutinized both at the time of their delivery and in the future. As such, this speech evidence has characteristics opposite to those scholars traditionally seek out when trying to understand the thoughts of policy makers: records of meetings and sometimes memoirs that were not meant for the public or expected to see the light of day for at least several decades after their creation.[39] The strength of Khong's work is that it relies heavily on such archival sources. Indeed, Taylor and Rourke note in their study that "...votes were too highly correlated with partisanship and choice of analogy to be of

[36] Taylor and Rourke (1995, p. 465).
[37] Breuning (2003).
[38] Breuning (2003, p. 243).
[39] Trachtenberg, (2006, Chapter 5, especially pp. 151-154). Trachtenberg notes that while open sources are not "devoid of value", they must be used with care, and are likely to be most illuminating when "they record a line of argument at odds with what you think people at the time probably wanted to hear—when, for example, a policy maker pushes the envelope a bit and runs a certain political risk by taking a certain line in public" (p. 154). It seems unlikely that such conditions obtain in these cases.

much use."[40] This highlights the nature of the problem: how do we understand the thought process that brought about a political decision when the evidence most readily available comes from people speaking only after their story has been fashioned for public consumption? The problem is not that rhetoric cannot represent one's thinking. It is that rhetoric coming from strategic actors is unlikely to reflect their private thoughts when they have strong incentives to obscure them. Clearly, much remains to be done to understand how analogical reasoning affects elite behavior.

Do Analogies Affect Public Attitudes?

Scholars on all sides of this debate agree, however, that analogies are used by elites of all kinds to justify actions and persuade the public irrespective of whether they actually provide the logic for decisions. Elites typically have much more information than the public, and the public may regard political outcomes or the best policy choices in a given domain as highly uncertain, simply because they have little time to learn about them. Still, it is not obvious that analogical appeals work even in these circumstances: just because elites think analogies are influential does make them so.[41] Wars and debates surrounding them once again provide a useful starting point for discussion, even though this dissertation will focus on less momentous issues.

Wars are nothing if not uncertain ventures, and when the United States is contemplating intervention or fighting in some conflict, American elites might expect that drawing an analogy to Vietnam would be a powerful means of turning public opinion against it.

[40] Taylor and Rourke (1995, p. 463).
[41] See for example Kinder (2007) on this point.

President Bush addressed the "No more Vietnams" concern repeatedly in the months before the Gulf War and countered it with his analogy likening Saddam Hussein to Adolf Hitler.[42] Polls of the American public indicate that there is a strong association between believing a conflict could become another Vietnam and opposing American military involvement in it. Establishing that the former causes the latter, however, is difficult.

Tables 1.1 and 1.2 illustrate the standard causality problem using the available survey evidence about this question. Table 1.1 reports probit regressions of survey respondents' support for American action in Lebanon and El Salvador in 1982 and 1983 and Iraq in 1990, 2004 and 2006 on a small set of controls including whether or not they thought the Vietnam analogy applied at the time.[43] The dependent variable in each model is categorical, coded 1 if the respondent supports an American intervention, attack, or continued presence and 0 otherwise. Similarly, the independent variables of interest are coded 1 if the respondent thinks the conflict is like or in danger of becoming like Vietnam and 0 otherwise.[44]

[42] See Sobel (2001) for analysis of the Vietnam analogy in various conflicts. See Spellman and Holyoak (1992) for an analysis of the mappings that follow from the "Saddam is like Hitler" analogy.
[43] Each survey was conducted while there was a Republican administration.
[44] Respondents that provided "Don't Know" responses or no responses for any of the questions included in the regression models were excluded from the analyses. See Appendix A for details on survey sources and question wordings.

Table 1.1: American Attitudes Toward Various Conflicts and the Vietnam Analogy

Year	*1982*	*1983*	*1990*	*2004*		*2006*	
Dependent Variable	*Send in more marines vs. withdraw marines from Lebanon*	*Approve vs. dis-approve of sending troops to fight in El Salvador*	*Attack Iraq vs. give sanctions more time*	*Keep troops in Iraq until stable government vs. brings troops home*		*Keep troops in Iraq until situation stabilized vs. bring troops home*	
Coefficient	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Female	-0.13*** (0.03)	-0.11*** (0.02)	-0.07 (0.04)	-0.21*** (0.04)	-0.23*** (0.05)	-0.14*** (0.04)	-0.13*** (0.04)
Less than high school	0.02 (0.04)	-0.00 (0.03)		-0.10 (0.08)	-0.13 (0.09)	-0.05 (0.08)	-0.02 (0.08)
Some college	-0.04 (0.03)	0.01 (0.03)		0.12* (0.05)	0.07 (0.06)	0.02 (0.05)	0.04 (0.05)
College	-0.08* (0.03)	-0.05 (0.02)		0.20*** (0.05)	0.23*** (0.05)	0.16*** (0.04)	0.19*** (0.05)
Democrat	-0.12** (0.04)	-0.07* (0.03)	-0.16* (0.05)	-0.29*** (0.06)	-0.01 (0.08)	-0.23*** (0.05)	-0.09 (0.05)
Independent / Other	0.00 (0.04)	-0.02 (0.03)	-0.04 (0.05)	-0.23*** (0.05)	-0.11 (0.07)	-0.14** (0.05)	-0.08 (0.05)
Lebanon like Vietnam	-0.26*** (0.04)						
El Salvador much like Vietnam		-0.14*** (0.03)					
Iraq likely to become like Vietnam			-0.21*** (0.04)				
Iraq will be another Vietnam				-0.40*** (0.04)	-0.17* (0.07)	-0.44*** (0.03)	-0.33*** (0.04)
Other Controls	No	No	No	No	Yes	No	Yes
N	1159	1198	623	735	684	1174	1120

Notes: Dependent variable = 1 if respondent agrees with first statement and 0 if they agree with the second. Probit estimations: marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age (except Model 3) and "Other Controls" where applicable. See Appendix A for survey sources, question wording and additional details.

For the most part, demographic variables behave as one would expect – women tend to be less in favor of military action and Democrats tend to be more dovish than Republicans. And in each case, respondents who saw a link between the conflict in question and Vietnam were significantly less likely to support (additional) intervention or were more likely to support a withdrawal of troops. For instance, respondents who thought America's 1990 intervention was "very likely" or "somewhat likely" to "...become another prolonged situation like the Vietnam conflict" were 21 percentage points less likely (plus or minus 8 percentage points) to say it should attack Iraq if the January 15th, 1990 deadline elapsed. Across these different conflicts, the associations are often significantly larger in magnitude than those associated with party identification and survive additional controls where party identification does not (e.g., models 5 and 7). But it is not clear that such views had a causal effect on people's attitudes toward the conflicts.

To show the skeptical view, Table 1.2 switches the independent and dependent variables of interest. In this specification, whether a person believes the Vietnam analogy appropriate depends on their party allegiances and broader views on the conflict in question. In this view the analogy is not the cause of an attitude but rather the product of others.

Table 1.2: American Attitudes Toward Vietnam Analogy and Various Conflicts

Year	*1982*	*1983*	*1990*	*2004*		*2006*	
Dependent Variable	*Lebanon like Vietnam vs. different situation*	*El Salvador much like Vietnam vs. not at all like Vietnam*	*Iraq likely vs. unlikely to become like Vietnam*	*Iraq will turn out to be another Vietnam vs. U.S. will accomplish goals in Iraq*		*Iraq will turn out to be another Vietnam vs. U.S. will accomplish goals in Iraq*	
Coefficient	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Female	0.03 (0.03)	0.09* (0.03)	0.20*** (0.04)	0.02 (0.04)	0.04 (0.04)	-0.05 (0.04)	-0.03 (0.04)
Less than high school	0.03 (0.05)	-0.05 (0.05)		-0.02 (0.06)	-0.00 (0.07)	0.15* (0.07)	0.21* (0.08)
Some college	-0.05 (0.04)	-0.03 (0.04)		-0.00 (0.05)	-0.03 (0.05)	0.06 (0.05)	0.03 (0.05)
College	-0.13** (0.04)	-0.03 (0.04)		0.10* (0.05)	0.00 (0.05)	0.12** (0.04)	0.05 (0.05)
Democrat	0.12** (0.04)	0.14** (0.04)	0.15** (0.05)	0.37*** (0.05)	0.03 (0.06)	0.37*** (0.04)	0.19*** (0.05)
Independent / Other	0.11** (0.04)	0.03 (0.04)	0.09 (0.05)	0.23*** (0.05)	0.02 (0.05)	0.26*** (0.04)	0.15** (0.05)
Favor more marines vs. withdrawal	-0.31*** (0.04)						
Approve sending in troops		-0.27*** (0.05)					
Attack Iraq vs. time for sanctions			-0.20*** (0.04)				
Keep troops in Iraq Vs. bring troops home				-0.35*** (0.04)	-0.13* (0.05)	-0.43*** (0.03)	-0.31*** (0.04)
Other Controls	No	No	No	No	Yes	No	Yes
N	1159	1198	623	735	684	1174	1120

Notes: Dependent variable = 1 if respondent agrees with first statement and 0 if they agree with the second. Probit estimations: marginal effects ($\delta F/\delta x$) are show with robust standard errors in parentheses. *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, "Other Controls" where applicable. See Appendix A for survey sources, question wording and additional details.

Here, women appear no more likely than men to favor the Vietnam analogy except with respect to the Gulf War, though Democrats usually do so more than Republicans. Naturally people's views on the conflicts are a significant predictor of whether they think they will become Vietnams. At the same time, however, people's views about the applicability of the Vietnam analogy are not so highly correlated with their summary attitudes on the conflicts in question that they are simply direct proxies for them. Even skeptics must wonder what leads people to endorse the Vietnam analogy.

Evidence with which to distinguish between these two views is scarce. The sociologist Howard Schuman and his collaborators have provided some hints, however, by asking a slightly different question: which age cohorts tend to find certain historical analogies more appealing than others? From October 1990 through February 1991 – the period straddling the start of the Gulf War – Schuman and Rieger asked representative samples of the American population whether they thought that "Saddam Hussein is like Adolf Hitler", whether "...getting involved with Iraq is a lot like getting involved in Vietnam in the 1960s..." and which of these two comparisons better described the situation in Iraq at the time.[45] They found age cohort effects in which older Americans preferred the Hitler analogy while those of the Vietnam generation tended to prefer the Vietnam analogy. Once the war began, however, there was a significant shift in favor of the Hitler analogy, suggesting a "rally" effect (it seems unlikely that any new information about the aptness of the Hitler analogy came to the public's attention in the final weeks before the war).[46] Older Americans continued to be slightly more likely to favor the Hitler analogy once the

[45] Schuman and Rieger (1992).
[46] E.g., Mueller (1970); Parker (1995); Baker and Oneal (2001); Baum (2002) and in this context Mueller (1994, pp. 70-73).

war began but at the same time did not appear any more likely to favor military action as a result. As the authors put it: "...the effect of age on the appeal of a particular analogy is real and the relation of analogy preference to attitudes toward the war is also real and strong; but in the face of other forces the two effects are too weak to result in the simple relation between age and attitudes toward war that reasoning on the basis of generation leads one to expect."[47] In sum, even if one accepts that age and the experiences that come with it can drive analogy preference, it is not clear what effect analogy preference had on people's attitudes toward the war.[48]

Schuman and Corning subsequently conducted a similar exercise, this time asking Americans in five states whether they thought the United States' present involvement in Iraq was "like our fighting in World War II", "like our fighting in the Vietnam War" and whether they thought the Iraq war was "more like World War II or more like the Vietnam War?"[49] In general, people who were in middle to late childhood or older during World War II were more likely to prefer it as an analogy, but there is no evidence that this cohort was less likely to favor withdrawal from Iraq, as one might infer from that preference. As before, it is not clear whether analogies affect people's attitudes.

[47] Schuman and Rieger (1992, p. 324).
[48] Gilovich (1981) found that, with respect to a hypothetical foreign policy crisis, college students were more likely to favor intervention when the crisis description included elements similar to Munich and less likely to favor intervention when the description had elements similar to Vietnam or no allusive elements at all. In this exercise, students were asked to imagine they were "a high-ranking official of the U.S. State Department" (p. 803).
[49] Schuman and Corning (2006).

Beyond wars, citizens confront other "big choices" under uncertainty as well.[50] We should expect persuasion, analogical or otherwise, to play a role in these circumstances as well. For example, people must decide on matters such as whether to join the European Union, accept the European Constitution, or separate from their country as in the cases of Montenegro and Quebec.[51]

Consider for a moment the issue of Quebec sovereignty, to which we will return later. On October 30, 1995, 94% of registered Quebeckers voted 50.6% to 49.4% in favor of remaining part of Canada following an intense campaign in which the alleged ambiguity of the ballot question itself was a major issue.[52] Experts were divided over what would happen in the event of a "Yes" vote (in favor of separation), and uncertainty made it a situation in which persuasion and, in particular, analogical persuasion could in principle have a major impact even if they changed the minds of only a small fraction of the population. In just the final week of the referendum, three Montreal newspapers contained 234 analogies from journalists, commentators and politicians.[53] Some were simple: "It's like parents getting a divorce, and maybe the parent you don't like getting custody."[54] Others were more complex:

> "Separation is like a major surgery. It's important that the patient is informed by the surgeon and that the surgeon is impartial. The referendum is a way to inform the population. But in this case the surgeons are not impartial and they really want their operation."[55]

[50] The term "big choices" comes from "Making Big Choices: Individual Opinion Formation and Societal Choice," a conference held at the Weatherhead Center for International Affairs, Harvard University, May 25-26, 2000.
[51] Clarke, Kornberg and Stewart (2004).
[52] Nadeau, Martin and Blais (2000).
[53] Blanchette and Dunbar (2001).
[54] Ibid., p. 732
[55] Ibid, p. 732.

Quebec is not an isolated case. Ireland recently voted in a referendum to reject the EU Lisbon Treaty by only a slightly larger margin. During the campaign, opponents of the treaty repeatedly compared the increasing integration of the "superstate" Europe to an empire.[56] In both cases, those communicating to the public clearly thought these analogies would be persuasive, but as before, we have no evidence beyond our intuitions that they were indeed so. And as I show in the following chapters, our intuitions for what will and will not be persuasive are not always a good guide.

We are similarly in the dark with respect to how analogies affect attitudes in less momentous policy debates, where citizens arguably still face a significant amount of uncertainty. While politicians and interest groups are often well-placed to determine where they should stand on various issues by virtue of the time, motivation and resources they have to investigate them, citizens generally have a much harder job gathering information.[57] With little time to learn, they rely on cues, heuristics and analogies.[58] "Ordinary citizens use concrete examples—a particular news story, a particular personal event—and analogize from that."[59]

Social scientists have tried to assess analogies' impacts in these contexts as well. Political scientists Schlesinger and Lau developed "policy metaphors" in the health care reform field and tested their effectiveness via representative surveys and experiments.[60] They

[56] Gillespie (2008).
[57] Elites have their challenges too, of course. See especially Esterling (2004) on how politicians learn about complex issues from different sets of experts and interest groups.
[58] For explicit references to analogies, see Lupia and McCubbins (1998, p. 19) and Nelson, Oxley and Clawson (1997, p. 224).
[59] Verba (1999), p. 258.
[60] Schlesinger and Lau (2000), Lau and Schlesinger (2005).

found supporting evidence that in this domain, metaphors describing health care as a "societal right", "community obligation", "employer responsibility", "marketable commodity" and "professional service" affected people's attitudes. But they could not clear the second hurdle, conceding that they did not "...demonstrate that it is the distinctively *metaphorical* aspects of understanding that shape policy attitudes, as opposed to more general framing effects."[61] Psychologists Johnson and Taylor looked at how positively and negatively valenced metaphors affected summer school students' assessments of issues and individuals associated with issues such as trade, Quebec sovereignty, price controls, and taxes. They found that politically sophisticated people were affected by the valences whereas the politically unsophisticated were not.[62] Bowers found that Dutch students thought differently about certain extremist parties after being presented with different types of metaphors about them. Once again, we find that each discipline encounters problems, and it is hard to determine just what specific impact analogies have over other types of communication.

Progress toward clearing this hurdle has recently been made in the context of international trade. Despite economists' objections, public discussions of trade are often framed as though TRADE IS WAR.[63] Hartman found recently that exposing people to this metaphor altered their automatic evaluations of the desirability of international trade in an

[61] Schlesinger and Lau (2005, p. 106). Authors' original emphasis.
[62] Johnson and Taylor (1981). This study looked at different emotional valences within metaphors, rather than the effect of emotions in metaphors versus literal forms of communication.
[63] Eubanks (2000). For economists' objections, see for example Mankiw (2007, p. 58). Robins and Mayer (2000) found that college undergraduates who read a TRADE IS A WAR vignette were more in favor of tariffs than those who read a TRADE IS A TWO-WAY STREET one. Thanks to Todd Hartman for drawing this article to my attention. The "trade is like war" idea also motivates some of the discussion in Mullainathan, Schwartzstein and Shleifer (2008).

affective priming task, while exposure to literally equivalent statements did not.[64] This represents important progress in determining whether and how analogies can affect people's political behavior. Still, it is not clear how well these findings generalize to the real world of politics. These experimental findings come from subject pools consisting largely of college students and convenience samples whose attitudes toward trade may differ significantly from the general population. In particular, they are among the better educated and for the most part do not have full-time jobs exposed to import competition – factors that are important determinants of people's attitudes toward trade in the United States and may therefore affect their reactions to these messages.[65] It is thus not clear that analogies can affect people's attitudes when they have significant personal interests at stake. While people may be uncertain as to what the best course of action for the nation is with respect to an issue such as trade, and also whether an analogy applies to it, it could be that as the uncertainty associated with policies' effects on individuals decreases – e.g., the effect of more trade agreements on the livelihoods of people working in import-competing sectors – so too does does the power of analogies to affect people's attitudes. As I will show in a later chapter, more elaborate analogies about trade have little noticeable impact on people's attitudes.

Analogies As Frames

Because they can structure how we think about an issue, analogies can also be thought of as a subset of *emphasis frames* which emphasize "a subset of potentially relevant

[64] Hartman (2008).
[65] See for example Scheve and Slaughter (2001), Hiscox (2006).

considerations" to influence people as they form an opinion.[66] They are consequently difficult to classify and generalize about. However, analogies' underlying structures can often be isolated and, consequently, manipulated for research purposes. With care one can translate a mathematical model describing some aspect of politics, economics, or other phenomena into an analogy that conveys its substance. Elites don't naturally seek rigor when coming up with analogies with which to persuade the public, but they are likely looking for certain characteristics, and it is well worth understanding which ones are likely to be the most powerful.

Even powerful frames, however, are limited in the degree to which they can affect people's attitudes.[67] Analogies will have limits as well. Analogies' ability to change people's attitudes may depend in particular on cognitive ability. Insofar as analogies are emphasis frames, we should expect people of higher cognitive ability to be less moved by them because they tend to be more politically sophisticated and scrutinize them more closely.[68] Cognitive ability may also matter because people's ability to comprehend analogies is closely related to psychometric *g*. Indeed, it is often assessed with analogy tests.[69] As Walter Lippmann observed in *Public Opinion*, "The power to dissociate superficial analogies, attend to differences and appreciate variety is lucidity of mind. It is a relative faculty."[70] Lippmann clearly thought little of the general public's capacity to understand complex issues. But even if one does not share his pessimism, it is still worth

[66] Druckman (2001a)
[67] Druckman (2001a)
[68] Luskin (1990); Druckman (2001b); Stanovich and West (1998).
[69] Deary (2000); Holyoak (2005).
[70] Lippmann (1922, p. 69).

recognizing that individual differences may affect people's ability to grasp analogies and consequently their likelihood of being persuaded by them.

This suggests that the persuasiveness of an analogy may vary with both the complexity of the analogy itself and the cognitive ability of the person exposed to it. A simple or superficial analogy may be highly persuasive to a person of lower cognitive ability, while a more complex one may be highly persuasive to a person of higher cognitive ability. I explore this idea in some detail in my chapter on trade analogies, but do not find evidence for it; the challenge with these analogies was to identify *any* effect on people's attitudes that could be attributed to the analogies, rather than differing effects.

Of course, "complex" does not mean "accurate".[71] That complex analogies sometimes wield more influence among the politically or cognitively sophisticated says nothing about whether they are more likely to faithfully represent the world than simple ones. Indeed, it could be that those most engaged in the political process are those most likely to be infatuated by a clever analogy, irrespective of how well it represents reality.

Analogies as Tools of Enlightenment

Analogies' ability to convey complex structural relationships also makes them more than just tools of persuasion. They can also enlighten people provided they are used carefully and neither the speaker nor the receiver confuses the superficial for the structural. When they are constructed carefully, analogies can convey complex ideas, such that "...when the analogies have been pointed out, no esoteric insight, and no specifically scientific

[71] Thanks to Sendhil Mullainathan for continually emphasizing this point.

knowledge, is required to recognize that they exist."[72] Analogies can therefore quickly bestow upon people "contextual knowledge" that political scientists at least since Downs have traditionally assumed can only be acquired through specialized education.[73, 74]

Analogies consequently abound when largely disinterested people try to explain complex issues to the public, as any science program or in-depth news item quickly demonstrates. Early pollsters explained the logic of population sampling to the public by highlighting more familiar examples of it, such as tasting a soup, drawing blood, and sampling ore in a mine.[75] It is said that physicists convinced Margaret Thatcher to contribute funding towards the Large Hadron Collider (LHC) by describing Higgs particles, whose presence the LHC will attempt to detect, in terms of a crowd at a dinner party.[76] Higgs particles are thought to slow down and convey mass to fundamental particles much as an admiring crowd does a popular person as they try to move about a room.[77] Climate change debates, in contrast, have arguably been hampered by the "greenhouse effect" moniker because the mechanism by which a greenhouse warms the air inside it is not precisely analogous to the one that produces global warming. Greenhouses warm trapped air, whereas global

[72] Hesse (1963, p. 14).
[73] As Downs (1957, p.79) writes:

> *Contextual knowledge* we define as cognizance of the basic forces relevant to some given field of operations. It is a grasp of relations among the fundamental variables in some area, such as mathematics, economics, or the agriculture of ancient China. Thus contextual knowledge (1) is more specific than reason, (2) is not common to all men but is acquired to a greater or less degree through education, and (3) can be an object of specialization. [Author's original emphasis]

[74] The separatist-surgeon analogy from the Quebec referendum campaign, for instance, has pedagogical potential in addition to its persuasive appeal because it is an intuitive description of the principal-agent problem. The speaker didn't need to lay out a model and then explain how it applied to the debate in Quebec. Rather, they just described how the situation was similar to a more familiar one.
[75] Igo (2007, pp. 182-183).
[76] See Cox (2008) at http://www.ted.com/talks/view/id/253
[77] Cox (2008). Randall (2005, p. 213) describes the fundamental particles as encountering a "fog of paint."

warming occurs because atmospheric gases "reradiate" longwave radiation back to the Earth's surface.[78] Experts often conjure up analogies for public consumption without scrutinizing them carefully and muddled explanations soon follow. Clearly, people offering these analogies must make certain they are structurally faithful to the models in question to ensure that the patient citizen gets an accurate explanation.[79]

But, as we will see, attention remains the biggest obstacle to this sort of enlightenment. Simple analogies are useful because they require very little of it. Analogies describing more complex phenomena such as how global climate change occurs, why the LHC is needed, or how evolution takes place tend to go well beyond a soundbite and require the citizen to tune in longer. Consequently, those with little interest in politics are unlikely to be exposed to them. Meanwhile, those most likely to benefit from analogies – the politically engaged – are those least likely to be in need of them.[80] Another problem is that disinterested sources are hard to find, and the more interested the source, the less prudent it is for the citizen to take their analogy for a fair representation of how the world works. Interested parties formulate their analogies strategically, knowing that citizens are rarely well prepared to evaluate them. Still, even within these constraints, analogies' ability to communicate complex ideas could help citizens to participate in politics where they might otherwise have been unable to due to a lack of knowledge. Issue publics and, naturally, interest groups can coalesce in part because analogies facilitate shared understanding of complex issues.

[78] McGuffie and Henderson-Sellers (2005, p. 264).
[79] On this point, see Pinker (2007, pp. 256-257).
[80] For discussion of this point in a Canadian context, see Gidengil, Blais, Nevitte and Nadeau (2004, p. 99).

In sum, we have strong intuitive and well developed theoretical reasons to think that analogies can affect people's political attitudes, but there has been little evidence to date demonstrating that analogies affect the political attitudes of the general population.

The Evidence

I find that analogies can affect people's attitudes, but only under limited circumstances. The evidence I present is straightforward and comes from survey experiments. Each of the surveys I conducted asks a reasonably representative sample of a North American public about a topic around which there is considerable uncertainty. In Chapter 2, I look at how an analogy to Kosovo affects Quebeckers' views about the likelihood of Quebec receiving international recognition if it were to declare independence without holding a referendum. On both this question and the broader question of what would happen if Quebec tried to separate, there is no expert consensus – it is one of the great unknowns of Canadian politics, and one that is fiercely debated. Here, I find that the Kosovo analogy does affect people's assessment of the likelihood of recognition, even among those who are opposed to Quebec independence, and does so in a manner distinguishable from other persuasive statements. This suggests that, when a relatively new, specific issue is presented, analogies can have an effect on people's attitudes, even when they rely heavily on related priors to form their opinions. But the Kosovo analogy had no effect on people's broader attitudes about independence.

In Chapter 3, I find more evidence that analogies can only do so much. When I presented the same Quebeckers with an analogy to the Great Depression and asked them how

confident they were in the economy and whether or not they supported stimulus spending by the Canadian government, it had no effect. The survey was conducted in February 2009, when Quebeckers were facing both political and economic uncertainty on a scale they had not seen in a long time. Under such circumstances, we might expect that Depression analogies would be a powerful, emotionally laden means of moving people's views on these subjects even then, but this does not appear to be the case.

Chapter 4 shifts gears and develops hypotheses with respect to how people respond to more complex analogies, this time relating to international trade. In particular, it looks at how people's views might change when people are presented with mercantilist, "trade is like war" analogies and textbook-style analogies for economists' prized notion of comparative advantage. Unlike economists, people are unlikely to carry around detailed models of international trade in their heads, though they might have some notions about it. For them, the consequences of international trade may well be highly uncertain as far as its impact on the country as a whole goes, making them open to different analogies suggested by experts or commentators.

Chapter 5 shows with another survey that, despite economists' often-voiced worries that people are prone to believing warlike analogies about trade, neither type of analogy has any robust impact on Americans' views, which a well-developed literature suggests are driven by other considerations. It also shows that, even when these analogies are presented in a brief op-ed style, many respondents pay little attention to them. In this respect, surveys are a reasonably good proxy for the level of attention people have for

politics in the real world. If, as my surveys suggest, a minute is too long for many filling out a survey, it is likely too long for many in the real world too. And even among those who paid the most attention, I do not find evidence that the analogies moved people significantly.

Conclusion

It is hardly earth-shattering to say that analogies or emphasis frames are most likely to have an effect when an issue is first introduced – terms like "framing the debate" usually refer to how an issue is introduced to the public by one side or another. No one ever recommends saving a clever frame for late in a debate or a campaign after the issues have been analyzed extensively.

But these findings do suggest that much of the concern over how analogies and metaphors affect political discourse may be exaggerated, at least as it relates to the general public. Granted, many issues are introduced with analogies or metaphors. But it is not obvious that these introductions are as powerful as some might believe in shaping opinion, political pressures and ultimately outcomes.

As I discuss in the final chapter, what this dissertation has generally not addressed is why analogical persuasion is so hard to identify, and this should be the next step in research. After all, even if people understand an analogy and make the inferences intended by the person offering it, people may not believe it to be sound or as compelling as another means of thinking about a subject. And where they do, they may still accept it as a sound

analogy and yet not change their minds given the many considerations that shape their views. Several obstacles must be overcome for an analogy to change people's mind – long before they get to the voting box.

CHAPTER 2:

DO ANALOGIES TO KOSOVO AFFECT ATTITUDES TOWARD INDEPENDENCE IN QUEBEC?

This dissertation asks a simple question: do analogies affect political attitudes? This chapter asks this question by means of a survey experiment in which Quebeckers were asked their views on whether Quebec would receive international recognition if it unilaterally declared itself independent without holding a referendum. I find that a statement likening Quebec's situation under such circumstances to Kosovo's recent experience significantly affects Quebeckers' attitudes on this question, and does so in a way that is distinguishable from an identical statement lacking the Kosovo analogy. In particular, the Kosovo analogy made Quebeckers who expressed general opinions on sovereignty to rate the likelihood of recognition in such circumstances more highly than those who were introduced to the idea without the analogy or without any persuasive statement at all. There is also suggestive evidence that the analogy affected the attitudes of not just those in favor of sovereignty but also those opposed to sovereignty. At the same time, however, the Kosovo analogy had no impact on these people's views toward Quebec independence, which is sometimes seen in Quebec as an option distinct from sovereignty. Their views on sovereignty and independence were very consistent, regardless of the experimental condition they encountered.

Interestingly, the pattern of results appears to be the reverse among those who did not express an opinion about sovereignty. Among those who did not know how they would vote in a referendum on sovereignty, the Kosovo analogy had no discernible effect on

how likely they thought recognition would be if Quebec issued a unilateral declaration of independence absent a referendum. There is, however, some evidence to suggest that the Kosovo analogy would make them more likely to vote for independence (if a referendum were actually held) than those who encountered the same statement without the analogy or with no statement at all.

These results suggest that analogies can affect people's attitudes regarding important political issues and can do so across the political spectrum, albeit in different ways. They suggest in turn that analogies could have significant effects on important political outcomes, particularly when they involve campaigns around highly uncertain decisions.

Analogies in Quebec Politics

The issue of sovereignty has been a fixture of Quebec politics for the past half century. In 1980 and 1995, Quebeckers voted against sovereignty in two referendums – the first time by a wide margin of 59.6% against to 40.4% in favor and the second time by a very narrow margin of 50.6% against to 49.4% in favor.[81] In both of the referendum campaigns, no one in the media or the academic community could predict with much certainty what the consequences of a "Yes" vote (in favor of sovereignty) would be, leaving politicians free to suggest possible scenarios absent any unbiased expert consensus. In 1995, federalists suggested that Quebeckers would lose their Canadian passports, the province's participation in NAFTA, and use of the Canadian dollar, while sovereigntists suggested the opposite. Politicians, journalists and commentators also used analogies to understand the situation and make predictions about the consequences of a

[81] Directeur Générale des Elections du Québec (2008a).

Yes or No vote. Marriage and divorce analogies figured prominently.[82] More concretely, in just the final week of the campaign, three Montreal newspapers contained 234 analogies relating to the campaign.[83] In a time of great uncertainty, politicians were using analogies to persuade a public that had few reliable means of understanding the consequences of its vote.

While it is essentially impossible to determine how much analogies affected the outcome of the 1995 referendum, the province recently revisited the issue of Quebec sovereignty (or independence) and analogies related to it when Kosovo declared itself independent from Serbia on February 17, 2008. As of July 2009, Kosovo had been recognized by 62 of the 192 United Nations member states, including Canada, the United States, the United Kingdom, France, most other European nations and several of Serbia's immediate neighbors.[84] Among the 136 who did not recognize Kosovo were Serbia itself, Russia, China, India, Brazil, Spain and Mexico. When the declaration took place, the United States, the United Kingdom and France – Canada's traditional allies – each recognized Kosovo within a day of its declaration. Canada, however, delayed its decision as the governing Conservative Party said it was "assessing the situation", no doubt concerned that if Canada recognized Kosovo's declaration, it might be obligated to treat some future declaration by Quebec in a similar way.[85] Canada recognized Kosovo a month later, but in the interim a brief public debate took place which focused squarely on whether or not

[82] CBC (2005).
[83] Blanchette and Dunbar (2001).
[84] Ministry of Foreign Affairs of the Republic of Kosovo (2009).
[85] Ljunggren (2008).

Kosovo was a useful analogy for understanding circumstances that Quebec might face in the future.

The Analogical Debate Over Kosovo and Quebeco

This debate over whether Quebec was like or analogous to Kosovo naturally centered on the potential similarities and differences between the two entities' circumstances. Sovereigntists saw many similarities and few differences, while federalists saw few similarities and many differences.

When the declaration was made, the provincial sovereigntist Parti Québecois (PQ) immediately congratulated Kosovo and said Canada should recognize it.[86] The PQ's spokesperson on international relations, Daniel Turp, added that Canada "....should recognize the will of the Kosovar people to become a sovereign and independent country, as expressed by its parliament, as expressed by its people during the last election..."[87] When asked by a CBC radio show host why Canada was delaying its decision, he replied that Canada must be:

> "...concerned about the precedential nature of the independence of Kosovo. It is rightfully so concerned because there are some parallels to be made. There are differences, important differences, but I think the parallel is that when there's a will of the people there are a lot of countries willing to recognize the independence of a people that declare their independence."[88]

Asked for more detail regarding how Canada's recognition of Kosovo's independence would affect the situation in Quebec, Turp said: "Well, it can be seen as a move to recognize the will of a people that clearly express their decision to become a sovereign

[86] CNW Telbec (2008); Hamilton (2008).
[87] CBC(2008).
[88] Ibid.

country" over the objections of the country from which they are separating.[89] Crucially, Turp went on to suggest that Quebec could separate without holding a referendum at all, despite having held two previously:

> Quebec has chosen in the past to use the referendum as a tool to express the will of the Quebec people, but this precedent is interesting in the sense where if an election would show this will of the people of the Quebec to be independent, what happened in Kosovo could also suggest that in an election where parties promoting independence of Quebec obtained a majority of seats and a majority of votes of the people, that also could be a way to show the will of the Quebec people to become an independent country."[90]

In sum, Turp argued that the Kosovo case established a precedent in which a people could declare independence without a referendum and gain international recognition against the wishes of the country from which it was seceding.[91] Turp's words were carefully chosen to speak to Canada's Clarity Act. In 2000, this Act gave the force of law to an opinion given by Canada's Supreme Court which required any provincial referendum on sovereignty to represent a clear "will of the people" to secede from Canada. The Act stipulates that, in the event of a provincial referendum on sovereignty, Parliament must determine whether the question to be submitted to voters is "clear" and that it shall do so by considering "...whether the question would result in a clear expression of the will of the population of a province on whether the province should cease to be part of Canada and become an independent state."[92] The impetus for the act came from the 1995 referendum question which was viewed by federalists as unclear and

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[89] The full statement was: "Well, it can be seen as a move to recognize the will of a people that clearly express their decision to become a sovereign country. It's also a decision that will be made even though Serbia – another sovereign, independent country – objects to the independence of one of its component peoples or nations. And I think Canada will recognize, but it will be concerned that this precedent could be invoked if at one point Canada, if Quebec expressly wanted independence, has some objections." [CBC (2008)]

[90] Ibid.

[91] On the relationship between reasoning by analogy and precedents in law, see Lamond (2006) and Schauer (2008).

[92] House of Commons of Canada (2000).

designed to confuse the electorate.[93] The act was opposed in Quebec by many federalists and sovereigntists; some federalists tended to see it as a tactical mistake that angered Quebeckers and risked moving them into the sovereigntist camp, while many sovereigntists regarded it as illegitimate and promised to ignore it.[94] Turp's comments on Kosovo appear designed to increase the plausibility of the idea that Quebeckers could clearly express their will on independence through a simple election rather than through the referendum process contemplated in the Clarity Act.

Former PQ premier Bernard Landry also suggested Kosovo had implications for Quebec: "How could [Canada] recognize Kosovo ... and say it will not recognize the independence of Quebec?"[95] This view was not necessarily shared by all sovereigntists, however. Federal Bloc Quebecois leader Gilles Duceppe said that Canada should recognize Kosovo and that such recognition would not change the rules for separation in Canada. "Every case is unique," he said.[96]

Federalists also disputed the PQ's assessment of the importance of Kosovo's declaration for Quebec. Stéphane Dion, the opposition leader of the federal Liberal Party and the primary architect of the Clarity Act, emphasized that international recognition had not yet come: "It's a very unique situation and despite all of this, they don't have the international

[93] The question was: "Do you agree that Quebec should become sovereign after having made a formal offer to Canada for a new economic and political partnership within the scope of the bill respecting the future of Quebec and of the agreement signed on June 12, 1995?" Given that proponents of sovereignty would be doing the negotiations for Quebec, federalists feared they would tender an offer designed to fail and declare sovereignty, while voters might infer otherwise from the question.
[94] See for example Goldenberg (2006, pp. 245-255) for a discussion.
[95] Peritz (2008).
[96] Bauch (2008).

recognition that would allow them to join the United Nations since Russia has a veto."[97] Dion's phrase "very unique" was meant to downplay Kosovo's potential to be a precedent, though he agreed that Canada should recognize Kosovo and urged Prime Minister Stephen Harper to do so.[98,99]

In subsequent days, federalists emphasized the differences between the cases of Kosovo and Quebec, typically drawing attention to the recent wars and lack of respect for minority rights in Kosovo. On March 1st, Eddie Goldenberg, a senior policy advisor to former Prime Minister Jean Chrétien from 1993 to 2003, argued in the *Globe and Mail* that the relevant analogy for Quebec was not Kosovo but rather Montenegro.[100]

Finally, when Canada did recognize Kosovo on March 18th, Prime Minister Stephen Harper also said the situation was "very unique" and rejected comparisons between Kosovo and Quebec.[101] In sum, sovereigntists and federalists each chose to emphasize certain similarities and differences between Quebec and Kosovo to bolster their positions. While it is not clear how much of this debate actually reached the public, Table 2.1 shows that even a cursory glance at media headlines at the time would have shown people that comparisons were being made between the two cases.

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[97] White (2008).
[98] Dougherty (2008).
[99] Dion is also a notable figure in this debate because he was a professor of political science at the Université de Montréal prior to entering politics, during which time he was a co-editor of the *Canadian Journal of Political Science* and wrote two articles about Quebec separation in American and British political science journals; see "The Quebec Challenge to Canadian Unity" [Dion (1993)] and "Why is Secession Difficult in Well-Established Democracies?" [Dion (1996)].
[100] Goldenberg (2008). In 2006, Montenegro held a successful referendum on separation from Serbia, and at that time the European Union cited Canada's Clarity Act and the related Supreme Court Secession Reference in developing conditions for recognition of the referendum results.
[101] CTV News (2008).

Table 2.1: Selected Media Headlines Regarding Kosovo and Quebec

Date	*Headline*	*Source*	*Type*
Feb. 17, 2008	Albanians in Canada say Kosovo's independence shouldn't raise fears about Quebec.	*Canadian Press*	News[102]
Feb. 18, 2008	Kosovo and Quebec have nothing in common, says Dion.	*Canwest News Service*	News[103]
Feb. 28, 2008	Kosovo is not Quebec	*Ottawa Citizen*	Commentary[104]
Mar. 1, 2008	No, Kosovo is not on the St. Lawrence.	*Globe and Mail*	Commentary[105]
Mar. 19, 2008	Harper defends Kosovo recognition as a unique case.	*CBC*	News[106]
Mar. 21, 2008	Kosovo a murky precedent for Quebeckers	*Toronto Star*	Commentary[107]
Feb. 18, 2008	Indépendance du Kosovo: Dion freine l'enthousiasme des indépendantistes	*Radio-Canada*	News[108]
Feb. 21, 2008	Le Kosovo donne les clefs de la création d'un État	*Le Soleil*	Commentary[109]
Feb. 22, 2008	Un divorce avec violence	*Le Devoir*	Commentary[110]
Mar. 19, 2008	Québec, Kosovo, même combat?	*La Presse*	Commentary[111]
Mar. 20, 2008	Le Kosovo n'a rien à voir avec le Québec	*La Presse canadienne*	News[112]
Mar. 21, 2008	Pas de parallèle à faire entre le Québec et le Kosovo, dit Pelletier	*La Presse canadienne*	News[113]

[102] Canadian Press (2008).
[103] White (2008).
[104] Percival (2008).
[105] Goldenberg (2008).
[106] CBC News (2008).
[107] Martin (2008).
[108] Radio Canada (2008).
[109] Binette and Joli-Coeur (2008).
[110] Payette (2008).
[111] Pratte (2008).
[112] Perkel (2008).
[113] Canadian Press (2008).

The story was also covered in the national media and on many local nightly newscasts, partially due to street marches by Serbian Canadians in Montreal and Toronto.

Public Opinion Regarding Kosovo and the Quebec Sovereignty Movement

In a poll conducted on February 20th and 21st, Angus Reid Strategies found that approximately 60% of both Canadians and Quebeckers thought that Canada should recognize Kosovo, while 9% of Canadians opposed recognition and roughly one third were "Not sure", likely implying they had no opinion on the matter.[114]

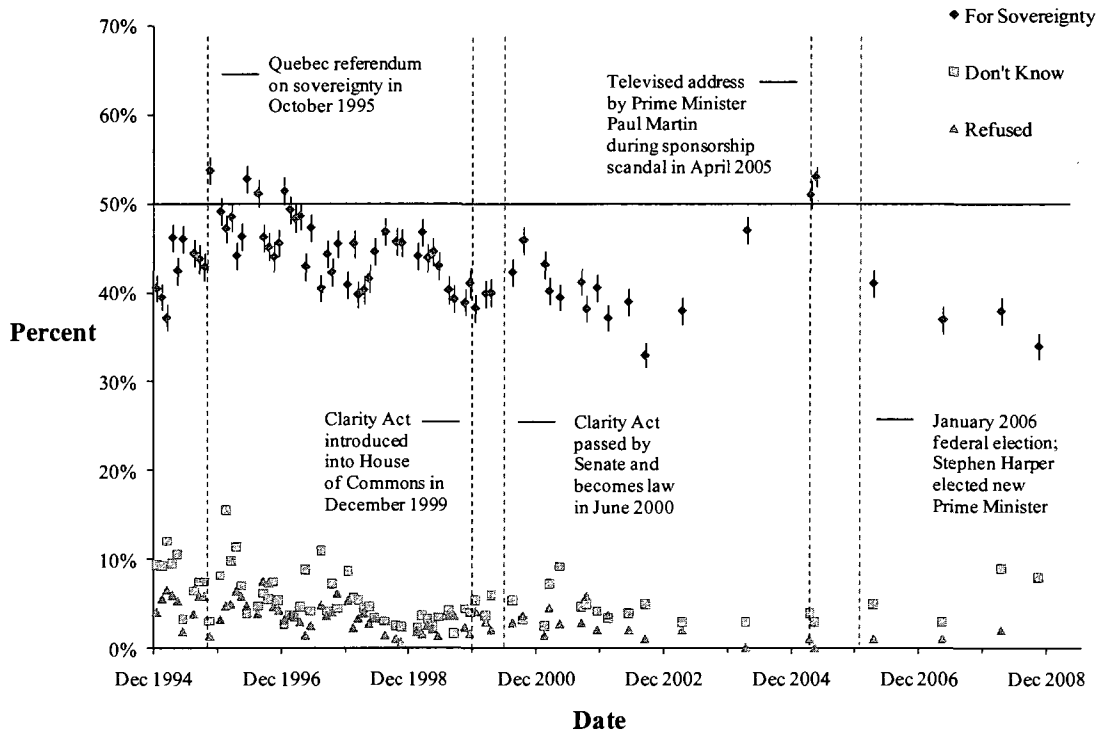
While a large minority of Quebeckers likely had no opinion on Kosovo, the vast majority of Quebeckers generally do have opinions on the larger issue of sovereignty. Historically, Quebeckers have turned out in large numbers to express themselves on the subject: in the 1980 referendum, 86% of registered voters cast a ballot, while in the 1995 referendum, 94% of registered voters did so.[115] And despite the time that has elapsed since the 1995 referendum, Quebeckers can still be said to have stable, well formed opinions about sovereignty, at least in the aggregate.[116]

Figure 2.1 shows trends in sovereignty voting intentions from December 1994 through November 2008 based on Léger Marketing tracking surveys. During this time, support

[114] Angus Reid Strategies (2008). The firm asked another question regarding whether people thought the case of Kosovo was unique, but the wording is such that it is very hard to interpret.
[115] Directeur Générale des Elections du Québec (2008b). For comparison, participation rates in the two provincial elections preceding these referendums in 1976 and 1994 were 85% and 82%, respectively. Participation in the subsequent 1998 provincial election was 78%; in the 2007 election the participation rate was 71% and in the recent December 2008 election it was only 57%.
[116] For forceful concerns about drawing conclusions from aggregates in surveys, see Althaus (2003).

ranged from as low as 33% to as high as 54% — from a third of the population to a majority that could in principle vote for a new state.

Figure 2.1: Percent of Quebeckers with Pro-Sovereignty Voting Intentions



Source: Léger Marketing (2008)[117] Error bars represent 95% confidence intervals for the percentage in favor of sovereignty.

After the close result in the October 1995 referendum, surveyed support for sovereignty spiked over 50% and then steadily declined. Support spiked over 50% again in 2004 and 2005 as revelations emerged about a major corruption scandal involving the governing Liberal Party's activities in Quebec. The scandal was of such gravity that in April 2005 Prime Minister Paul Martin made a nationally televised address in which he promised to

[117] Based on personal communication with Léger Marketing, the survey question used until April 2006 asked Quebeckers who they would vote on a question similar to what Quebeckers encountered in the 1995 referendum (see earlier footnote). Since April 2006, the question has read: "If a referendum on Quebec sovereignty were held today, would you vote Yes or No to Quebec sovereignty?"

hold a federal election within 30 days of a judge's report on the affair, though due to parliamentary maneuvering among the main parties the election was not held until January 2006, shortly before the report was released.[118]

Sovereignty remained a live issue in the 2007 Quebec general election, as then PQ leader André Boisclair promised to hold a referendum if his party won. The PQ subsequently lost the election and received only 28% of the vote, while the "autonomiste" Action Démocratique du Québec (ADQ) party won another 31% of the vote, partially on the strength of its promise not to hold another referendum.[119] Following its poor showing, the PQ elected a new leader, Pauline Marois, who said the party would put off talk of another referendum indefinitely. In Quebec's December 2008 elections, the PQ regained its footing with 35% of the popular vote as the provincial Liberal Party formed a new majority government with 42% of the vote. Meanwhile, support for sovereignty was approximately 34% in Léger Marketing's November 2008 tracking survey.[120]

Given this reality, sovereigntists have looked to other mechanisms for achieving their goal, with a "referendum election" of the kind described by Turp being one of them. While this might sound radical, a 2005 poll found that 48% of Quebeckers would vote for a party in a provincial election that would interpret that vote as a "mandate of achieving Quebec independence if elected."[121] Turp's comments about Kosovo therefore seem

[118] For a description of the maneuvering from the opposition side, see Flanagan (2007, pp. 228-230).
[119] Directeur Générale des Élections du Québec (2008c). As Hamilton (2007) put it, interpreting the results "...all comes down to whether you see the glass as two-thirds full, or two-thirds empty."
[120] Léger Marketing (2008). The declining frequency of polls on the subject also suggests that Quebeckers' appetite for the idea has diminished.
[121] Léger Marketing (2005).

intended to both move Quebeckers' views on sovereignty and make this scenario seem more palatable.

One way a Quebec-Kosovo analogy could change people's beliefs is by changing their views along one of the many dimensions believed to contribute to their attitudes toward sovereignty. These include Quebeckers' concerns about the economic consequences of separation, how they conceive of their identity as Quebeckers, whether they believe federalism has been fair to Quebec, and whether they believe they are adequately recognized by the rest of Canada.[122] Whether or not Quebec would be recognized after any declaration of sovereignty or independence may also be factor, though it has not been investigated in the literature to date. Given the general stability of opinion and the multitude of factors driving people's attitudes toward Quebec sovereignty, the Kosovo-Quebec analogy would have to be powerful indeed to produce a shift in Quebeckers' attitudes toward sovereignty or independence *per se*. However, if Quebeckers gather from Kosovo's experience that Quebec would be more likely than previously thought to get recognized after a unilateral declaration of independence – even one that was not preceded by a referendum – then they might lower their estimate of the costs and uncertainties associated with independence. This could in turn induce marginal voters to vote in favor of sovereignty in some future referendum or election campaign.

Experimental Design

To understand what effect the Kosovo analogy might have had, I conducted an online survey experiment with 1,201 Quebeckers. Respondents in the survey were first asked

[122] Mendelsohn (2003).

whether they would vote for sovereignty if a referendum were held today with the options being For, Against and Don't Know. This question was followed by a series of sovereignty-related questions relating to the determinants of people's attitudes toward sovereignty described above (see Appendix B for details). They were then introduced to the topic of a unilateral declaration of independence as follows:

> *One issue that sometimes arises in the debate about Quebec sovereignty is whether the international community would recognize Quebec as an independent state if it unilaterally declared itself independent from Canada without holding a referendum. We would now like to ask your views about this possibility.*
>
> *Une question qui est parfois soulevée dans le débat sur la souveraineté du Québec est de savoir si la communauté internationale reconnaîtrait le Québec comme État indépendant s'il se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum. Nous aimerions maintenant connaître votre point de vue sur cette possibilité.*

Then, under three conditions, they were asked the following question:

> *If Quebec unilaterally declared itself independent without holding a referendum, how likely do you think the international community would be to recognize Quebec's independence?*
>
> *Very likely*
> *Somewhat likely*
> *Neither likely nor unlikely*
> *Somewhat unlikely*
> *Very unlikely*
>
> *Selon vous, si le Québec se déclarait unilatéralement indépendant sans la tenue d'un référendum, quelle serait la probabilité que la communauté internationale reconnaisse son indépendance?*
>
> *Très probable*
> *Plutôt probable*
> *Ni probable ni improbable*
> *Plutôt improbable*
> *Très improbable*

In the first or *Control* condition, 382 respondents received the question as displayed above. In the second or *Sovereigntist statement* condition, 456 received a treatment in the form of the following paragraph which preceded the question itself:

> *Early last year, a sovereigntist politician suggested that if Quebec unilaterally declared itself independent from Canada without holding a referendum, it would quickly gain recognition from a lot of countries.*
>
> *Au début de l'année dernière, un politicien souverainiste a suggéré que si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, il obtiendrait rapidement la reconnaissance de nombreux pays.*

This treatment simply tells the respondent that a sovereigntist politician made such a statement.[123] The third or *Sovereigntist statement with Kosovo analogy* condition presented 363 respondents with the same paragraph supplemented by the phrase "just like Kosovo did" as follows:

> *Early last year, a sovereigntist politician suggested that if Quebec unilaterally declared itself independent from Canada without holding a referendum, it would quickly gain recognition from a lot of countries, just like Kosovo did.*
>
> *Au début de l'année dernière, un politicien souverainiste a suggéré que si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, il obtiendrait rapidement la reconnaissance de nombreux pays, tout comme l'a obtenu le Kosovo.*

This treatment is designed to identify any differential effect that the analogy might have on people's views about the likelihood of international recognition. While people's views may be moved simply by the suggestion that Quebec would receive international

[123] In designing the experiment, I used the phrase "a lot of countries" because it was used by Mr. Turp himself and because I did not want to suggest that recognition would be unanimous in the international community. I also considered highlighting certain countries that have recognized Kosovo and that would be important in Quebeckers' minds when they thought about the international community – e.g., the United States, France, and the United Kingdom. However, Mr. Turp did not mention these countries by name in his comments, and respondents might think certain countries would be exceptionally likely (e.g., France) or unlikely (the United States or the United Kingdom) to recognize Quebec under such circumstances.

recognition from a lot of countries (the first treatment), the question at hand is whether they react to it differently when we add an analogy (the second treatment).

To see if the treatments affected respondents' views about independence (as opposed to sovereignty) in general, a subsequent question asked how respondents would vote in a referendum on independence.[124] Even if people are moved by the analogy in assessing Quebec's likelihood of getting international recognition, they might not be moved in their more considered opinion on the overall question of independence – indeed, this is what the results suggest for those with opinions on sovereignty.

Respondents were then asked whether they knew Kosovo had declared itself independent the year before and how similar they thought Quebec's situation would be to Kosovo if it unilaterally declared independence. Appendix B contains the survey in both English and French (respondents chose the language in which they filled out the survey).

Data

The survey was fielded to an online panel of 1,201 Quebeckers by the firm Angus Reid Strategies (ARS) in February 2009. Panelists were recruited by ARS through a series of measures: banner advertisements across a range of websites, email direct marketing, search engine advertisements, and other marketing techniques. Selection bias in recruitment is a concern, as panelists were not recruited through random digit dialing

[124] The actual wording of the question was: "Now, if a referendum was held today on Quebec independence, would you vote for or against independence?" («Maintenant, si un référendum sur l'indépendance du Québec se tenait aujourd'hui, voteriez-vous pour ou contre l'indépendance du Québec?») with the responses being Yes, No, and Don't Know (Pour, Contre and Ne Sais Pas).

(RDD) and were limited to people with internet connections. However, this panel has been used to predict the popular vote in the last two Quebec elections within a few percentage points for each of the major political parties, suggesting that the panel produces reasonably representative results when it comes to political outcomes in Quebec.[125]

Broad Trends and Analysis

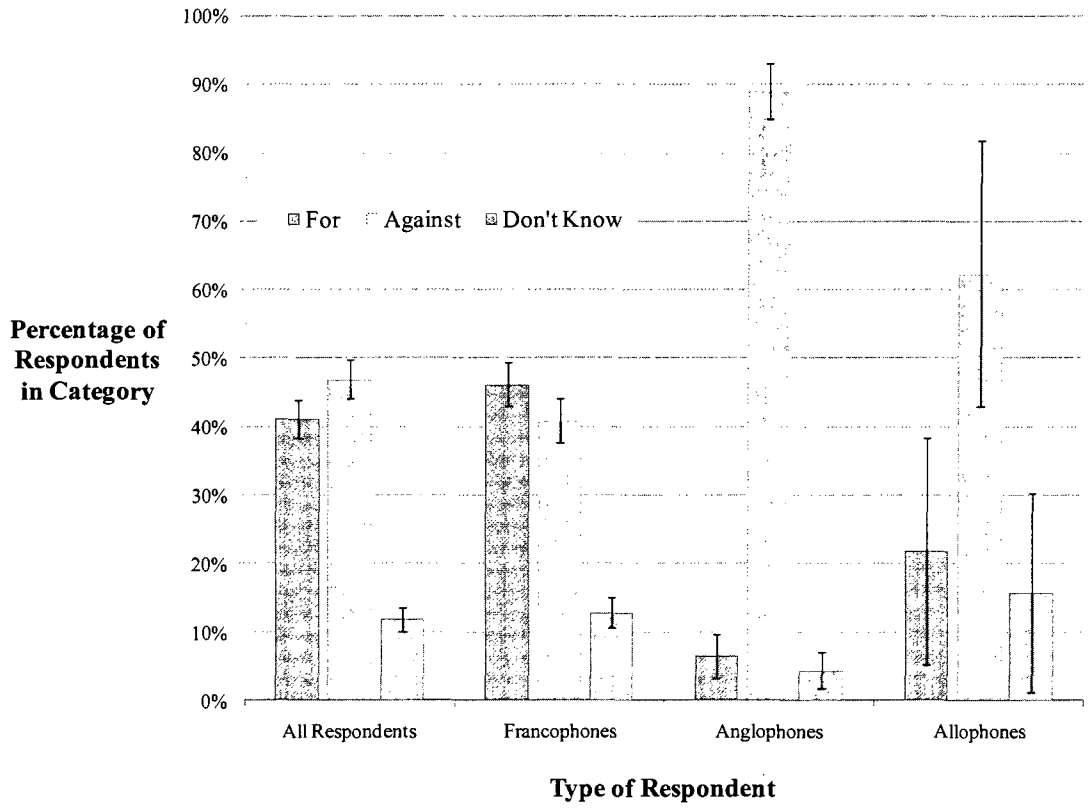
The first question on the survey was: "If a referendum were held today on Quebec sovereignty, would you vote for or against Quebec sovereignty?" with the responses For, Against, or Don't Know. Figure 2.2 shows the responses to this question among the full sample by language spoken at home: French, English or another language.

Overall, the results are broadly consistent with recent trends: support for sovereignty is approximately 41% (plus or minus 3%) with approximately 12% (plus or minus 2%) undecided.[126]

[125] For the December 2008 Quebec provincial election, ARS (2008b) predictions based on online panelists "absolutely certain to vote" several days before the election were as follows (actual results in brackets): Liberal Party of Quebec – 42% (42%); PQ – 36% (35%); ADQ – 13% (16%); Québec Solidaire – 5%(4%); and Green Party of Quebec – 2% (3%).

[126] These figures suggest that support for sovereignty may have increased significantly from November 2008 to February 2009, given Léger Marketing's November 2008 telephone survey estimate of 34% support for sovereignty. The apparent increase is mostly likely an artifact of different survey methods or other factors. However, some of it may represent a real change in the underlying level of support. After the Conservatives won another minority government in the October 2008 federal election, a parliamentary crisis occurred when the new government tabled an economic statement in November. When an opposition coalition formed in December among the opposition Liberals, NDP and Bloc Québecois to bring down the government, Conservative Prime Minister Stephen Harper requested and received permission from the Governor General to prorogue (delay) parliament until late January, at which time a new budget was proposed with a massive stimulus package. Thus, the proportion of Quebeckers willing to support sovereignty could well have increased over this short period, as the trends suggest has happened during previous episodes in which Quebeckers have been dissatisfied with the federal government's actions.

Figure 2.2: Attitudes Toward Sovereignty By Language Spoken at Home



Note: Based on responses to the question: "If a referendum were held today on Quebec sovereignty, would you vote for or against Quebec sovereignty? [For, Against, Don't Know]" Error bars represent 95% confidence intervals.

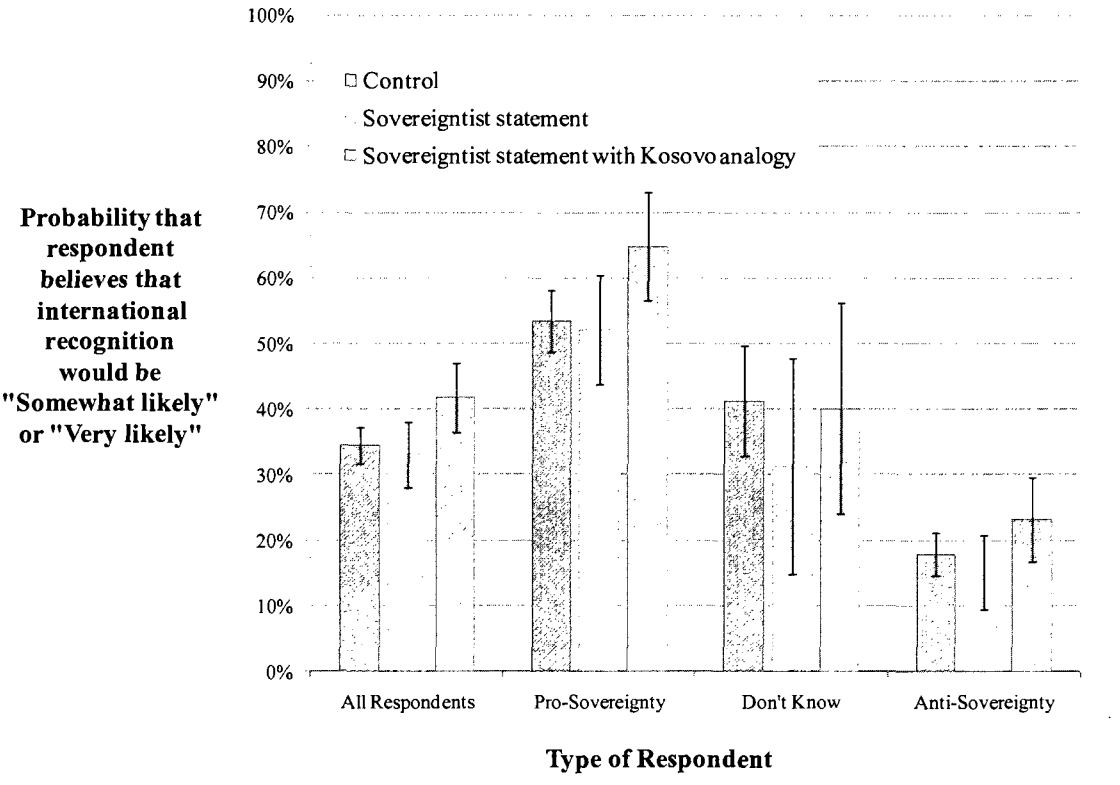
Among the francophones who comprise 79% of the population, support for sovereignty is at approximately 46%.[127] Over 20% of allophones (who comprise 12% of the population) support sovereignty, while a tiny proportion – approximately 7% – of anglophones (who comprise 8% of the population) support sovereignty. When the question is about independence, the patterns (not shown here) are essentially identical.[128]

[127] Calculations based on 2006 Census data in Statistics Canada (2007) regarding first language learned at home and still understood; survey data uses language currently spoken at home as its definition. Totals sum to 99% as they exclude the approximately 1% who speak one or more of English, French or an unofficial language.

[128] This is somewhat surprising given that past studies have identified significant question wording effects with respect to Quebec sovereignty/independence, though they appear to have diminished in recent years. See Yale (2008).

Figure 2.3 summarizes people's assessments of the likelihood of international recognition after a unilateral declaration of independence in terms of their priors about sovereignty and the experimental condition in which they were placed.

Figure 2.3: Probability of Believing Recognition Likely by Experimental Condition



Note: Based on responses to the question: "If Quebec unilaterally declared itself independent without holding a referendum, how likely do you think the international community would be to recognize Quebec's independence? [Very likely, Somewhat likely, Neither likely nor unlikely, Somewhat unlikely, Very unlikely]" Error bars represent 95% confidence intervals.

Overall, people's assessments of the likelihood of recognition appear heavily influenced by their priors about sovereignty. In the control condition 53% (plus or minus 8%) of those who are pro-sovereignty believed recognition would be either "Somewhat likely" or "Very likely". In contrast, only 18% (plus or minus 6%) of those against sovereignty

believed that recognition would be likely. Falling in between these two groups were the people who did not know how they would vote in a referendum. It is noteworthy that approximately half of those in the control condition with a pro-sovereignty orientation believed that recognition would be "Neither likely nor unlikely", "Somewhat unlikely" or "Very unlikely" – even though they might have liked to believe otherwise. Federalists, by contrast, were generally much less receptive to the idea that recognition could occur.

With respect to the experimental conditions, it appears that the simple sovereigntist statement alone had no effect on people's assessment of the likelihood of recognition, and if anything decreased it slightly. This appears true regardless of people's priors about sovereignty, which is surprising given that the statement came from an explicitly sovereigntist source. When the Kosovo analogy is added, however, it appears to have had a modest positive impact on people's assessments of that likelihood relative to both the control and statement conditions, particularly among pro-sovereigntists and perhaps among anti-sovereigntists, though not among those who are undecided about sovereignty.[129]

After the question on Quebec independence, people were asked:

> *Prior to filling out this survey, did you know that the province of Kosovo had unilaterally declared itself independent from Serbia early last year?*
>
> *Yes*
> *No*

[129] Across all respondents, the difference is 7 percentage points ($p<0.05$); across pro-sovereignty respondents it is 11 percentage points ($p<0.10$) and across anti-sovereignty respondents it is 5 percentage points ($p<0.20$), the latter not reaching conventional levels of significance.

Avant de participer à ce sondage, saviez-vous que la province du Kosovo s'était déclarée unilatéralement indépendante de la Serbie au début de l'année dernière?

Oui
Non

followed by:

If Quebec unilaterally declared itself independent from Canada without holding a referendum, how similar do you think its situation would be to Kosovo's?

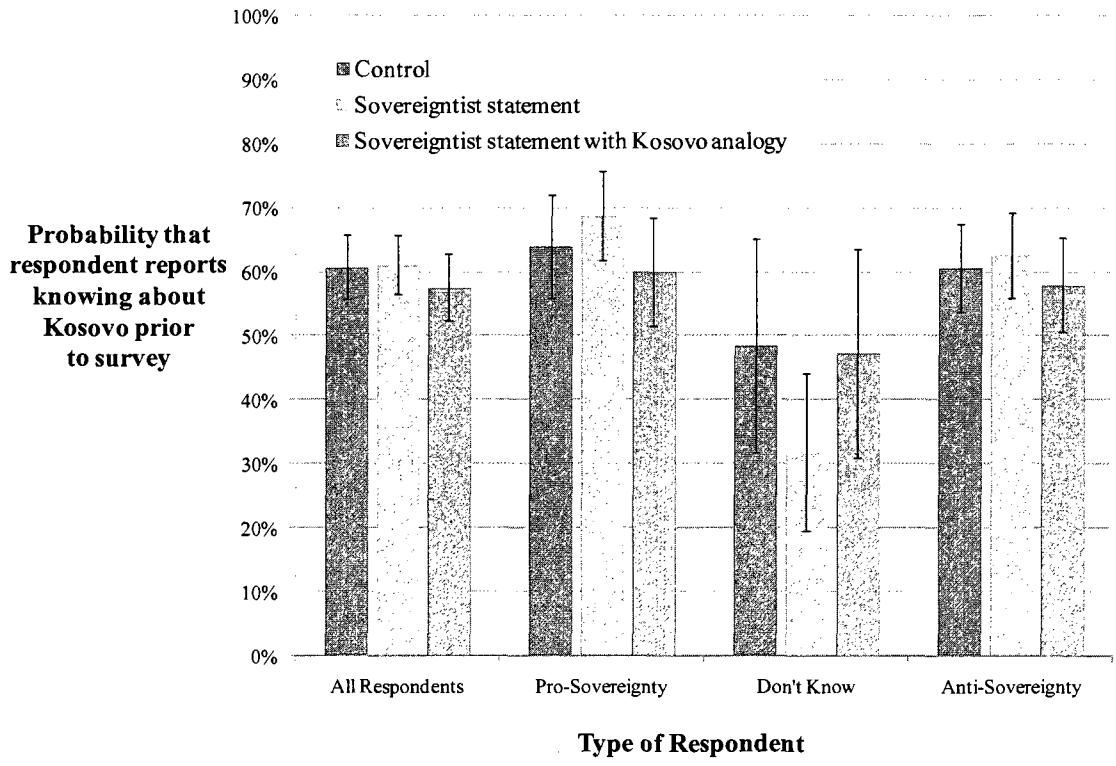
Very similar
More similar than different
As similar as it is different
More different than similar
Very different

Selon vous, si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, à quel point cette situation serait-elle similaire à celle du Kosovo?

Très similaire
Plus similaire que différente
Aussi similaire que différente
Plus différente que similaire
Très différente

Results from the first question in Figure 2.4 suggest that people's likelihood of reporting that they knew about Kosovo's declaration did not differ in a statistically significant way across the experimental conditions.

Figure 2.4: Probability of Having Heard About Kosovo by Experimental Condition



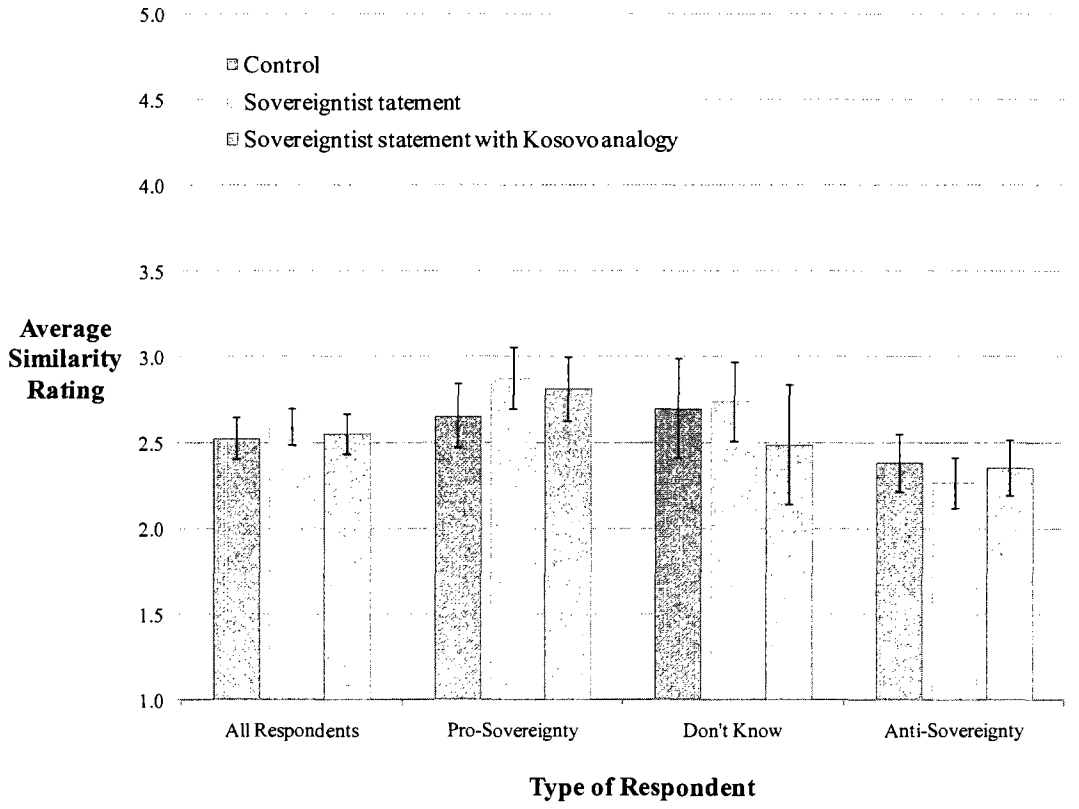
Note: Based on responses to the question: "Prior to filling out this survey, did you know that the province of Kosovo had unilaterally declared itself independent from Serbia early last year? [Yes, No]" Error bars represent 95% confidence intervals.

This is somewhat surprising, as we might have expected people in the Kosovo treatment to be more likely to believe they had heard about it.

Results from the second question in Figure 2.5 suggest that people's assessments of how similar Quebec's situation would be to Kosovo's were not significantly different across conditions either.[130]

[130] With the exception of the difference of 0.22 between the statement condition and the control condition among pro-sovereignty respondents (p=.103).

Figure 2.5: Similarity Ratings of Quebec and Kosovo by Experimental Condition

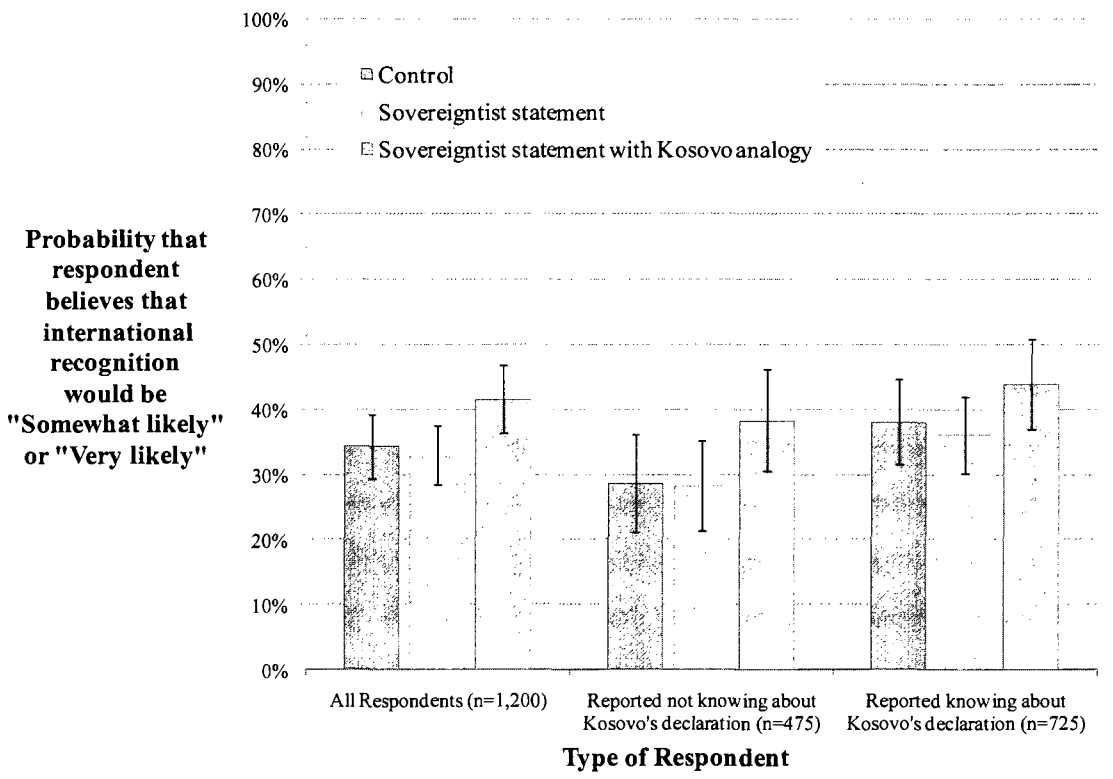


Note: Based on responses to the question: "If Quebec unilaterally declared itself independent from Canada without holding a referendum, how similar do you think its situation would be to Kosovo's? [Very different, More different than similar, As similar as it is different, More similar than different, Very similar]" Responses are indexed from a value of 1 (Very different) to 5 (Very similar). Error bars represent 95% confidence intervals.

This suggests that if the analogical treatment affected people at all, it did so by offering the analogy as a consideration, rather than by affecting people's similarity assessment of the two situations. In addition, while sovereigntists see the two situations as more similar than federalists across all conditions, on average they still seem to view the two situations as a bit more different than similar – again even though they might wish to believe otherwise. It is also striking that sovereigntists and federalists' ratings of how similar the two entities' situations would be are not very different (e.g., a difference of 0.4, in the control condition), particularly in light of the large differences in their assessments of the likelihood of recognition. Lastly, Figure 6 suggests that the broad trends associated with

the experimental treatment hold regardless of whether or not people had heard about Kosovo prior to filling out the survey.[131]

Figure 2.6: Probability of Believing Recognition Likely by Awareness of Kosovo



Note: Based on responses to the question: "Prior to filling out this survey, did you know that the province of Kosovo had unilaterally declared itself independent from Serbia early last year? [Yes, No]" Error bars represent 95% confidence intervals.

Among those who had not heard about Kosovo's declaration of independence, the mean probability that they rated Quebec's chances of international recognition as likely were significantly different from both the control group and the statement group ($p<0.10$ in both cases), despite the small sample size. This suggests that people are likely to be

[131] As Figure 4 and related discussion showed, people's tendency to report knowing about Kosovo's declaration was not generally affected by their experimental condition, making this a reasonable comparison.

affected by the Kosovo analogy when it represents genuinely new information to them. Among those who had heard about Kosovo's declarations, the Kosovo analogy produced a statistically significant ($p<0.10$) effect relative to the statement condition but not relative to the control condition. However, the data trend in the same direction for both as one would expect.

To analyze these trends in more detail, I use probit regressions. For ease of exposition, I have dichotomized the assessment of whether Quebec would be likely to gain international recognition into a *Recognition Likely* variable which takes a value of 1 if respondents answered that recognition would be either "Very likely" or "Somewhat likely" and 0 if they answered "Neither likely nor unilikely", "Somewhat unlikely" or "Very unlikely". I then use binary probit regressions to analyze the determinants of people's assessments and the effects of the experimental treatments.

Table 2.2 presents benchmark binary probit regressions of the determinants of whether or not people think recognition would be "likely" as defined above. Models 1 includes only the two treatment dummies – *Sovereigntist statement* and *Sovereigntist statement with Kosovo analogy* – for all respondents plus a control for whether the respondent is non-francophone (i.e., anglophone or allophone), while models 2 and 3 add controls for people's priors about sovereignty, whether or not they knew about Kosovo's declaration, and how similar they believed the two situations would be.[132] Models 4 through 6 do the same for francophones only.

[132] Although the questions regarding having known about Kosovo's declaration and rating its similarity to Quebec came after the experimental treatments, we saw in Figures 4 and 5 that the answers to these

In Model 1, the Kosovo treatment has a modest effect – 7 percentage points – on the average respondent that is marginally statistically significant relative to the control condition but not so relative to the simple statement condition.

When I introduce the pro- and anti-sovereignty dummy variables in models 2, 3, 5 and 6, the default category becomes a respondent who said they did not know how they would vote in a referendum on sovereignty, and all effects are given relative to such a respondent. In Model 3 these controls indicate that sovereigntists are 15 (plus or minus 10) percentage points *more* likely to believe recognition would be likely than their fellow citizens who are undecided about sovereignty, while federalists are 19 (plus or minus 10) percentage points *less* likely to believe recognition would be likely. Non-francophones are still another 10 (plus or minus 8) percentage points less likely to believe recognition likely, even after controlling for their priors about sovereignty. In Model 2, the Kosovo treatment effect is slightly larger than in Model 1 and statistically significant at the 5% level relative to the control condition and at the 10% level relative to the statement condition. In Models 3, 5 and 6, the Kosovo treatment effect is significant at the 5% level relative to both the control condition and the statement only condition. Point estimates of the effect range from 12 to 14 percentage points across these models.

questions were not significantly affected by the treatment conditions when respondents are grouped together. They are therefore included as controls.

Table 2.2: Determinants of Respondents' Assessment of Likelihood of Recognition

	Dependent Variable: *Recognition Likely*					
	All Respondents			Francophones Only		
Marginal Effects	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pro-sovereignty		0.18***	0.15**		0.18***	0.14**
		(0.05)	(0.05)		(0.05)	(0.05)
Anti-sovereignty		-0.19***	-0.19***		-0.18***	-0.17***
		(0.05)	(0.05)		(0.05)	(0.05)
Anglophone or Allophone	-0.21***	-0.09*	-0.10*			
	(0.03)	(0.04)	(0.04)			
Knew about Kosovo			0.10**			0.10**
			(0.03)			(0.03)
Similarity of Quebec and Kosovo			0.10***			0.11***
			(0.01)			(0.02)
Sovereigntist statement	-0.02	-0.03	-0.04	-0.02	-0.04	-0.05
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Sovereigntist statement with Kosovo analogy	0.07+	0.08*	0.08*	0.08*	0.09*	0.09*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Difference between Sovereigntist statement and Sovereigntist statement with Kosovo analogy	0.09	0.11+	0.12*	0.10+	0.13*	0.14*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Observations	1201	1201	1198	930	930	928

Notes: Dependent variable = 1 if respondent believes recognition would be "Somewhat likely" or "very likely" and 0 if otherwise. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. Effects statistically significant at +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.

Simply having known about Kosovo's declaration made people more likely to think recognition was likely – an encouraging result which mirrors the effects of the treatment itself on those who had *not* heard about Kosovo before. Not surprisingly, how similar people thought the two situations were had a large impact on their assessments of the

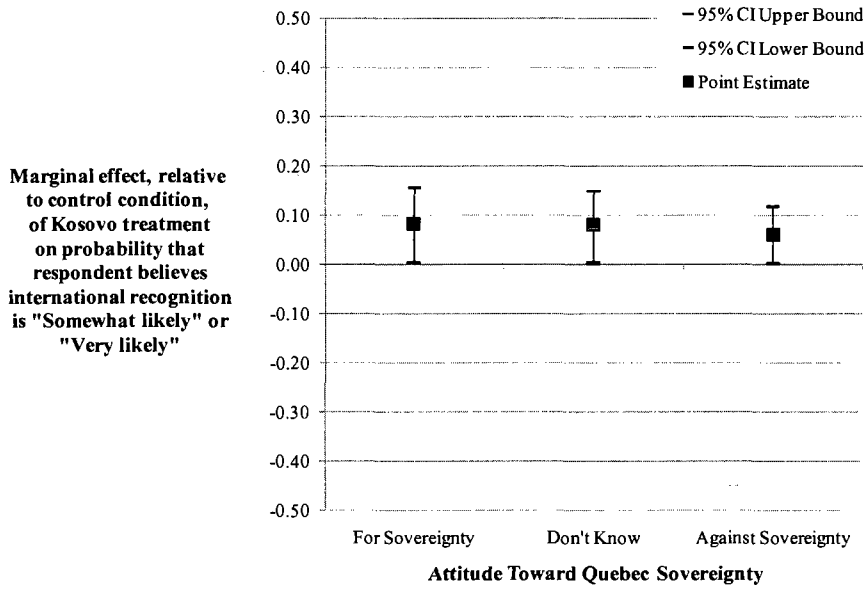
likelihood of recognition: in this case, moving one point along the 5-point similarity scale made people 10 (plus or minus 2) percentage points more likely to think recognition for Quebec would be likely in the event of a unilateral declaration of independence without a referendum. The findings are all substantially the same when we limit the sample to francophones in models 4 through 6.

In summary, these results suggest that the Kosovo analogy did have on average a modest positive impact on people's assessment of the likelihood of recognition, relative to both the control condition and the same statement without the analogy. However, these effects are all calculated at sample means, which makes their interpretation somewhat problematic – sample means here represent a person who is roughly "half" sovereigntist and approximately 80% francophone. Given that francophones are the majority of the population, a better question is to ask how francophones would respond to the treatments given certain priors (or lackthereof) about sovereignty. Figures 2.7 through 2.10 therefore present, from Model 3, how the predicted probability of respondents choosing "likely" changes when the Kosovo analogy is used relative to both the control and statement groups at 95% and 90% confidence levels.[133] These figures are based on simulations and assume a hypothetical francophone who is either for, against, or undecided about sovereignty. They provide a benchmark of effects by prior before we introduce an interacted model of the treatment effects in Table 2.3 and figures 2.11 through 2.14.[134]

[133] Calculated using Tomz, Wittenberg and King's (2001) Clarify program as described in King, Tomz and Wittenberg (2000).

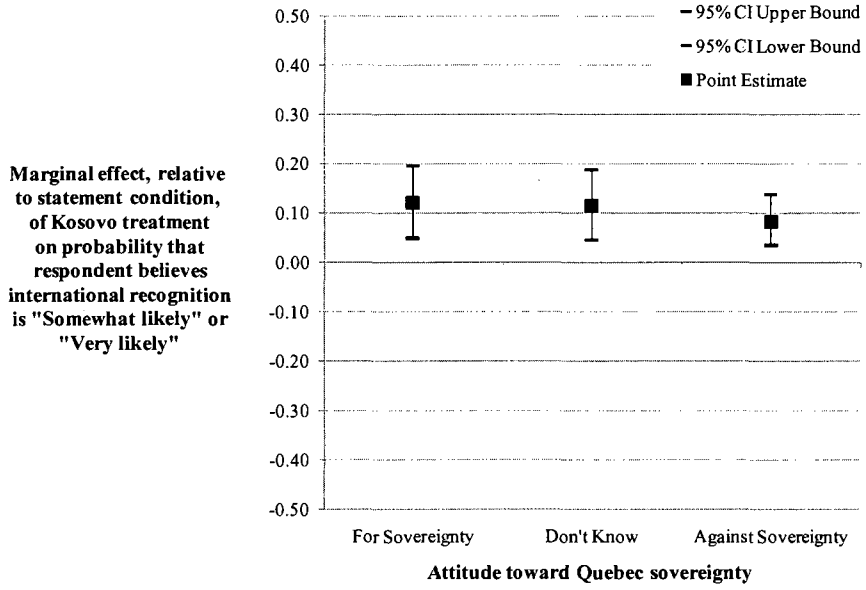
[134] The model generally constrains the marginal effects to be the same for all respondents, though they do vary slightly because a person's attitude toward sovereignty has a large impact on their predicted probability of believing recognition likely, and hence the size of the marginal effect due to the probit model's sigmoidal link function.

Figure 2.7: Effect of Kosovo Treatment Relative to Control Excluding Interactions



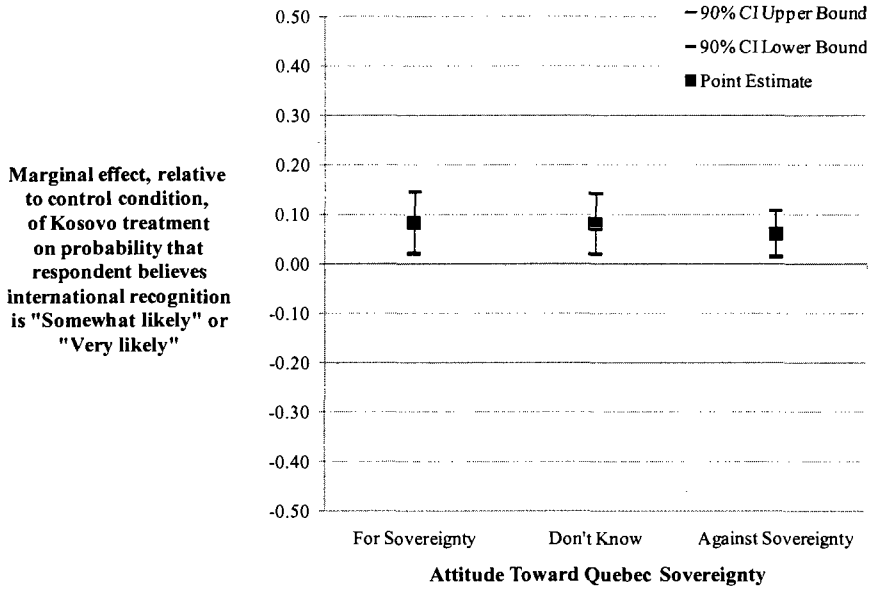
Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.8: Effect of Kosovo Treatment Relative to Statement Excluding Interactions



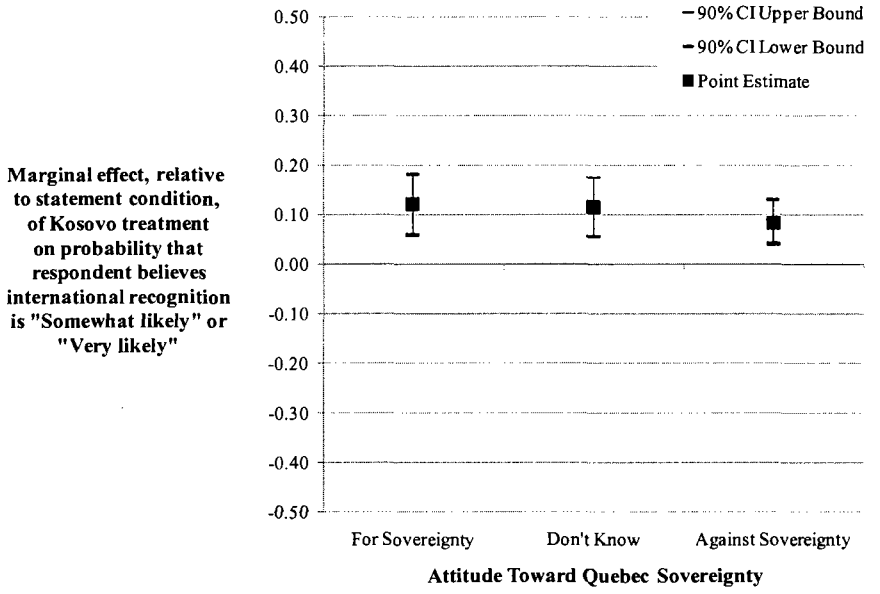
Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.9: Effect of Kosovo Treatment Relative to Control Excluding Interactions



Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.10: Effect of Kosovo Treatment Relative to Statement Excluding Interactions



Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

These figures show that when we assume constant effects regardless of people's priors, the Kosovo analogy treatment has a modest positive impact on people's assessment of the likelihood of recognition that is statistically significant at both the 5% and 10% levels – essentially the same as when sample means were used in the table above.[135]

Given that people's priors about sovereignty seem to affect their assessments of the likelihood of recognition, we should also entertain the possibility that their responses to the treatments might differ according to their priors, especially since the two treatments discuss a statement made by a sovereigntist politician. We might find, for instance, that the Kosovo analogy affects sovereigntists' views but not those of federalists. Table 2.3 therefore presents marginal effects for binary probit regression models that allow the treatment effects to vary based on whether people are for, against, or undecided about sovereignty. As before, we are interested in whether the analogy has a substantively and statistically significant effect for each group, rather than whether the effects are significantly different from one another across groups.[136] The table therefore shows the marginal effects associated with the components of the model and their standard errors, while Figures 2.11 through 2.14 show the simulated marginal effects of interest from Model 3 in the table as before – again using our hypothetical francophone – using 95% and then 90% confidence intervals.

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[135] It is also worth noting that, given that the *Sovereigntist statement* treatment alone had if anything a negative impact on people's likelihood assessment, the Kosovo analogy produces a greater difference when compared to that treatment as opposed to the control condition.

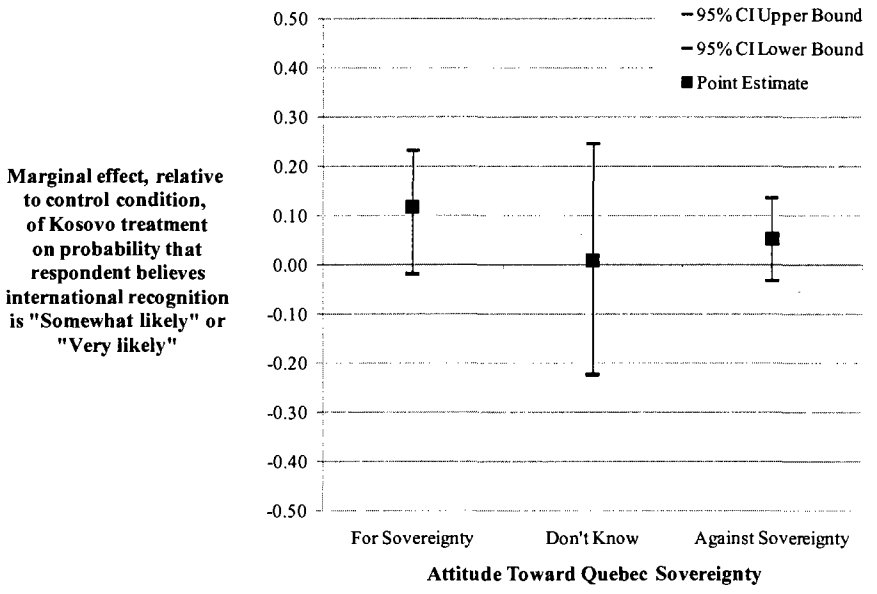
[136] That is, the interaction terms themselves are not of immediate interest. As has been well documented (e.g., Kam and Franzese [2007, p.20]) recently, when using interaction terms it is often misleading to speak of "main" and "interaction" effects, as there is often no "main" outcome to consider; we are often interested in simply understanding what the effects are for each group, as we are here. The standard errors associated with these conditional effects are specific to the quantities of interest and are not captured by the marginal effects or standard errors associated with the component terms of the model.

Table 2.3: Determinants of Respondents' Assessment of Likelihood of Recognition

	Dependent Variable: *Recognition Likely*					
	All Respondents			Francophones Only		
Coefficients	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pro-sovereignty		0.11	0.10		0.10	0.09
		(0.09)	(0.09)		(0.10)	(0.10)
Anti-sovereignty		-0.24**	-0.23**		-0.22*	-0.21*
		(0.08)	(0.09)		(0.09)	(0.09)
Anglophone or Allophone	-0.21***	-0.09*	-0.10*			
	(0.03)	(0.04)	(0.04)			
Knew about Kosovo			0.10**			0.10**
			(0.03)			(0.03)
Similarity of Quebec and Kosovo			0.10***			0.11***
			(0.01)			(0.02)
Sovereigntist statement	-0.02	-0.10	-0.08	-0.02	-0.12	-0.11
	(0.04)	(0.10)	(0.10)	(0.04)	(0.11)	(0.11)
Sovereigntist statement X Pro-sovereignty		0.09	0.05		0.12	0.08
		(0.12)	(0.12)		(0.13)	(0.13)
Sovereigntist statement X Anti-sovereignty		0.06	0.05		0.06	0.06
		(0.12)	(0.12)		(0.13)	(0.14)
Sovereigntist statement with Kosovo analogy	0.07+	-0.01	0.01	0.08*	0.02	0.03
	(0.04)	(0.11)	(0.11)	(0.04)	(0.12)	(0.12)
Sovereigntist statement with Kosovo analogy X Pro-sovereignty		0.12	0.10		0.11	0.09
		(0.13)	(0.13)		(0.14)	(0.14)
Sovereigntist statement with Kosovo analogy X Anti-sovereignty		0.08	0.06		0.05	0.03
		(0.13)	(0.13)		(0.14)	(0.14)
Observations	1201	1201	1198	930	930	928

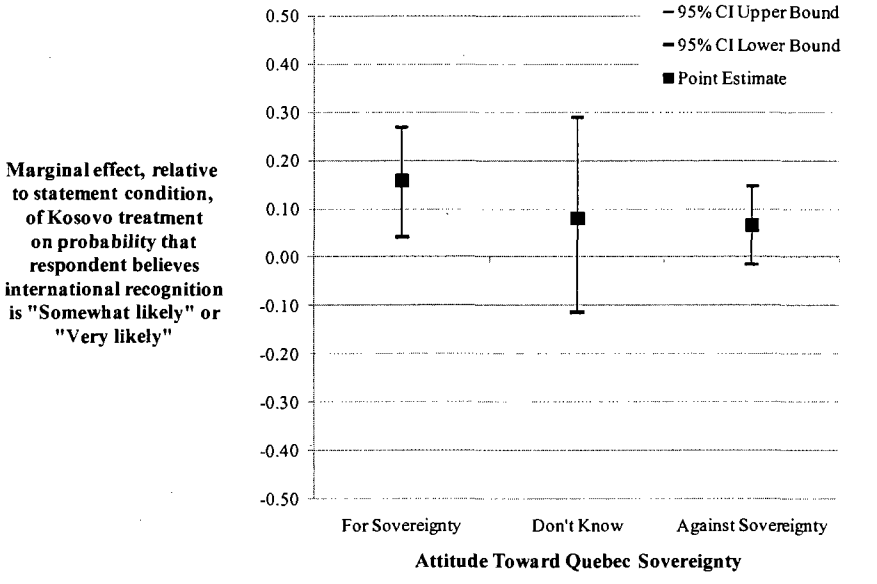
Notes: Dependent variable = 1 if respondent believes recognition would be "Somewhat likely" or "very likely" and 0 if otherwise. Marginal effects are shown with robust standard errors in parentheses. Individual coefficients statistically significant at +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.

Figure 2.11: Effect of Kosovo Treatment Relative to Control Including Interactions



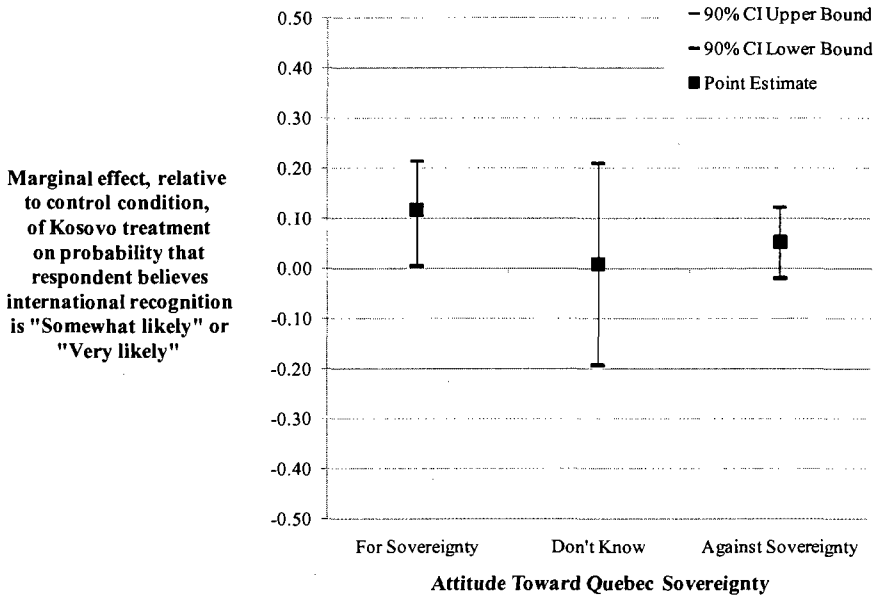
Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.12: Effect of Kosovo Treatment Relative to Statement Including Interactions



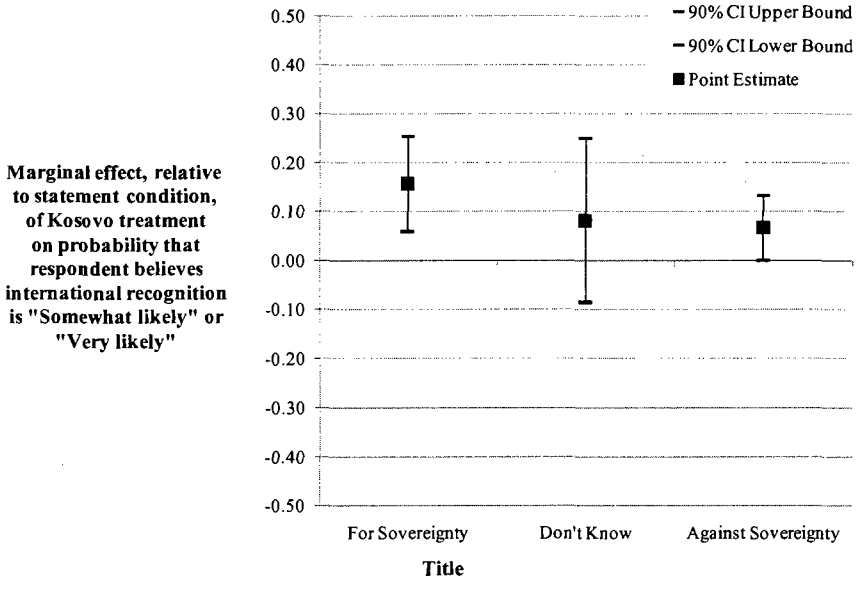
Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.13: Effect of Kosovo Treatment Relative to Control Including Interactions



Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

Figure 2.14: Effect of Kosovo Treatment Relative to Statement Including Interactions



Note: The marginal effects shown represent the simulated change in predicted probabilities in each case. Each simulation assumes a francophone who has not heard about Kosovo and believes Quebec's situation in the circumstances described would be "as similar as it is different" to Kosovo's.

The figures answer the question of interest: whether the treatments effects are different from zero under each prior.[137]

Table 2.3 shows that, once interaction terms are included, the basic effect of being pro-sovereignty absent any of the treatments – again, relative to someone in the "Don't Know" category – is no longer significant, and its magnitude of 0.10 in Model 3 is a third less than the 0.15 in the comparable noninteracted Model 3 of Table 2.2. In contrast, the magnitude of the marginal effect of being anti-sovereignty grows by 0.04, or approximately 20%, in the interacted model compared to the noninteracted model. Thus, when we specify the model with interactions and consider people who did not receive one of the two treatments, the magnitude and precision of the estimate of pro-sovereignty effect on one's judgment about the likelihood of recognition decrease relative to the noninteracted model while the magnitude and precision of the estimate of the anti-sovereignty effect increase. The estimated effects of the other control variables remain substantially the same as before.

The figures suggest that priors do indeed matter when it comes to the effects of the treatments.[138] In particular, Figure 2.11 suggests the Kosovo treatment has an effect on

[137] The marginal effects associated with the interaction terms, in contrast, answer the different question of whether or not the treatment effects are statistically different from one another. This is not the question of interest here. Note, however, that with the default category being those in the "Don't Know" category, the "Sovereigntist statement" and "Sovereigntists statement with Kosovo analogy" effects are those for people in this category relative to the control condition. The effects associated with the interaction terms represent how much these base treatment effects change when the respondent is pro- or anti-sovereignty. Note also that these effects can be statistically insignificant while the overall effect of the treatment for a pro- or anti-sovereignty respondent can be sizeable and statistically significantly different from zero, as the figures illustrate.

[138] These effects must still be simulated as standard errors of different terms are combined in their calculation and effects also depend on the values of the other independent variables at which they are calculated.

our hypothetical francophone sovereigntist of a magnitude very similar to that in Figure 2.7, though this time it is not quite statistically significant at the 5% level. Relative to the statement treatment, however, the effect of the Kosovo analogy does pass the 5% threshold with francophone sovereigntists.

The effect of the Kosovo treatment on francophones who are undecided about sovereignty is much more ambiguous – given the low number of people in this category, statistical power is low and confidence intervals are wide. The effect itself is close to zero relative to the control in Figures 11 and 13, and modestly positive relative to the statement treatment in Figures 12 and 14. Given that messages such as these might be directed at precisely these types of people, it is most interesting that they do not appear to have any effects. As we saw earlier, people who have not yet made up their minds about sovereignty generally fall between the two opposing sides in their views, and in this sample they appear fairly immune to the persuasive appeals – analogical or otherwise – of sovereigntists.

What is perhaps most surprising is that the Kosovo analogy seems to have an effect on federalists relative to the statement treatment at the 10% level of significance and approaching that level ($p=0.20$) relative to the control condition. Given that the source and thrust of the Kosovo message goes against their priors on the issue, federalists are still moved as sovereigntists are, though the magnitude of the movement is about half that of sovereigntists. This finding lends support to the idea in the psychology literature that analogies lead people to make inferences about target phenomena even when they are

unpalatable ones – in short, that "resistance is futile".[139] As a robustness check, Appendix C calculates these effects in terms of ordered probit regressions and finds the same general pattern of results. Overall, these results suggest that the Kosovo analogy likely had a significant effect on the likelihood assessments of those who had formed opinions about sovereignty.

What about the larger issue of sovereignty or independence? As mentioned earlier, respondents were asked how they would vote in a referendum on sovereignty after the questions about the likelihood of recognition in the absence of a referendum. In Appendix C, I find that while the treatments had no effect whatsoever on people who had formed opinions about sovereignty – their views about sovereignty and independence were very consistent with one another – there is small-sample evidence to suggest that the Kosovo analogy made those undecided about sovereignty more likely to report they would vote *for* independence.[140] In sum, the pattern of effects of the Kosovo analogy for those with opinions – some movement on the likelihood assessment, none on the larger issue – was reversed among those who didn't know how they would vote for sovereignty. This suggests that the debate about Quebec and Kosovo was more useful to sovereigntists in moving the marginal voter than the earlier results suggest, and also that those marginal

[139] Perrott, Gentner and Bodenhausen (2005); Blanchette and Dunbar (2002).

[140] That people's opinions about sovereignty and independence were both consistent and unaffected by the treatments seems plausible – one expects that it would take more than a few survey questions to alter people's views on this important and contested subject. On the other hand, however, it is possible that the structure of the questionnaire and the method used prevented any effects from taking place. While the experiment was a between-subjects design, that the question about sovereignty was asked early on followed by a similar question about independence gives it aspects of a within subjects design. As Kahneman and Frederick (2005) discuss, such designs are more transparent to the respondent. People may also simply wish to appear consistent in their opinions across the two subjects. If this is the case, then one can imagine that a differently designed experiment could yield changes across subjects in their attitudes about independence. Given the modest effects of the treatments on the likelihood of recognition question, however, this seems unlikely.

voters were moved less by the details of the argument than by a potentially larger message about the feasibility of separation.

Discussion

How significant is it that, on average, the Kosovo analogy made people roughly 10 percentage points more likely than those in either the control or statement conditions to view international recognition as "somewhat likely" or "very likely" under the circumstances described?

Certainly there are reasons to be cautious about these results. The main criticism would be that people were unlikely to have well-formed attitudes about this particular issue, and hence have more malleable opinions on this subject than others of interest for which elites use analogies to persuade the public. While this is true, it is striking that merely having known about Kosovo made people think recognition would be more likely. More importantly, the analogy was debated precisely because politicians on both sides thought it might affect how people's views – whether lightly considered at the time or not – would evolve in future, and that that evolution could have consequences. Clearly sovereigntists have at least contemplated how a "referendum election" campaign might work and how Kosovo might be used in it. The evidence also suggests that the debate affected the views of those undecided on the larger issue of a referendum on independence, even if it did not affect their views on the likelihood of recognition in its absence.[141]

[141] A second criticism would be that people were not responding to what they knew about Kosovo per se – one could imagine observing the same effects with a treatment that used a country that had not separated

Another concern is that respondents are engaging in "attribute substitution".[142] When this process is at work, respondents try to answer questions easier than the ones posed. In this case, rather than answering the question about the likelihood of recognition under the circumstances, they could be answering questions like "How likely is it that Quebec would get international recognition if it declared independence after a referendum?" or "How likely is it that Quebec will ever become independent?" If this is the case, the results are stronger rather than weaker, in that people's attitudes on larger, "easier" questions are being affected. And if the Kosovo analogy is simply making that country's case more available in memory, this is consistent with the conclusion mentioned earlier that it is functioning as a consideration in people's minds.

I believe these findings are quite significant for six other reasons as well. First, that both having heard about Kosovo's independence and the Kosovo treatment itself had distinguishable effects in the regression models on people's assessment of the likelihood of recognition suggests that the politicians' instincts to debate its importance were right – people did seem to make use of the Kosovo analogy, either consciously or unconsciously, as a distinct piece of evidence when reporting their views about the likelihood of international recognition. Whether consulting their memory or processing the stimuli online in constructing an opinion, the Kosovo analogy is one of people's considerations. Second, that they found Kosovo's experience *relevant* to Quebec's situation seems to be

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from another or with one that used non-existent country. Even if this is the case, the results suggest that merely having a past case or analog of some kind affects people's attitudes, and actually using irrelevant or fictitious countries would be sufficiently costly in the real world of politics to obviate the possibility that they would be used.

[142] Kahneman and Frederick (2002).

the victory won by proponents of this analogy. Neither those who knew about Kosovo before nor those who received the treatment thought the two entities' situations were any more similar than those who did not – indeed, they thought them *less* similar if anything.[143] Where people did see similarities, however, they seemed to think them important and relevant despite the many differences they saw at the same time. That is, they appear to weight the similarities or the importance of the Kosovo case more heavily than they did before.[144] Third, that the analogy had an effect where the statement alone did not tells us something about analogies as frames: merely having a sovereigntist asserting that Quebec would receive recognition from a lot of countries moves no one; having this assertion framed as a parallel to Kosovo's experience, however, does appear to move people. Having a precedent seems to matter. Fourth, the suggestive evidence for a reduced but distinguishable effect among those opposed to sovereignty suggests that even people motivated to ignore an analogy's implications might be moved by it.

Fifth, we observe these effects even though Kosovo has only received recognition from "a lot of countries" and still has an ambiguous status in the international community. While this ambiguity was surely not salient to all or even most respondents, the analogy might have been more powerful if it could have been said that Kosovo had been admitted to membership in the United Nations as Montenegro has been.[145] Sixth and finally, these effects are notable because of the contexts in which they might make their importance felt: single-issue referendum or election campaigns. If Quebec sovereignty were the only

[143] Analysis not shown here.
[144] Nelson, Oxley and Clawson (1997).
[145] In retrospect, I also should have asked respondents if they had heard about Montenegro's referendum and/or declaration of independence to see if that reduced people's tendency to see recognition as "likely".

question on the ballot in a referendum or the only issue on which people would decided their vote in a "referendum election", then an analogy which, like the Kosovo one, has the potential to sway not just the faithful but also to some extent the opposition could have large, long-term consequences when packaged with other arguments. And in circumstances such as these, the fact that the Kosovo analogy appeared to move people with respect to a newly formed attitude makes it more, not less relevant. Framing effects are generally of interest to social scientists because they are often thought to shape and change people's attitudes at an early stage. Public opinion fluctuated significantly during the 1995 referendum campaign and also during Canada's 1988 election, which was overwhelmingly about the Free Trade Agreement.[146] When the electorate is making one-time, largely irreversible decisions under uncertainty, analogies might matter a great deal.

While these results suggest analogies could matter, they may not always matter on their own. As Chong and Druckman have pointed out, framing effects are typically identified – as they were in this experiment – in the absence of opposing frames.[147] The Kosovo analogy might not have produced any effects if respondents had been presented with an explicitly federalist view that Kosovo's situation was "very unique". Sovereigntists and federalists alike could have been struck by the analogy but then remained unmoved after they acknowledged the many differences between the two entities. However, that people who had heard about Kosovo's declaration generally rated Quebec's likelihood of recognition higher suggests this is unlikely to be the case.

[146] CBC (2005); Johnston, Blais, Brady and Crête (1992).
[147] Chong and Druckman (2007).

Conclusion

This experiment shows that analogies can have effects on citizens' political views that are distinguishable from other persuasive statements, and to the best of my knowledge, it does so with respondents more representative of the general population than those that have been used to date in other experiments finding such effects. In this paper, adding an analogy to Kosovo in a persuasive statement changed people's views where the persuasive statement alone did not. While the analogy did not affect people's deeply held views on independence, it did move their views on a dimension that is quite relevant to this larger issue. Given that analogies are often used in high stakes campaigns regarding one-time decisions, these are significant findings.

CHAPTER 3:

DO GREAT DEPRESSION ANALOGIES AFFECT POLITICAL AND ECONOMIC ATTITUDES?

In the last chapter I presented evidence that an analogy could affect political attitudes, albeit under limited circumstances. In this chapter I examine whether an analogy can affect another set of attitudes; I look at whether Quebeckers' attitudes toward government stimulus spending and their confidence in the economy are affected when they encounter an analogy to the Great Depression. Surprisingly, the analogy has no effect on either type of attitude. When people were introduced to questions on these subjects with a statement suggesting that the current financial crisis is like the one that precipitated the Great Depression, their attitudes were not significantly different from those reported when they encountered similar introductions without the analogy. This is likely because their attitudes toward both are well established and affected in large part by their personal characteristics and economic circumstances, rather than abstract appeals to historical periods, however important they might have been.

Background

We use analogies when we face uncertainty, and political and economic uncertainty have been the rule rather than the exception in Canada and Quebec recently. As the financial crisis was unfolding in 2008, Canada held a federal election on October 14th in which Prime Minister Stephen Harper and the Conservative Party were re-elected with another minority government. Given the timing of the election, the main campaign issue was the

economy and whether or not the federal government should run a budget deficit.[148] All of the major political parties initially committed themselves to balanced budgets as the federal government had done over the previous decade with both Conservative and Liberal governments. The opposition Liberals said they would not run deficits, but key media coverage suggested they were wavering on the issue, especially since they had difficulty explaining their "Green Shift" tax plan.[149] In contrast, the Conservatives said they would not run a deficit under any circumstances.[150]

The financial crisis also precipitated a provincial election in Quebec. Premier Jean Charest called an election for December, claiming he needed a "clear mandate" to govern Quebec through the coming "economic storm", as he had only a minority government at the time.[151] Charest and his Liberal Party subsequently won a majority government in Quebec, giving him a third term as Premier.

After the federal election and just before the Quebec election was held, there was a federal parliamentary crisis. On November 27th, the newly elected Conservatives tabled an economic statement in Ottawa's House of Commons. The statement projected budget surpluses of Cdn$0.1 billion in 2009-2010 and 2010-2011, and up to Cdn$8.1 billion in 2013-2014.[152] However, it emphasized that, despite its projection of surpluses "...balanced budgets [could not] be guaranteed."[153] At the same time, the statement also

[148] On the economy as the most important issue, see Clarke, Kornberg and Scotto (2009, pp. 263-264).
[149] Clark (2008); CBC News (2008a).
[150] CBC News (2008b). The Conservative Party of Canada's (2008) campaign platform also indicated cumulative surpluses of Cdn$8 billion from 2008-2013.
[151] CBC News (2008c).
[152] Department of Finance Canada (2008, p. 82).
[153] Department of Finance Canada (2008, p. 82).

proposed removing large public subsidies to political parties beginning in April 2009.[154] In response to the statement, the opposition Liberal Party, New Democratic Party (NDP), and Bloc Québecois signed an agreement on December 1st according to which, following a successful non-confidence motion in Parliament, the Liberals and NDP would form a coalition government which would be supported by the Bloc.[155] Prime Minister Harper subsequently sought permission from the Governor-General to "prorogue" (i.e., delay) parliament until January, at which time his government would introduce a new budget. Harper's request was a rare move, and the Governor General subsequently granted his request.[156] Soon after, the Liberal Party replaced its leader Stéphane Dion with interim leader Michael Ignatieff, who subsequently abandoned his party's threat to form a governing coalition with the NDP supported by the Bloc. Then on January 27, the Conservatives tabled a new budget that included a massive stimulus package and projected budget deficits of Cdn$33.7 billion (approximately 2% of GDP) for fiscal 2009-2010, Cdn$29.8 billion in 2010-2011, and a surplus of $0.7 billion in 2013-2014.[157] The cumulative fiscal projection for 2009-2011 had changed from a surplus of $0.2 billion to a deficit of $63.5 billion.

In the space of four months, Canadians elected a new government, nearly saw it fall within two months of being elected, encountered the possibility of a new governing coalition, and then saw it disappear when one of the main parties changed leadership. Over the same period, the federal government went from projecting budget surpluses to

[154] Department of Finance Canada (2008, p. 51).
[155] For a summary of these events, see Dornan (2009).
[156] Indeed, the Canadian media referred repeatedly to the 1926 King-Byng affair as it searched for an analogy to help make sense of the crisis.
[157] Department of Finance Canada (2009, p. 202).

implementing a stimulus package and projecting significant budget deficits for the first time in 10 years. Quebeckers, meanwhile, also elected a new government to deal with the unfolding economic crisis. For Quebeckers in particular, these circumstances seem to fairly represent the conditions of uncertainty under which people are traditionally thought to resort to analogies to make judgments about matters of all kinds. They faced uncertainty with respect to the economic prospects of their families, their province and their country, along with political uncertainty rarely seen in Canada.

Do Analogies to the Great Depression Affect Political Attitudes?

During this time, the economic crisis and the uncertainty surrounding it were sufficiently grave that media reports in Canada (as well as the United States) were full of analogies to the Great Depression, as Table 3.1 illustrates on the next page. [158]

As with the debate over Kosovo, there was considerable disagreement over whether the analogy was an appropriate guide to the situation. But its prominence in the headlines alone suggests that it was an organizing concept in the thinking of many. And as before, the question is: did this analogy affect people's attitudes? Below I outline reasons why we might expect Depression analogies to affect people's attitudes toward the stimulus package and the economy.

[158] As Paul Krugman (2008) wrote in his blog in November 2008: "The reason we're making analogies with the Great Depression...is the collapse of policy certainty."

Table 3.1: Selected Media Headlines Highlighting Analogies to the Great Depression

Date	*Headline*	*Source*	*Type*
Sept. 15, 2008	Wall Street in crisis: 'This rivals 1929'	*Financial Post*	Commentary[159]
Sept. 19, 2008	Great Depression allusions unfounded	*Montreal Gazette*	Commentary[160]
Sept. 27, 2008	Congressmen fear new Depression more than the details of a bailout	*Montreal Gazette*	News[161]
Oct. 7, 2008	Talk about Great Depression surges	*Montreal Gazette*	News[162]
Nov. 22, 2008	No new New Deal; The current financial crisis has been erroneously compared to the Great Depression – an episode we seem to have learned little from	*Financial Post*	Commentary[163]
Jan. 3, 2009	Not quite the 1930s	*National Post*	Commentary[164]
Jan. 15, 2009	Deflation isn't the problem; The problem is that people are scared to death of the imminent return of the Great Depression	*Financial Post*	Commentary[165]
Jan. 29, 2009	The great recession?	*Montreal Gazette*	News[166]
Feb. 6, 2009	Scary job numbers for sure, but it's no Depression.	*Globe and Mail*	Commentary[167]
Sept. 15, 2008	La crise devrait être moins grave que celle de 1929	*La Presse (Agence-France Presse)*	News[168]
Sept. 16, 2008	Du jamais vu depuis la Grande Dépression	*La Presse*	Commentary[169]
Sept. 26, 2008	À des années-lumière de la Grande Dépression	*La Presse*	Commentary[170]
Oct. 9, 2008	Pas 1929, 1873!	*Le Devoir*	Commentary[171]

[159] Tedesco (2008).
[160] Delean (2008).
[161] Ferraro (2008).
[162] The Gazette (2008).
[163] Hanke (2008).
[164] Levant (2009).
[165] Watson (2009).
[166] Johnston (2009).
[167] McKenna (2009).
[168] Agence-France Presse (2008c).
[169] Picher (2008b).
[170] Picher (2008a).
[171] Robitaille (2008).

Date	*Headline*	*Source*	*Type*
Oct. 9, 2008	Roosevelt, au secours!	*L'Actualité*	Commentary[172]
Nov. 6, 2008	La récession américaine n'a pas l'ampleur de la Grande Dépression.	*La Presse*	Commentary[173]
Nov. 9, 2008	Obama, president de crise, comme Lincoln et Roosevelt	*CorusNouvelles.com (Associated Press)*	Commentary[174]
Nov. 10, 2008	Jacques Ménard compare la crise actuelle à la Grande Dépression.	*Argent*	News[175]
Nov. 22, 2008	Harper: la crise potentiellement aussi critique qu'en 1929.	*La Presse canadienne*	News[176]
Nov. 27, 2008	Crise financière : pareil ou pas pareil?	*Argent*	Commentary[177]
Dec. 3, 2008	Pas de grande dépression en vue	*Les Affaires*	Commentary[178]
Dec. 7, 2008	Krugman: les leçons du passé contre la grande dépression	*La Presse (Agence-France Presse)*	News[179]
Dec. 12, 2008	La pire récession américaine depuis les années 1930	*La Presse (Agence-France Presse)*	News[180]
Dec. 12, 2008	Le FMI crainte un depression mondiale	*Argent*	News[181]
Dec. 15, 2008	Une année terrible pour les banques, aux relents de Grande Dépression	*Agence France-Presse*	News
Dec. 17, 2008	1929, vraiment?	*La Presse*	Commentary[182]
Dec. 24, 2008	FMI: il est urgent de relancer la demande pour éviter une Grande Dépression	*Le Devoir/La Presse (Agence-France Presse)*	News[183]
Jan. 5, 2009	1929 et 2008-09: de grandes differences	*La Presse*	Commentary[184]

[172] Fortin (2008).
[173] Le Cours (2008).
[174] Reichmann (2008).
[175] Argent (2008a).
[176] La Presse canadienne (2008).
[177] Germain (2008).
[178] Laflamme-Savoie (2008).
[179] Agence-France Press (2008a)
[180] Agence-France Presse (2008d).
[181] Argent (2008b).
[182] Dubuc (2008).
[183] Agence-France Presse (2008b)
[184] Fontaine (2009).

The political and economic uncertainty in Quebec and Canada were closely intertwined. From a political perspective, the main issue was whether or not the government should implement a stimulus package at the cost of budget deficits that the country had not seen in a decade. And if the public is familiar with any economic policy, it is this: in times of recession or depression, government spending can stimulate the economy.

A reasonable hypothesis is that, if Depression analogies were to have any impact on people's political attitudes, it would be to make them more supportive of this type of spending policy. Even people traditionally skeptical of this spending may view it as desirable in the present circumstances. It also an issue on which people are likely to have real and stable attitudes, given that deficit-financed stimulus spending has been the subject of much debate.

Do Analogies to the Great Depression Affect Economic Attitudes?

Great Depression analogies could also make people more pessimistic about the economy, and people's levels of optimism or pessimism with respect to the economy are typically captured in consumer confidence or sentiment indexes. In North America, the indexes most often used by the press and academy alike are the Michigan Index of Consumer Sentiment and the Conference Board's Consumer Confidence Index in the United States and the Conference Board of Canada's Index of Consumer Attitudes (hereafter the ICA).[185] These indexes have long been thought to affect how consumers and markets behave, and in recent years, they have received increasing attention from economists.

[185] In the discussion that follows, I will refer to the Canadian Index of Consumer Attitudes (ICA), as it is the measure I use in this paper.

The indexes are derived from surveys consisting of four to five questions regarding respondents' current income, prospective income, beliefs about future employment prospects in their communities, and their beliefs about whether it is generally a good time to make a major purchase. These questions typically consist of two types: questions about present conditions and questions about expectations.[186] In the case of the ICA, the questions about present conditions are:

> *Considering everything, would you say that your family is better off, the same, or worse off financially than it was say six months ago?*
>
> *Better off*
> *The same*
> *Worse off*
> *Don't know*

and

> *Do you think that right now is a good or a bad time for the average Canadian to make a major outlay for things such as a home or a car or some other major item?*
>
> *Good time*
> *Bad time*
> *Don't know*

while the questions about expectations are:

> *Again considering everything, do you think that your family will be better off*
> *financially, the same ,or worse off financially six months from now than it is now?*
>
> *Better off*
> *Same*
> *Worse off*
> *Don't know*

[186] Ludvigson (2004).

and

> *How do you feel the job situation and overall employment will be in your community six months from now? Do you think there will be more jobs, about the same number of jobs or fewer jobs than now?*
>
> *More jobs*
> *About the same number of jobs*
> *Fewer jobs*
> *Don't know*

The index numbers themselves are calculated from the proportion of positive and negative responses to each of these questions: in the case of the ICA, the percent "positive" responses are summed across the four questions, and then the sum of the percent "negative" responses across the four questions are subtracted from that total. The number 400 is then added to keep the total greater than or equal to zero, with the total then divided by some prior year's total to index it to that year (presently 2002).[187] Monthly or quarterly index numbers are then interpreted with respect to that year.

While these measures are discussed in terms of "confidence" or "sentiment", there is actually considerable debate about what they measure. For instance, the first question asks about past changes in an individual's income, such that the level of respondents choosing, for example, a positive response to this question represents a measure of *past changes* in incomes.[188] The second question about major outlays can be thought of as representing respondents' views about general economic security in the country while the third and fourth can be thought of as representing expectations about future income and future levels of employment. Given that each question asks about different phenomena, it

[187] Conference Board of Canada (2009).
[188] Côté and Johnson (1998, p. 1).

has not always been clear what they mean as a whole. However, they are often thought to measure the degree to which people believe they are facing economic uncertainty, and in some interpretations, the degree to which they will be motivated to engage in precautionary saving.[189]

Debates over what the indexes measure have dovetailed with debates about whether or not they predict consumer behavior. One of the primary questions in the literature has been whether these indexes are useful in predicting consumption behavior once other observable macroeconomic variables such as unemployment and interest rates have been taken into account. The evidence for these indexes' predictive power is generally mixed, and where researchers do find predictive power in these measures, it tends to represent only incremental improvement upon models with traditional variables.[190]

However, some researchers have argued that the longitudinal studies on which these findings are based miss the point. Akerlof and Shiller, for instance, "...conceive of the link between changes in confidence and changes in income as being especially large and critical when economies are going into a downturn, but not so important at other times."[191] Indeed, American indexes have been found to matter during "major economic or political events" during which traditional macroeconomic variables may not predict consumption and other economic behavior as well as during other times.[192] There is also some evidence to indicate that citizens' political views, informed by media coverage,

[189] Acemoglu and Scott (1994).
[190] Ludvigson (2004); Desroches and Gosselin (2004); Barsky and Sims (2006).
[191] Akerlof and Shiller (2009, p. 17).
[192] Deroches and Gosselin (2004). Also see Blanchard (1993).

may actually affect consumer sentiment, and by extension, economic behavior.[193] The Canadian index in particular seems to have robust predictive power beyond that encompassed in traditional macroeconomic variables even in longitudinal studies.[194] Two researchers note that "...the information it contains about perceptions of income may lie in its ability to convey the consumer's assessment of the general economic environment, including views regarding economic uncertainty."[195]

Given that the consumer confidence index in Canada appears to have predictive power and that major political and economic events have transpired there recently, it is a good place to ask: Do Great Depression analogies affect consumer confidence? If invoking such analogies affect people's responses to a series of questions about consumer confidence and stimulus spending, then we would have reason to believe that a link exists between analogies, attitudes, and ultimately economic and political behavior.

Experimental Design

To understand what effect Great Depression analogies might have on attitudes, I return to the online survey I conducted with 1,201 Quebeckers in February 2009, just a few weeks after the events described above.[196] In addition to asking respondents questions about sovereignty, it also asked respondents questions regarding their sentiments as consumers and their attitudes toward government stimulus spending.

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[193] De Boef and Kellstedt (2004).
[194] Côté and Johnson (1998).
[195] Ibid., p. 26.
[196] While much of the uncertainty was resolved with the passing of the budget in late January, considerable economic uncertainty remained, and speculation about a possible election continued through the first half of June 2009.

Five questions were posed to respondents toward the end of the survey. The first four questions were from the Conference Board of Canada's ICA as described above.[197] Each question was shown on a different screen, and each respondent received a different introduction to the first of these questions. The fifth question was about whether or not they supported the stimulus package. As discussed earlier, the literature has generally fallen short in identifying what, if any, differential impact analogies have on attitudes or outcomes of interest when compared with messages that are similar but not analogical. I therefore omitted a "no introduction" condition so that I could focus on the differences among the different types of introductions.

In the first or *Recession* condition, 394 respondents encountered the following paragraph before the first consumer confidence question:

> *Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the Canadian economy is in a recession.*
>
> *Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que l'économie canadienne est en récession.*

This treatment simply told the respondent that many analysts believed the country was in a recession.[198] In the second or *Severe* condition, 410 respondents encountered the following paragraph:

> *Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the financial crisis is quite severe, and that the Canadian economy is in a recession.*

[197] The questions used in the survey were adjusted very slightly for clarity.
[198] While there had been no official declarations, this was the consensus at the time. See for example Perry (2009). The Bank of Canada (2008) had said that Canada was "entering a recession" in early December.

Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que la crise financière est très grave, et que l'économie canadienne est en récession.

This paragraph simply added that analysts "believe that the financial crisis is quite severe", in addition to believing the Canadian economy is in recession. In the third or *Depression* condition, 397 respondents encountered:

Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the financial crisis is quite severe, like the one that contributed to the Great Depression in the 1930s, and that the Canadian economy is in a recession.

Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que la crise financière est très grave, comme celle qui a contribué à la Grande Dépression des années 1930, et que l'économie canadienne est en récession.

This paragraph introduced a Great Depression analogy to see if it would produce any effects on people's attitudes beyond those that might arise from merely saying that the financial crisis is "quite severe". In other words, if the analogy to the Great Depression is powerful and substantively different from saying "things are really bad", we should see it generating more pessimistic attitudes than those found when it is simply said that the country is in recession or that the financial crisis is severe. Then, following the fourth question in the consumer confidence sequence, respondents were asked:

Do you agree or disagree that the Canadian government should spend money to stimulate the economy, even if it means large budget deficits for a few years?

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Seriez-vous d'accord pour dire que le gouvernement du Canada devrait dépenser de l'argent pour stimuler l'économie, même si cela implique des déficits budgétaires importants pour plusieurs années?

Fortement d'accord
Plutôt d'accord
Ni d'accord ni en désaccord
Plutôt en désaccord
Fortement en désaccord

The question explicitly mentioned budget deficits for two reasons. First, it was a major issue in the election campaign and the focus of discussion around the late January economic statement. Second, a common (and justified) criticism of survey questions regarding people's attitudes toward economic policy is that the costs associated with a policy are rarely mentioned.[199] The phrase "even if it means large budget deficits for a few years" emphasizes that there is a tradeoff to be made.

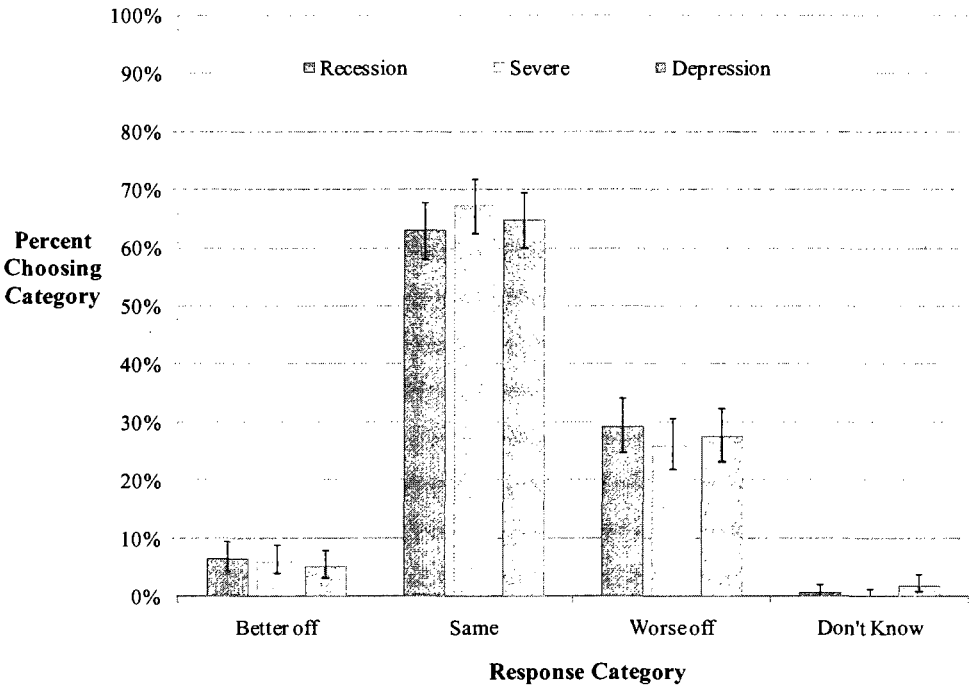
Broad Trends and Analysis

Overall, responses to the consumer confidence questions did not vary significantly across experimental conditions. Beginning with the ICA, Figures 3.1 through 3.4 show the pattern of responses by experimental treatment for each of the consumer confidence questions.

In general, neither the *Severe* nor the *Depression* treatments produced responses that were either substantively or statistically significantly different from the base *Recession* condition. The patterns of responses did not differ significantly between the *Severe* or *Depression* treatments themselves either.

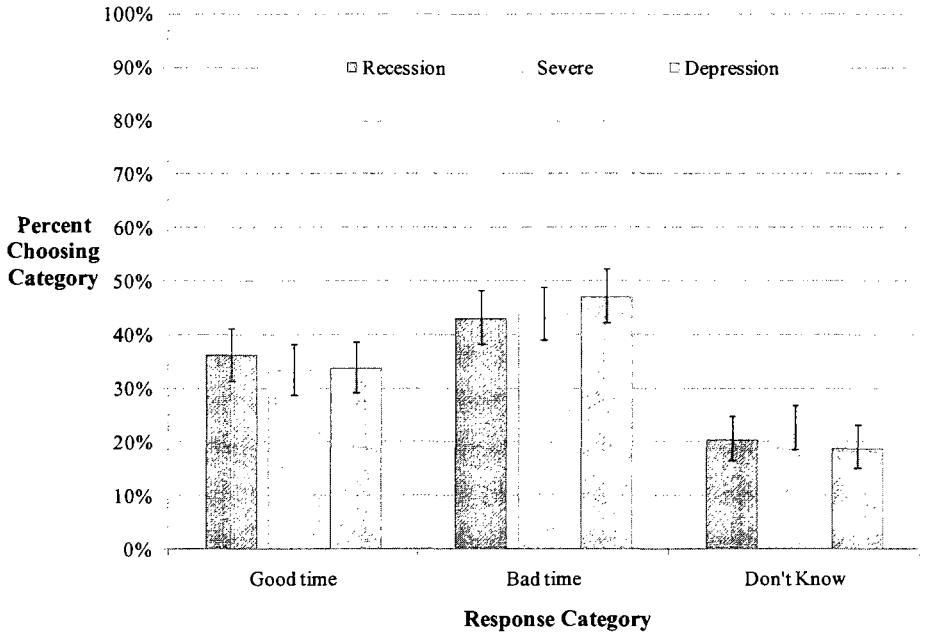
[199] See in particular Nordhaus' (2004) comments in Blinder and Krueger (2004, pp. 390-391).

Figure 3.1: Family Financial Position Compared with Six Months Ago



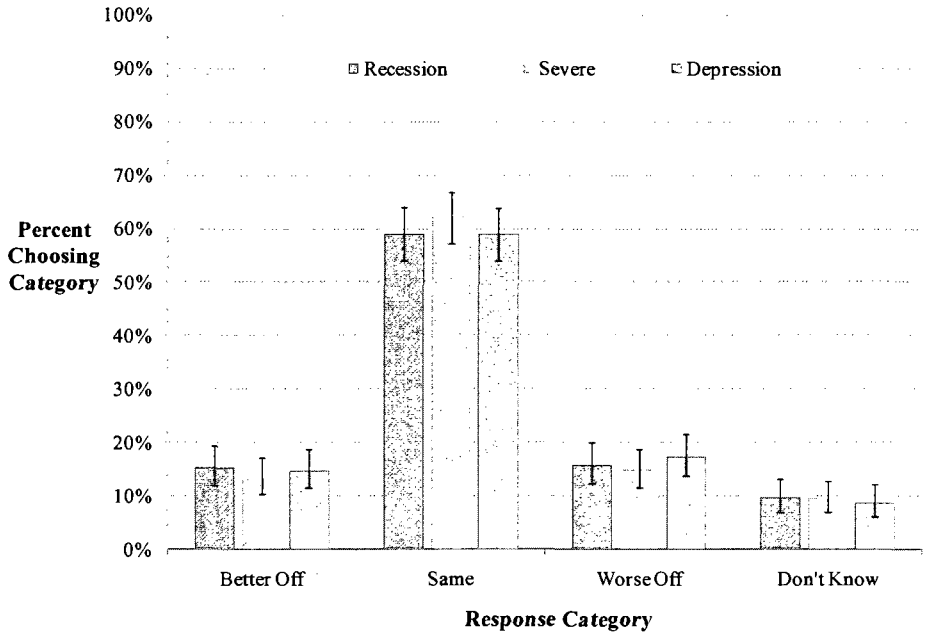
Note: Based on responses to the question: "Considering everything, would you say that your family is better off, the same, or worse off financially than it was say six months ago?" Error bars represent 95% confidence intervals.

Figure 3.2: Good Time or Bad Time to Make Major Outlay



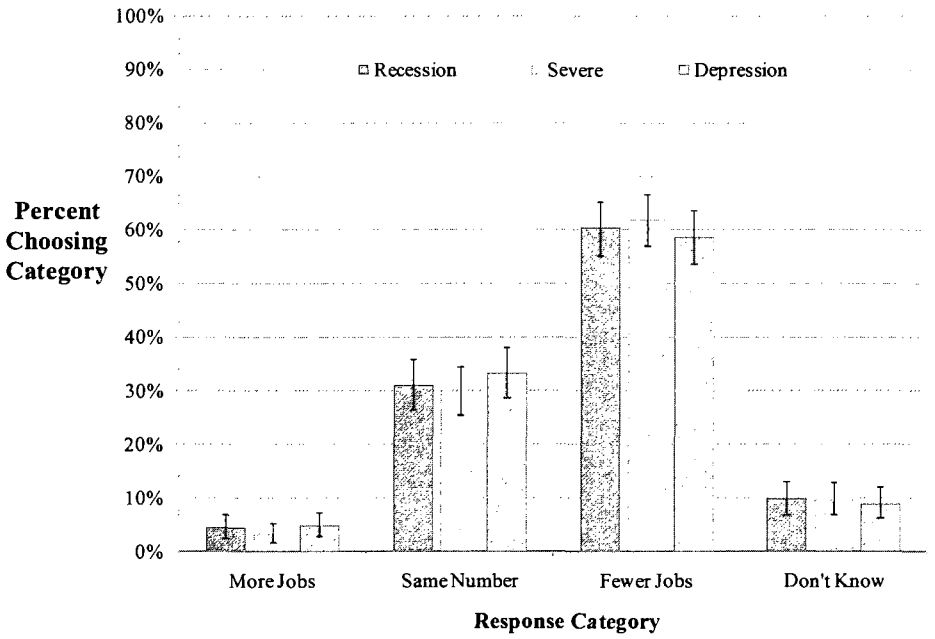
Note: Based on responses to the question: "Do you think that right now is a good or a bad time for the average Canadian to make a major outlay for things such as a home or a car or some other major item?" Error bars represent 95% confidence intervals.

Figure 3.3: Family Financial Position Six Months From Now



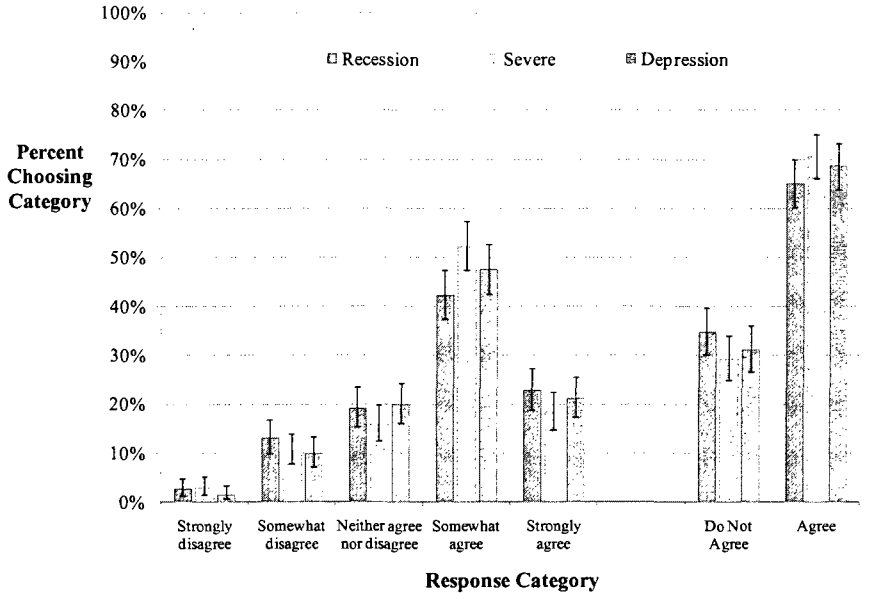
Note: Based on responses to the question: "Again considering everything, do you think that your family will be better off financially, the same, or worse off financially six months from now than it is now?" Error bars represent 95% confidence intervals.

Figure 3.4: Jobs in Community Six Months From Now



Note: Based on responses to the question: "How do you feel the job situation and overall employment will be in your community six months from now? Do you think there will be more jobs, about the same number of jobs or fewer jobs than now?" Error bars represent 95% confidence intervals.

Figure 3.5: Support for Government Spending to Stimulate Economy



Note: Based on responses to the question: "Do you agree or disagree that the Canadian government should spend money to stimulate the economy, even if it means large budget deficits for a few years?" Error bars represent 95% confidence intervals.

There was some variation in responses to the stimulus question, but not much. Figure 3.5 shows the responses to the question about stimulus spending, with the same general pattern.

While the *Severe* treatment results in a statistically significant 10% (52% versus 42%) more respondents choosing the "Somewhat agree" option than in the *Recession* condition, there is no systematic change relative to the *Recession* condition when people encounter either the *Severe* or *Depression* introductions.[200] Nor do we observe a significant change if we say that respondents "Agree" where they chose "Somewhat agree" or "Strongly agree" and that they "Do Not Agree" where they chose "Neither agree nor disagree" to

[200] Difference is significant at $p<0.01$.

"Strongly disagree". The two treatments each produce a slight increase in people's likelihood of agreeing with the stimulus, but neither of the increases is statistically significant.[201]

Since controls can serve to reduce the standard errors of the treatment coefficients, these trends are examined in more detail below controlling for a variety of variables thought to affect people's consumer confidence and propensity to support the stimulus package. Following Acemoglu and Scott, Table 3.2 presents OLS regressions that look at how responses to the consumer confidence questions vary with the control and treatment variables.[202] The dependent variable *Confidence Sum* is a simple sum of scores for each of the four consumer confidence questions, where positive responses are scored as 1, neutral responses as 0 and negative responses as -1, with "don't know" responses excluded.[203] Observations are limited to those respondents who provided a response that was not "don't know" for all four questions. Dependent variable scores therefore range from -4 to 4. In terms of controls, the literature on these indexes suggests that responses differ systematically across certain demographic groups. In particular, Toussaint-Comeau and McGranahan find that in the United States, those with low incomes tend to have less confidence in the economy than those with high incomes.[204] Women, the elderly, the less

[201] The *Severe* condition leads to an increase of 6% (71% versus 65%) over the *Recession* condition, but the difference is significant at p=0.12, not quite reaching conventional levels of significance. The Depression condition leads to an increase of just 4%, p=0.29.
[202] Acemoglu and Scott (1994).
[203] Since the question regarding whether it is a "good time to buy" has no neutral option, "Good time" responses were scored as 1 and "Bad time" responses were scored as -1. Since this method could be seen as introducing more variation in the response to this question than others, results were also computed using scores of 0.5 and -0.5 for the two responses; results were substantially the same. Similarly, if "Don't Know" responses are coded 0 like neutral ones, the substantive results are the same, though the size of the coefficients change slightly.
[204] Toussaint-Comeau and McGranahan (2006).

educated and visible minorities also tend to be less confident about the economy than men, the young and middle-aged, the highly educated and whites, respectively.[205] The table therefore includes a *Female* dummy variable, a *Poor* dummy (for those with household incomes of less than $35,000 per year), an *Elderly* dummy (for those over 65), and a *Highly educated* dummy (for those with a college degree or more education). It also includes an *Anglophone or allophone* dummy, as these two groups together represent a significant minority in Quebec. Finally, it includes a *Laborforce* dummy for those participating in the labor force, along with an interaction variable *Laborforce X Job concern* which interacts the respondent's labor force status with their answer to the question:

> *How concerned are you about your job security? Please use a scale of 1 to 5 where '1'' equals 'Not concerned at all' and '5' equals 'Very concerned'.*
>
> *(1) Not concerned at all*
> *(2)*
> *(3) Somewhat concerned*
> *(4)*
> *(5) Very concerned*

The interaction variable takes on a value of 0 if the respondent is not in the laborforce, and takes on a value of 1 to 5 if they are in the labor force, increasing with their level of job security concern.

While concerns about job security have not historically been examined in the literature as a determinant of consumer confidence, they are a logical candidate for inclusion, as the questions in the index ask about personal fortunes, community job prospects, and people's perceptions of whether or not it is a good time to make large purchases.

[205] *Ibid.*

Table 3.2: Determinants of Consumer Confidence

	Dependent Variable: *Confidence Sum*				
Coefficients	Model 1	Model 2	Model 3	Model 4	Model 5
Female	-0.39***	-0.38***	-0.38***	-0.38***	-0.38***
	(0.10)	(0.09)	(0.09)	(0.09)	(0.09)
Elderly	-0.27*	-0.16	-0.16	-0.20	-0.20
	(0.14)	(0.15)	(0.15)	(0.15)	(0.15)
Poor	0.02	0.11	0.08	0.14	0.13
	(0.13)	(0.12)	(0.13)	(0.12)	(0.12)
Highly educated	0.12	0.07	0.06	0.07	0.06
	(0.10)	(0.10)	(0.10)	(0.10)	(0.09)
Laborforce		0.94***	0.94***	1.00***	1.01***
		(0.15)	(0.15)	(0.15)	(0.15)
Laborforce X Job concern		-0.33***	-0.33***	-0.35***	-0.35***
		(0.05)	(0.05)	(0.05)	(0.05)
Anglophone or allophone			-0.25*	-0.30*	-0.32*
			(0.12)	(0.12)	(0.12)
Severe	-0.05	-0.03	-0.04	-0.02	-0.03
	(0.12)	(0.12)	(0.12)	(0.11)	(0.11)
Depression	0.06	0.06	0.07	0.05	0.05
	(0.12)	(0.12)	(0.12)	(0.11)	(0.11)
Party Controls	No	No	No	Fed	Prov
Adj. R^2	0.02	0.08	0.09	0.09	0.09
Observations	847	845	845	845	845

Notes: Results are from OLS regressions using robust standard errors and sample weights. Coefficients are statistically significant at +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.

As Table 3.2 shows, only some of these variables exert consistent influence on people's level of confidence across the different models. Women have index scores that are 0.38 (plus or minus 0.18) points lower than men, all else equal – a non-trivial effect on a scale that has a range of 9 points. But the elderly and the poor do not appear to be

systematically less confident about the economy than their younger or richer counterparts. Nor are the more highly educated more confident.

Being in the laborforce can make people either more or less confident than those outside of the labor force. Among those in the laborforce, the mean level of concern was 2.27 – roughly three quarters of a point less than the value of 3 associated with "Somewhat concerned". With all other variables held at their sample means, a francophone man outside of the laborforce had a simulated *Confidence Sum* of just -0.76, while the same simulated man in the laborforce who was not concerned at all about his job had a sum of -0.09. A francophone man who was very concerned about his job, however, would have a predicted sum of -1.52 – much less than either of the other two. Being in the laborforce can make someone much more or much less confident than someone outside of it, depending on how secure they believe their job to be.

Anglophones and allophones together are also significantly more pessimistic than francophones.[206] And as the previous discussion suggested would be the case, neither of the treatments had either a substantively or statistically significant effect on people's overall scores. These trends are substantially the same when we look only at the present conditions or expectations components of the index. Overall then, we see that in this sample of Quebeckers, people's level of confidence tends to vary with their gender, involvement in the laborforce, and whether or not they are francophones. It does not, however, vary with the experimental condition in which the respondents were placed.

[206] In regressions not shown here political party allegiances – as measured by who people voted for or would have voted for in the previous provincial and federal elections – had no substantive effect on these results. Nor did attitudes toward sovereignty.

Table 3.3: Determinants of Support for Government Spending With Deficits

	Dependent Variable: *Agree with stimulus*				
Marginal Effects	Model 1	Model 2	Model 3	Model 4	Model 5
Female	-0.07*	-0.07*	-0.07*	-0.06*	-0.06*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Elderly	0.19***	0.19***	0.18***	0.18***	0.18***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Poor	-0.03	-0.03	-0.02	-0.02	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Less than high school	-0.09	-0.08	-0.09	-0.07	-0.08
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Community college	-0.09*	-0.09*	-0.08+	-0.09*	-0.08*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
University	0.00	-0.01	-0.00	-0.01	0.00
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Graduate school	0.12*	0.12*	0.11*	0.11*	0.11*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Anglophone or allophone			-0.00	0.03	0.01
			(0.03)	(0.04)	(0.04)
Severe	0.06+	0.06+	0.06+	0.05	0.06+
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Depression	0.05	0.04	0.04	0.04	0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Controls for laborforce status	Yes	Yes	Yes	Yes	Yes
Controls for party choice	No	Fed	Prov	Fed	Prov
Controls for pro-/anti-sovereignty	No	No	No	Yes	Yes
Observations	1198	1196	1196	1196	1196

Notes: Results are from probit regressions using robust standard errors. Effects statistically significant at +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.

Table 3.3 performs a similar analysis with respect to respondents' views on stimulus spending by the Canadian government, this time with probit regressions. The responses to the stimulus question are dichotomized into the dependent variable *Agree with stimulus*,

with 1 representing responses of "Somewhat agree" or "Strongly agree" and 0 representing "Neither agree nor disagree" through "Strongly disagree". This variable is regressed on a series of demographic variables similar to those used earlier – gender, whether the respondent is elderly, whether the respondent is poor, their level of education, whether the person is an allophone or anglophone, and who the respondent voted for or would have voted for in the last election.[207] People's attitudes towards Quebec sovereignty were also added, as sovereigntists are sometimes associated with more statist policies. Lastly, dummies for the experimental treatments were also included. Consumer confidence responses did not have substantially or statistically significant effects on people's tendency to agree with stimulus spending and are omitted from the analysis presented here.

Across the models, we find that women are consistently less supportive of the stimulus package than men – in Model 5, approximately 6 (plus or minus 6) percentage points less supportive. It is not obvious why this is the case. The elderly are in contrast 18 (plus or minus 8) percentage points more likely to support stimulus spending. The poor show no systematic tendencies either way, and people's level of education also has hard-to-explain effects on people's support for such spending. Community college graduates are 8 (plus or minus 8) percentage points less likely to support spending than those with high school educations, while those with graduate degrees are 11 (plus or minus 10) percentage points more likely to support it. Those with less than a high school education or university

[207] For the education variables, dummies indicate whether respondents had completed each level of education. The omitted category is high school, so all effects are relative to that benchmark. For party choice, respondents were asked if they voted in the last federal and provincial elections and what parties they voted for. If they did not vote, they were asked which party they would have voted for in each case.

degree, meanwhile, seem no more or less supportive than those with a high school education. In terms of political allegiances, how people voted or would have voted in the last federal election seemed not to matter much either, with the exception of the small number of Green Party supporters.[208] However, both pro- and anti-sovereignty people were much more likely (13 and 12 percentage points, respectively, in model 5 with $p<0.001$) to support stimulus spending than those who did not venture an opinion on sovereignty earlier in the survey – a rare issue on which their priors seem to lead them in the same direction. Perhaps those without opinions on the larger issue of sovereignty are less engaged and hence less likely to report supporting the stimulus package as well.

In these binary probit models we also find that the *Severe* treatment increased support for the stimulus package by 5-6 percentage points, depending on the specification. However, this finding is not completely robust to different specifications (not shown here); the effects do not reach the 10% significance threshold when, for example, the education dummies are collapsed to a single *Highly Educated* dummy.[209] And when we change to an ordered probit specification, there is no systematic change towards stronger agreement across the categories.[210] Most importantly, the *Depression* treatment does not induce even in the binary probits any statistically significant changes in opinion relative to either of the baseline *Recession* or *Severe* conditions. The analogy therefore does not appear to

[208] Green party supporters were 12 (plus or minus 8) percentage points more likely to support stimulus spending than Conservatives.
[209] Presumably this is because the Highly educated dummy smothers the variation we see amongst those with graduate school educations and community college educations when the more fine-grained education dummies are used.
[210] For brevity, ordered probit results are not presented here.

have any effects on either people's confidence as consumers or their attitudes toward stimulus spending.[211]

Discussion

Why didn't the Great Depression analogy have any effect on people's attitudes when the Kosovo analogy did? There are several possible reasons. First, people likely have well formed and stable opinions about their confidence in the economy and the need for stimulus spending, as the two have recently been the main subject of political debate in Canada, even if that debate was largely about how uncertain the economy was and what Ottawa's response to it would be. In contrast, although people generally had stable opinions about Quebec sovereignty, people likely formed attitudes about the likelihood of international recognition for Quebec in an online manner, which is more susceptible to manipulation and immediate stimuli.[212] And as we saw, the Kosovo analogy still could not budge attitudes toward independence among those who had reported attitudes on the very closely related issue of sovereignty. It could only move them on the less considered attitude about international recognition.

Second, there could have been ceiling effects at work, as views were already tilted toward an extreme in both cases. Consumer confidence in Quebec is quite low in historical terms, and 65% of respondents agreed with stimulus spending in the baseline condition, and we would expect both the *Severe* and *Depression* treatments to move the proportions

[211] Given that the treatments had no effect on either consumer confidence or support for the stimulus, it is interesting to note that people's confidence scores and their propensity to support stimulus spending were essentially uncorrelated. If people saying "don't know" are excluded from the consumer confidence scores, the correlation is -0.003; if they are included, it is -0.02. One would expect them to be somewhat negatively correlated given that stimulus spending is traditionally intended to boost confidence.

[212] Zaller (1992).

closer to the extreme in each case. In contrast, in the Quebec-Kosovo experiment, only about half of sovereigntists and a small minority of federalists thought recognition was likely, leaving plenty of respondents who thought recognition unlikely who could be moved in the other direction suggested by the analogy.

Third, analogies to the Great Depression have been consistently invoked since the fall of 2008, whereas the Kosovo analogy and the debate about international recognition occurred sometime ago and for a limited period of a month. It could be that, because of their continued presence and prevalence, people no longer process Depression analogies as new information or information that primes an association. The Kosovo analogy, in contrast, seemed to affect both people who had heard about its separation and people who had not, even though people who had heard about Kosovo were already more likely think of recognition as likely. Perhaps it is a useful cue on its own for forming or recalling an attitude that is not often considered, whereas the Depression analogy is not.

In short, the Depression analogy appears to be a fairly weak stimulus in the face of some strong opinions about the economy and stimulus spending. People give a fair degree of thought to their personal economic circumstances on a daily basis. Merely saying the crisis is quite severe or like the Great Depression may not provide them with any additional information, despite the uncertainty they face. Similarly with the stimulus, a consensus appears to have emerged. People's views on it do not appear to be affected by analogies but rather by other factors – their gender, their level of education, and whether or not they are elderly. Merely invoking the Depression may not shift them as a result –

especially if they are elderly and are worried that they will not see the wealth they lost in the market downturn return in their lifetimes.

It could also be that, insofar as the ICA measures people's uncertainty, the additional messages had no effect because the baseline message already suggested a lot of uncertainty. Recessions signal plenty of uncertainty to people already, and merely suggesting that the financial crisis was "quite severe" and/or "like the one that contributed to the Great Depression" may not suggest significantly more in the minds of the public, especially since most of them have no memory of the event itself, or even contact with those who did.

Still, it is surprising that we do not observe any analogical effects. Depression analogies are often invoked in the media and elsewhere because they evoke a vividly bad economic time. As such, we might have expected them to exert some influence on people's reported attitudes. Emotions and "hot" thought may also play a role in explaining the differing effects of the analogies.[213] At first glance it seems odd that the Kosovo analogy affected attitudes while the Depression analogy did not. After all, the Depression suggests images of soup kitchens, destitution and so on, while Kosovo is a country about which people are likely to know little, if anything at all. But the Depression is no longer in living memory for most people, while Kosovo's declaration happened very recently. The Kosovo analogy arguably had emotional content as well. While the Kosovo treatment only added the words "just like Kosovo did" to those in the *Sovereigntist statement* condition, by doing so it suggested that another province had significant success in declaring itself

[213] Thagard and Shelley (2001); Westen (2006).

independent. As such, it could have conveyed positive emotions – for example, the pride and excitement associated with creating a new country – that were not conveyed with the mere suggestion that Quebec would get recognition from a lot of countries or no introduction at all. These emotions could also have had universal appeal and been effective on people regardless of their priors about sovereignty. The Depression analogy, in contrast, might not have conveyed any additional emotional "oomph" when compared to conditions in which a recession and a "quite severe" financial crisis were mentioned. While the Kosovo analogy was not intended to test how an "emotional" analogy would affect people, emotion cannot be ruled out as one of the sources of its effects.

Conclusion

Overall, these findings suggest that to the extent that analogies have effects on people's political attitudes, it is when they are in the early stages of formation. When they are well established, they may be hard to budge. The next two chapters also suggest this is likely to be the case, even in the face of more complex analogies which, while conveying more information, also require correspondingly more attention.

CHAPTER 4:

CAN COMPLEX ANALOGIES AFFECT POLITICAL ATTITUDES? HYPOTHESES IN THE CASE OF INTERNATIONAL TRADE

So far, we have looked at whether relatively simple analogies can affect political attitudes, finding evidence that they did in one case and did not in another. In both cases survey respondents were presented with an analogy alluding to an event in a word or two, the assumption being that its implications for the issue at hand were fairly obvious. Often, however, political debates involve complex issues such as climate change – or as I will discuss here, international trade – which are traditionally thought of as highly technical subjects. This intricacy leads participants in these debates to appeal to expert models, evidence and opinion. As a result, ideas produced by experts and others can often hold great sway among elites and get encapsulated in various analogies. These analogies tend to be complex and require anyone encountering them to map several elements from the source to the target.

Can such analogies sway public opinion? This is an important question to ask. Analogies in general and complex ones in particular are sometimes cited in the low information rationality literature as one of the means by which people arrive at political attitudes, despite possessing little contextual information about many issues.[214] And while complex analogies may only reach a minority of citizens – typically the more politically engaged – they are a means by which people can quickly learn about an issue and update their

[214] Lupia and McCubbins (1998, p. 19).

beliefs accordingly.[215] As such, it is worth asking whether they have any discernable impact on people's political attitudes: When people encounter them, do they change people's views, or at least some people's views, and do they change them all in the same way? Given what we know about analogies and how people process them, there are reasons to think that these types of analogies will affect people's attitudes and reasons to think that they will not.

International trade is a good domain in which to examine these questions because its underlying causes and consequences are complex and also of great concern to large segments of the American public. It is also an issue that elites frequently discuss in analogical terms. Most especially, two substantive ideas about trade – comparative advantage and mercantilism – are often communicated via analogy. Below, I develop hypotheses about how these analogies will affect people's attitudes toward trade. These hypotheses are conditioned by cognitive ability, primarily because cognitive ability is highly correlated with people's propensity to recognize the abstract similarities that analogies rely upon to convey information. In particular, I hypothesize that when attention is low:

1) comparative advantage analogies that highlight similarities in the reasons why individuals and countries each trade goods and services will tend to be most persuasive to people of higher cognitive ability; and

[215] Or as Kinder (2007) puts it with respect to frames generally, they can act as "...advice from experts on how citizens should cook up their opinions" (p. 156).

2) comparative advantage analogies that are better formulated to highlight these similarities will be more persuasive to people of lower cognitive ability than poorly formulated ones[216]; and

3) mercantilist analogies likening trade to war based on the similar phrases "balance of trade" and "balance of power" will tend to be most persuasive to people of lower cognitive ability;

In the next chapter I test these hypotheses using a randomized survey methodology that controls as much as possible for well-known determinants of people's trade attitudes. The rest of this chapter proceeds as follows. The first part briefly recaps the relevant psychology literature on analogical reasoning. The second draws on this summary to examine the comparative advantage analogies put forth by economists since Ricardo, and discusses why most of them are poorly formulated, given what psychology has taught us. The third part discusses "trade is like war" analogies and why the psychology literature suggests we may be predisposed to finding them credible. The fourth part then outlines the hypotheses that follow from these discussions, followed by a conclusion.

Analogical Reasoning and Structural Versus Superficial Similarity

As discussed earlier, psychologists discuss analogies in terms of their two main components: the *target* analog that is being discussed and the typically more familiar *source* analog to which it is being compared in order to generate some insight. The structure-mapping theory of analogical reasoning suggests that understanding analogies

[216] Stated differently, better analogies may make the logic of comparative advantage more persuasive to more people.

as they are intended requires an ability to distinguish *structural* similarities apparent between a source and target from the *superficial* or *surface*-level similarities that might exist between them.[217] Superficial similarities are similarities in the surface attributes or properties of two objects – for example, their color or aspects of their physical appearance. Structural similarities, in contrast, represent similarities in the relationships interior to each of them. Analogies rely upon these structural similarities to convey ideas.

As analogies get more elaborate, confusion can arise over what is intended to be structural and what is merely superficial. In the first chapter, I described how analogies describing traffic flow in terms of water could quickly become confusing. Another example can illustrate the potential for confusion. Imagine an aerodynamics expert is explaining to an audience how grand prix cars work and says, "A grand prix car is like a fighter plane." Puzzled at first, his audience might think about how decals frequently adorn both fighter planes and grand prix cars, particularly at airshows. They might infer that grand prix cars are like fighter planes in that they provide sponsors with a means of reaching audiences. Or they might think that grand prix cars are engaged in "battles" just as fighter planes are, and must therefore be similarly fast and maneuverable. Of course, neither of these possibilities is intended by the analogy. Grand prix cars and fighter planes have pointed noses to reduce drag and wings to create pressure on them as they move through the air. They also tend to have intakes around the cockpit to force air into the engine behind the pilot. At a particular level of abstraction, the nose, wings and air intakes have similar functions in both the source and target. Once this abstract similarity is grasped, the expert could explain in more detail how engineers can design cars' wings

[217] Gentner (1983); Blanchette and Dunbar (2000).

to create more or less grip on a racetrack, just as they can design planes' wings to create more or less lift on takeoff. But when the intended structural features of an analogy are not immediately apparent to people, they will often assume others based on superficial similarities or circumstances frequently associated with the source analog (in this case, fighter planes). The consensus from the psychology literature is that, particularly in problem solving settings, people are quite prone to drawing such erroneous inferences or drawing no inferences at all, even when apparently obvious structural analogies are made available to them.[218]

There is reason to believe that cognitive ability may play a role in this process. The ability to identify and filter abstract similarities and differences of the sort described above is central to virtually all psychometric definitions of intelligence or cognitive ability, which is why analogy test scores often proxy for cognitive ability.[219] Consider, for example, the following near-consensus definition of intelligence:

> Intelligence is a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings—"catching on," "making sense" of things, or "figuring out" what to do. (Gottfredson, 1997)

As Keith Stanovich has emphasized recently, these broadly termed definitions of intelligence and cognitive ability and their associated measures actually measure only what psychologists term "Type 2" processes.[220] Psychologists at present distinguish types of cognition in terms of two broad categories: "Type 1" – rapid, automatic processes that

[218] Gick and Holyoak (1980; 1983).
[219] See the Report of the Task Force Established by the American Psychological Association in Neisser, Boodoo, Bouchard, Boykin, Brody, Ceci, Halpern, Loehlin, Perloff, Sternberg and Urbina (1996); Gottfredsson (1997) and Deary (2000).
[220] Stanovich (2009); the terminology comes from Kahneman and Frederick (2002). See Camerer, Loewenstein and Prelec (2005) for additional terms used to describe these types of processes.

either require little computational or conscious effort, such as face recognition; and "Type 2" processes which are computationally demanding and require one to "override" our more instinctive Type 1 processes, such as determining the tip on a bill.[221] These Type 2 processes can in turn be thought of as "fluid intelligence" and the individual differences associated with them as differences in people's ability to reason this way.[222] Reasoning this way requires one to continually reason in a hypothetical or "decoupled" manner, which means "...we must be able to prevent our representations of the real world from becoming confused with representations of imaginary situations."[223]

With cognitive ability thus understood, we might therefore expect people of higher cognitive ability to recognize the structural aspects and intent of various analogies most readily. Conversely, we might expect people of lower cognitive ability to make inferences based on superficial similarities more frequently and recognize structural similarities less frequently, because they will tend be less proficient at separating their real world, contextual knowledge about the source from the more abstract representation they are being asked to consider.

Even if such differences exist, however, they might be reduced or eliminated altogether if analogies are well formulated. The literature suggests that people are generally more likely to recognize structural similarities when they are primed to think about similarities in the source and target, when more structural similarities actually exist between the two phenomena, and when superficial similarities direct people to the relevant underlying

[221] Stanovich (2009, pp. 21-25).
[222] Stanovich (2009, p. 28).
[223] Stanovich (2009, p. 23).

structural similarities and inferences.[224] When superficial attributes are very different or there exist superficial similarities that suggest other inferences, people are more likely to miss the shared structure in two situations.[225,226] This means that those communicating complex analogies need to be careful in doing so. As Pinker writes, "Loose and overlapping analogies are also a mark of bad science writing and teaching. The immune system is like a sentinel, except when it's like a lock and key; no, wait, it's a garbage collector! The best science writers, in contrast, pinpoint the meaningful matchups in an analogy and intercept the misleading ones."[227] The better the analogy, the more we can expect people to make the relevant inferences.

In sum, while we regularly encounter and understand complex analogies, we are also prone to making inferences other than those intended based on superficial similarities, especially as the analogies get more elaborate and abstract. This requires that those employing them craft them carefully to ensure that they are properly understood.

Comparative Advantage Analogies in International Trade

Complex analogies arise quite frequently in debates about international trade. Ever since Ricardo developed the theory of comparative advantage to explain patterns of international trade, economists have used analogies to convey his insight to a variety of

[224] Markman and Gentner (1993), Clement and Gentner (1991), Karwczyk, Holyoak and Hummel (2004).
[225] Gentner and Toupin (1986).
[226] It is also noteworthy that the persuasiveness of an analogy appears to vary with both the degree to which the source analog interests the receiver and the "strength" of the argument associated with the analogy. Ottati, Rhoads and Graesser (1999) conclude from an experiment with college students in a medium-involvement situation that when people are interested in the domain of a source analog, they are more likely to scrutinize associated messages and respond to strong rather than weak arguments within them.[226] People uninterested in a source domain, in contrast, appear to disengage and scrutinize associated messages less, leaving them no more responsive to strong arguments than weak ones.
[227] Pinker (2007, p.256).

audiences, all the while tending to believe they have been largely unsuccessful in their efforts, judging by the widespread opposition to trade in the United States.[228] In the next chapter, I examine the large trade literature seeking to explain Americans' trade attitudes. But the discussion above suggests that there are at least two other reasons for this state of affairs. First, people may misinterpret or misunderstand these analogies. Second, the nature of the analogies themselves may hinder people's ability to understand them as intended, and it is to this possibility that I now turn.

The theory of comparative advantage is a celebrated notion in economics that constitutes a special case of the larger "doctrine of cost differences".[229] This doctrine says that when price or cost differences exist, countries should employ the "indirect method of production" and acquire a good indirectly by producing another good in exchange for it.[230] This intuition seems straightforward and hardly beyond the grasp of the layperson. Comparative advantage, in contrast, is alleged to be a complex "counterintuitive" idea that eludes the public because it says that when *opportunity* cost differences exist, countries will also have reason to trade with one another.[231,232] This in turn implies that it can be efficient for countries to import even those goods and services they produce more efficiently than others.

[228] See for example Samuelson (1969, p. 683); Krugman (1993, p. 362); Krugman (1998); Frankel (2001, p. 155); and Caplan (2007, pp. 10-11).
[229] Haberler (1936).
[230] Also known as the "eighteenth century rule." For more detailed discussion, see Maneschi (1998).
[231] On comparative advantage being counterintuitive, see for example Krugman (1998); Hiscox (2006, p. 774); and Caplan (2007, pp. 10-11).
[232] Haberler (1930).

In the very first discussion of the theory and its implications, Ricardo chose to convey this intuition in a footnote with the following analogy:[233]

> Two men can both make shoes and hats, and one is superior to the other in both employments; but in making hats he can only exceed his competitor by one-fifth or 20 per cent., and in making shoes he can excel him by one-third or 33 per cent.;—will it not be for the interest of both that the superior man should employ himself exclusively in making shoes, and the inferior man in making hats?[234]

Ricardo used this less than pithy example of two individuals engaged in familiar occupations to convey the mathematical substance of the theory and presumably did so to help readers follow his argument. Subsequent economists followed his example. Table 4.1 offers a rough typology of the analogies that economists have used since Ricardo's time. Some of them follow Ricardo's example closely, while economists have more recently preferred analogies that relate to everyday transactions. Others have attempted to draw analogies to professional domains, where lawyers or doctors, for example, may be faced with a choice of performing some simple task or "importing" someone to do it for them, even if they might do it more efficiently themselves. Still others have drawn analogies to different sports.

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[233] Recent scholarship in the history of economic thought suggests Ricardo did indeed invent the theory of comparative advantage despite earlier assessments to the contrary (Ruffin, 2002; Maneschi, 2004). It also suggests that Ricardo's "best claim" to this honor does not arise from his famous discussion of trade in wine and cloth between the UK and Portugal, as most economists think, but rather comes from the analogy quoted above in the footnote to that discussion (Aldrich, 2004). The conventional wisdom holds that the numbers Ricardo provided in his "five famous paragraphs" provided the basis for the autarky labor coefficients in the traditional technical definition (see Appendix D), appearing as they do to represent the amounts of labor used by the two countries to produce given amounts of cloth and wine in the absence of trade. A new interpretation suggests, however, that the numbers were no such thing because Ricardo was not discussing conditions of autarky (Ruffin, 2002, pp. 742-743). Rather, he used them to discuss "...the quantities of labor needed to produce the amounts of wine and cloth actually traded by UK and Portugal" (Maneschi, 2004, p. 235). He was demonstrating a nuanced point about the gains from trade, from which one could infer each country's comparative advantage. Ricardo relegated to the footnote quoted above the more basic point about differing relative costs making gains from trade possible.

[234] Ricardo (2004 [1817], p. 83).

Table 4.1: Comparative Advantage Analogies

Type	Example	Source
Ricardian		
	Shoemaker-hatmaker	Ricardo (1817)
	Food producer-tailor	Black and Black (1929)
	Farmer-rancher	Mankiw (2007)
Daily Transaction		
	Tiger Woods-lawn mowing	Mankiw (2007)
	Reader-lawn mowing	Irwin (2005)
Principal-Agent		
	Physician-secretary	Black and Black (1929)
	Businessman-bookkeeper	
	Manager-foreman	
	Store manager-salesman	
	Etc.	
	Lawyer-secretary	Samuelson and Nordhaus (1998)
		Friedman and Friedman (1980)
		Blinder (2002)
	Company president-secretary	Roberts (2007)
Sports		
	Fullback-tackle (football)	Black and Black (1929)
	Hitter-pitcher (baseball)	Scahill (1990)

Psychology tells us that these analogies were not all created equal. The structural similarities between the sources and the target domain of international economic relations are clearest in the Ricardian analogies, which preserve the technical definition.[235] But these analogies all require significant attention to work through and so are unlikely reach either elite or mass audiences beyond educational settings.

[235] Minus the intervening price ratio – see Appendix D for more detail.

The daily transaction analogies also appear primarily in academic books, but they are more amenable to abbreviation and mass communication. Take Mankiw, for instance:

> Tiger Woods spends a lot of time walking around on grass. One of the most talented golfers of all time, he can hit a drive and sink a putt in a way that most casual golfers only dream of doing. Most likely, he is talented at other activities too. For example, let's imagine that Woods can mow his lawn faster than anyone else. But just because he *can* mow his lawn fast, does this mean he *should*?
>
> To answer this question, we can use the concepts of opportunity cost and comparative advantage. Let's say that Woods can mow his lawn in 2 hours. In that same 2 hours, he could film a television commercial for Nike and earn $10,000. By contrast, Forrest Gump, the boy next door, can mow Woods's lawn in 4 hours. In that same 4 hours, he could work at McDonald's and earn $20.
>
> In this example, Woods's opportunity cost of mowing the lawn is $10,000 and Forrest's opportunity cost is $20. Woods has an absolute advantage in mowing lawns because he can do the work in less time. Yet Forrest has a comparative advantage in mowing lawns because he has the lower opportunity cost.
>
> The gains from trade in this example are tremendous. Rather than mowing his own lawn, Woods should make the commercial and hire Forrest to mow the lawn. As long as Woods pays Forrest more than $20 and less than $10,000, both of them are better off.[236]

This careful pedagogical statement gets across the aspect of the theory traditionally regarded as "counterintuitive" – that a country can gain by importing even those products it can produce better than anyone else. It does not, however, convey the distributional consequences of trade, as Mankiw acknowledges.[237] Nor can it be easily expanded upon to describe more refined trade models; a corresponding two-factor analogy would seem to

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[236] Mankiw (2007, pp. 55-56). Author's original emphasis.

[237] Irwin (1996, p. 219) makes this point with great clarity:

> The most obvious qualification [to the case for free trade] relates to a weakness in the analogy about how an individual and a country benefit from trade. The analogy ignores the fact that countries are composed of different individuals, not all of whom may reap benefits from free trade...Even if free trade maximizes economic wealth (and therefore, potentially at least, economic welfare), it still cannot be said that everyone will be better off unless compensation is paid to those whose income falls. This income distribution effect constitutes an important argument against free trade (perhaps being a weightier concern in actual policymaking than the other theoretical issues considered here) and poses a serious practical obstacle for the free trade doctrine. Of course, the issue of income distribution is not at all specific to commercial policy, but affects the analysis of almost every economic policy.

require either split personalities or twins on each side to do the same job.[238] Nevertheless, the analogy has the potential to be quite powerful because, with little lost in translation, it communicates significant technical knowledge, or in Downsian terms, "contextual knowledge" about the nature of international trade.[239]

From a psychological perspective, however, there are a few problems. Given people's propensity to focus on superficial similarities, they might fail to make the intended structural inferences, focusing instead on Tiger Woods' celebrity status, whether he in fact hires people to mow his lawn or prefers to mow it himself, or some other superficial feature of the situation. That it discusses Tiger *Woods* hiring *Forrest* Gump to mow his *grass* might also make its structural aspects harder to recall.[240]

The principal-agent analogies have problems as well. The eminent trade economist Gottfried von Haberler was likely the first to worry about them in print when he objected strongly to the businessman/bookkeeper analogy in developing the opportunity cost formulation of comparative advantage in the *Theory of International Trade*:

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[238] Samuelson (1949, pp. 194-195) chose an entirely different analogy or "parable" to get across the implications of the 2×2×2 model and the notion of factor price equalization – one of an angel splitting factors of production (labor and land) into two groups: Americans and Europeans. See Krugman (1995, p. 1245) for the view that Samuelson's angel "is obviously the angel from the Tower of Babel story..." What makes this analogy more difficult is that it requires some familiarity with the Tower of Babel story, and also requires many more assumptions to derive the relevant conclusions, the corresponding analogs for which are not obvious given the conventional understanding of the story. There are still older stories to which one could refer. Maneschi (1998, pp. 26-27) quotes Virgil describing how Nature endowed parts of the world differently. Maneschi and Irwin (1996, p. 15n) refer to Viner's (1972, 1991) argument that similar ideas from antiquity form the basis of a "Providential" or "Universal" doctrine of economy and trade, "a precursor to modern factor-endowments theory of international trade".

[239] Downs (1957) defines contextual knowledge "...as cognizance of the basic forces relevant to some given field of operations. It is a grasp of relations among the fundamental variables in some area, such as mathematics, economics, or the agriculture of ancient China" (p. 79).

[240] See for example Gentner, Rattermann and Forbus (1993).

> It has often been pointed out that the same principle of comparative advantage applies to the division of labour between particular persons. All gain if the better qualified persons concentrate upon the more difficult tasks although they themselves could perform the less difficult tasks better than those who do in fact perform them. Thus the business manager will employ a book-keeper even if he himself is better at book-keeping than the man he employs. It pays him to concentrate upon the task or tasks in which his superiority, and therefore his comparative advantage, is greatest. The arithmetical examples which we have used to illustrate the international division of labour can be applied equally well here.
>
> But the division of labour between persons is rather different from that between countries or districts. *(a)* The former often consists in different persons performing different processes in the production of a common product, as in a factory, so that their individual products are not exchanged against one another. The division of labour between *occupations* corresponds much more closely to the international division of labour, since the products of the farmer, baker, tailor, and so on, are exchanged against one another. *(b)* The other, and more important, distinction is that specialization by persons increases the capacity of each to perform the task on which he specialises: practice makes perfect. We do not think of this circumstance, or at any rate, not primarily, when we speak of the advantage of division of labour between countries.[241]

In analogical terms, Haberler makes two points. First he says that the relative magnitudes of opportunity costs are obscured when the analogy is moved inside a firm, because the parties' outputs are "not exchanged against one another" – it makes the mapping of structural similarities harder.[242,243] Second "and more important", Haberler notes that people tend to improve their proficiency when they specialize in an activity. If someone were to focus on this aspect of the source analog, they could become confused or even make structural inferences that go beyond the static model the analogy was originally meant to convey.[244]

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[241] Haberler (1936, pp. 130-131). Author's original emphasis. Haberler was addressing Black and Black (1929), among others.

[242] The Tiger Woods analogy has relatively transparent opportunity costs, if only because people associate large dollar amounts with whatever he does and low ones with neighborhood lawn mowers.

[243] Technically, "... it is difficult even to define, much less measure, what any one worker contributes to what the team as a whole produces" Frank (1985, p. 64), citing Groves (1973). And while the layperson will have no such technical concerns, it might still be ambiguous to them whether the lawyer necessarily contributes more value per hour of effort to output than the secretary. Alternatively, people might get distracted by the day-to-day connotations of these analogies, calling to mind for instance times when a lawyer prefers to type something up herself to save time and hassle.

[244] In particular, it could lead people to inferences about *dynamic* comparative advantage – another way in which people might find the analogy limiting, in addition to its inability to consider distributional concerns.

The daily transaction analogies suffer from the same issue. We tend to expect the neighborhood lawnmower to be good at their job and have no reason to expect anyone hiring them (whether ourselves or Tiger Woods) to be better at it. These unfamiliar assumptions about familiar situations could hamper the mapping process and prevent people from making the relevant inferences. An ideal daily transaction analogy would be one in which it is obvious to the audience that the person doing the hiring is better at performing the service than whomever they hire.

Worst of all, perhaps, are the sports analogies. They require one to think of teams' output in abstruse terms such as win/loss ratios, while a player's individual contribution to those ratios is no clearer than in the employer-employee analogies.

In sum, the psychology literature gives numerous reasons to think that the source analogs economists traditionally use to communicate the logic of comparative advantage are poor vehicles for the idea. If this is true, it is also likely that the role played by cognitive ability in allowing people to recognize the underlying structure of these analogies is more pronounced than it otherwise would be if "better" analogies could be offered.

Military Analogies in International Trade

In contrast, the military analogies and terminology so prevalent in public debates about international trade seem tailor made to the foibles psychologists have identified in how

we reason by analogy.[245] Economists tend to see these military analogies and associated inferences as a serious impediment to the public's understanding of international trade. Mankiw warns his readers that, "...contrary to the opinions sometimes voiced by politicians and political commentators, *international trade is not like war*, in which some countries win and others lose."[246] Others exit the struggle: "Many economists despair at the public's frequent misunderstanding of international trade theory—the common failure, for example, to understand the principle of comparative advantage, or the popular notion that imports are bad and exports are good. Many experts have thus given up the attempt to communicate with the general public."[247] Economists have also worried that people's opposition to imports arises from zero-sum thinking generally or artifacts of their evolved psychology, though these arguments tend to be *ad hoc* and untested.[248]

To my knowledge the most comprehensive statement of the analogical view comes from Viner.[249] He traces the historical roots of attitudes toward trade back to Greece and Rome, and finds that even in those times trade had undesirable connotations of cheating and fraud.[250] But Viner also argues that the mercantilist notion that exports were good and imports bad came from faulty reasoning about power amongst countries:

> Mercantilism developed with respect to "power" a static theory, a theory of its existence in a constant aggregate quantity, so that what one country gained in power another country must lose. *By a seemingly plausible but largely misplaced analogy*, this

[245] For mentions of this phenomenon, see Rubin (2002, p. 69) and Caplan (2007, p. 36). Indeed it has led one researcher (Eubanks, 2000) to conduct an analysis of the TRADE IS WAR metaphor based on the work of Lakoff and Johnson (1980).
[246] Mankiw (2007, p. 58). Emphasis added.
[247] Frankel (2001, p. 155).
[248] On zero-sum thinking, see Krugman (1998); Mankiw and Swagel (2006, p. 1032). On evolutionary psychology, see Rubin (2002; 2003).
[249] Viner (1959).
[250] Viner (1959, pp. 39-53). He notes (p. 40) that an "implicit economic analysis" supported this view, which '...came nearest to being made explicit in a passage of St. Jerome, destined to have a lasting influence: "All riches proceed from sin. No one can gain without another man losing."'

> theory was extended also to wealth, and, with more validity in an age of "hard" money, to money. Thus "balance of power" and "balance of trade" were analyzed as if they were not only closely-related in fact but closely similar as analytic concepts. With the additional element of identification or near-identification of money and wealth, it became prevailing doctrine that international commerce was a contest for larger shares of a given world stock of money, that the prosperity of a country depended on its relative share of the world's monetary stock, that success in commerce required military strength and military strength was dependent on wealth, and that the normal politico-economic relations of countries were therefore those of a state of war or near-war, that trade was a contest in which only one party could be the gainer, and that in large part trade and war were similar activities, using somewhat different means to serve identical ends.[251] [emphasis added]

This seems a classic example of superficial similarities leading to erroneous inferences.[252] And as he points out, there were plausible structural similarities between the two domains that pushed mercantilists in this direction as well. [253,254]

This of course is not the only superficial analogy associated with trade. Economists have also worried about people extrapolating erroneously to this domain from general ideas about wealth and money, the activities of a firm, and most recently, the proposition that the *World is Flat.*[255] But the overall pattern is the same – people are presumed to make what appear to be structural inferences from superficial similarities (firms buy and sell;

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[251] Viner (1959, p. 46).

[252] Smith (1994 [1776], Book IV, Ch. 1, pp. 478) notes of the mercantilists that while they recognized wealth consists of more than gold and silver, "In the course of their reasonings, however, the lands, houses, and consumable goods seem to slip out of their memory, and the strain of their argument frequently supposes that all wealth consists in gold and silver, and that to multiply those metals is the great object of national industry and commerce." Caplan (2007, p. 38) dismisses this story as "probably too clever by half" and argues that mercantilism grew out of an "...unreasonable distrust of foreigners" or "anti-foreign bias".

[253] To be sure, it is not all about a misplaced analogy – to the extent that (military) power is a function of wealth, the change in relative wealth brought about by trade may be important. See Hirschman (1945) for a discussion of this dynamic in mercantilist thought. Ironically, the international relations literature has recently questioned whether the notion of fixed quantities of power even makes sense in its traditional context, examining instead whether "mutual gains" in security can be achieved based on relative and absolute differences in countries' abilities. See Jervis (1999, pp. 46-47).

[254] Strikingly, this type of thinking, in which superficial similarities are seen as reasonable justifications for a larger position, can be found among other 18th century scientists. See Gentner and Jeziorski (1989) and related discussion in Pinker (2007).

[255] Pritchett (2006, p. 94) worries about a mistaken analogy to firms rather than to war: "Many people approach trade policy with a mistaken "intuitive economics": that exports are good and imports are bad is based on an intuitive economics that mistakenly extrapolates what is true of the firm—sales are good (profit increasing), while purchases are bad (profit decreasing) for the nation." Much of the discussion below would also apply to this analogy. On *The World is Flat*, see Leamer (2007).

countries buy and sell) or phrases ("balance of power" and "balance of trade"). I focus on a military analogy because analogies of this type have evidently concerned economists for some time, appear prevalent in public discourse, and fit the profile of misleading analogies that psychologists have identified in the past. Findings with respect to this particular "trade is like war" analogy may also carry over in varying degrees to the firm, flat and other analogies as well.

Taking it for granted then that this "trade is like war" analogy is a useful one to examine, it seems likely that if economists writing treatises on trade 250 years ago were prone to thinking this way, then many politicians, journalists and citizens paying only fleeting attention to the subject today could make similarly erroneous conjectures. It also seems likely, given the earlier discussion on cognitive ability, that this mercantilist analogy should on average be more persuasive to people of lower cognitive ability.

Hypotheses

Citizens are likely to encounter complex analogies like these as they do political arguments in general – with little attention available to give them.[256] If we assume that these patterns hold in such situations, then the following broad hypotheses follow from the discussion above:

H1: When attention is low, people of higher cognitive ability will tend to find comparative analogies more persuasive than people of lower cognitive ability.

[256] See for example Downs (1957) and Lupia & McCubbins (1998) among many others.

H2: When attention is low, the difference in the degree to which people of higher and lower cognitive ability find comparative advantage analogies persuasive will be attenuated when those analogies are more familiar, more structurally sound and possess fewer superficial attributes likely to distract people from making the relevant inferences.

H3: When attention is low, people of higher cognitive ability will tend to find mercantilist "trade is like war" analogies based on superficial similarities less persuasive than people of lower cognitive ability.

In short, people's cognitive ability may dramatically affect how they process these two types of arguments when they are paying little attention to them. If people have the opportunity to scrutinize the arguments further, however, these hypothesized effects could be attenuated or even evaporate altogether. Comparative advantage analogies that are "better" in terms of the criteria described earlier might also provide people with clearer stimuli with which to update their views.[257]

At the same time, there are numerous reasons to believe that even if these dynamics exist, they may be weak or swamped on a daily basis by the other considerations that enter into people's opinions on trade. Indeed, they may be weak precisely because people are paying limited attention to the stimuli and not bringing much cognitive effort to bear on

[257] If this were to hold true, the effects contemplated here would qualitatively mirror those found in other studies of intuitive judgment. See discussion in Stanovich and West (2000).

them.[258] Traditional political science suggests several other possibilities. Interests may dominate, for example. People appear to have some ability to recognize their individual interests with respect to trade policy, while the arguments presented here concern only trade's impact on aggregate national wealth and say nothing about the distributional effects of trade.[259] Alternatively, people's educations may leave them with mental models of trade that are deeply entrenched and hard to budge – analogies may simply bounce off them regardless of whether they seem plausible or not. Similarly, people's values may run deep and affect the persuasiveness of these and other messages. And so on.

Conclusion

Three broad implications follow from this discussion. First, we have reason to expect that people's views on a given issue – in this case, trade – may move when they encounter complex analogies. Second, those analogies may result in various persuasions, or different effects on different people. Third, to the extent that other policy debates share this flavor – in which a superficial, fallacious analogy appears prevalent in public discourse, while a structural analogy that more accurately experts' beliefs about how the world works has difficulty breaking through to politicians, journalists and citizens – the dynamics discussed here could apply to a wide range of policy debates.[260]

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[258] Thanks to Steven Pinker for highlighting this possibility.

[259] There is evidence, however, that people take national welfare into account when evaluating various economic policies. Blinder and Krueger (2004) find that self-interest explains little about people's views of the economy and say that "As a broad generalization—some exceptions to which we have noted—ideology seems to play a stronger role in shaping opinion on economic policy issues than either self-interest or knowledge, although specific (as opposed to general) knowledge does influence opinion on a number of matters" (p. 386).

[260] See for example Lau and Schlesinger (2005), though they also highlight the difficulty of identifying effects of metaphorical or analogical reasoning *per se* (p. 106).

In the next chapter I will use a randomized survey methodology to test these hypotheses, taking into consideration as far as possible the concerns above.

CHAPTER 5:

DO COMPLEX ANALOGIES AFFECT TRADE ATTITUDES?

Do complex analogies have any effect on people's attitudes in the real world? In the previous chapter, I discussed why and under what conditions we could expect people to be persuaded by analogies conveying the core substance of comparative advantage and mercantilist thought. But this discussion generally assumed that only the cognitive dimensions of these analogies would determine whether or not people's trade attitudes changed. The reality, of course, is much different. Trade is a major political issue in the United States and around the world because it can make millions of individuals significantly better or worse off while making any given country as a whole more productive. Consequently, individuals likely to benefit from it may find arguments in its favor very appealing, while those who expect to be harmed by it may find abstract arguments about what it does for the general good unmoving.[261] Alternatively, these arguments may simply be unpersuasive in the face of people's values, party affiliations or various other factors that enter into their trade attitudes.

Here I present results from a survey experiment in which people were presented with different analogies for comparative advantage and mercantilism. The results do not support the hypotheses developed in the previous chapter, and indicate that neither of the two types of analogies had a consistent impact – positive or negative – on people's trade attitudes. Despite the lack of change in people's views, the results are nonetheless surprising and raise interesting questions. The most striking result is that the mercantilist

[261] Though as we saw in Chapter 2, priors about the issue in question need not necessarily prevent a person from being persuaded one way or another.

analogy does not appear to affect people's attitudes at all, regardless of whether they are of higher or lower cognitive ability. Offering people a somewhat elaborate "trade is like war" argument does not turn them into mercantilists, both as economists might worry and as previous work would suggest. Nor did a comparative advantage analogy using Tiger Woods as a source appear to make people more pro-trade, regardless of whether they were of high or low cognitive ability.[262] Moreover, an "improved" comparative advantage analogy had no effect on people's attitudes, which suggests that when it comes to persuasion by analogy, the devil may indeed be in the details. In short, the data are not kind to the hypotheses developed in the previous chapter.

But follow the data we must. The results also indicate that many people are unwilling to attend to relatively brief messages carrying complex analogies. Measures of how long respondents in the experimental treatment groups paused on the screens containing the analogies indicate that only about half of the respondents likely read them in detail. This suggests two things. First, the experimental results must be interpreted with care, as respondents decided first whether or not to receive the message and only then made a choice about whether or not they favored trade. Given that they might have scanned the message to see if it was of interest and only then read it in more detail, we must be cautious about drawing conclusions. Second, it suggests that future research should either aim for simpler messages or employ experimental designs that allow us to better understand the conditions under which complex ones are likely to be received.

[262] There was some evidence to indicate that people of high cognitive ability were persuaded by the analogy, but it is not robust; hence it is safest to assume that no effects obtained.

The rest of this chapter proceeds as follows. Given that a variety of factors may affect whether analogies affect people's attitudes in the real world, the first part summarizes what is known about the determinants of people's attitudes toward trade. The second part outlines the experimental design to operationalize and test the hypotheses developed in the previous chapter. Part three summarizes the data obtained from the nationally representative survey and its main trends. Part four tests the hypotheses with this data and the last part concludes, while Appendix and E provides additional data regarding the survey.

Determinants of Trade Attitudes

People's attitudes toward trade vary widely both within and across countries and depend upon the values, interests and, it appears, the ideas people hold with respect to trade.[263] Mayda and Rodrik point out that, worldwide, "...approximately 60% of respondents in opinion polls express anti-trade views" and that both strong majorities and minorities can express such views depending upon which country is investigated.[264] Amongst Americans, Scheve and Slaughter find widespread opposition, even though Americans tend to recognize that trade brings with it increased product variety and cheaper goods.[265]

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[263] Scholars looking at the role of ideas in trade policy and international relations more generally have more often investigated how elites' ideas, schemas and mental models affect policy outcomes by developing hypotheses about how such ideas reach and influence "epistemic communities" and others in positions of power – see for example Haas (1992), Goldstein (1993), and Goldstein and Keohane (1993). Testing these hypotheses, however, has been difficult because they seldom generate unique and verifiable predictions (Yee, 1996). This paper examines how such ideas affect citizens generally rather than elites.

[264] Mayda and Rodrik (2005, p. 1394).

[265] Scheve and Slaughter (2001b). When asked survey questions that mention both the benefits and costs of trade, Americans tend to choose answers that emphasize the costs (p. 20). American economists, in contrast, overwhelmingly favor free trade. Perhaps because they view it through the lens of comparative advantage, 87.5% agree that the US should eliminate remaining tariffs and barriers to trade. See Whaples (2006, p. 1).

Values are important determinants of people's attitudes toward trade, the most notable among them being the pride people attach to their community and country. The greater a person's attachment to their neighborhood, country and its influence in the world, the lesser is their likelihood of being in favor of trade. Nationalists and chauvinists tend to be especially isolationist.[266]

Interests appear to be another important set of determinants which proponents of rational choice theory have naturally looked to in explaining people's attitudes toward trade.[267] These scholars expect people's views on trade to vary according to how trade affects their wages, which in turn vary according to whether people are skilled or unskilled and whether or not their skills are easily transferable among different sectors of the economy. "Winners" from trade are expected to favor it, while "losers" from trade are not. Evidence supports this view: the degree to which people work in a comparatively advantaged industry relative to the rest of the world appears to affect the degree to which they favor trade, implying people's views are consistent with the specific factors model of trade.[268] Homeowners in comparatively advantaged regions of the United States are also modestly more pro-trade than their counterparts who rent, because their asset wealth is closely tied to a region's economic health.[269] The evidence with respect to general skill

[266] O'Rourke and Sinnott (2001). At the same time, people proud of their country's democracy tend to be more pro-trade, perhaps because they have confidence in their nation's ability to respond to the challenges globalization brings. See Mayda and Rodrik (2005, p. 1416).
[267] Research in this tradition works from the bottom up to explain trade policy outcomes, particularly on the "demand" side composed of individual and interest group preferences. It starts by assuming people's trade policy preferences depend only on self-interest and then generates predictions from international trade theory to explain how trade attitudes form, given that people possess factor endowments of different natures and specificities. See Rodrik (1995) and Alt, Frieden, Gilligan, Rodrik, and Rogowski (1996).
[268] O'Rourke and Sinnott (2001); Mayda and Rodrik (2005).
[269] Scheve and Slaughter (2001a).

levels and wages is more ambiguous, though the hypothesis that trade-induced wage changes affect people's trade attitudes cannot be ruled out.[270]

Such wage changes need not actually occur for people to find trade unappealing, however. The mere possibility or risk that they *might* occur can affect people's welfare if they are risk averse, and economic theory and evidence suggest that increased risk can accompany increased global integration. Moreover, American data from Jensen and Kletzer on economic activities that are *potentially* tradeable suggest that people in service occupations are far more vulnerable to offshoring than previously thought.[271] Elsewhere, Mayda, O'Rourke and Sinnott find some evidence that risk preferences actually affect people's trade attitudes. Using a 2000 survey of nine Asian and nine Western European countries, they find that a constructed measure of risk aversion is negatively correlated with pro-trade attitudes, and that this correlation is stronger in countries with lower levels of social spending.[272,273]

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[270] O'Rourke and Sinnott (2001) and Mayda and Rodrik (2005) show evidence that global attitudes appear consistent with what the Stolper-Samuelson theorem would predict about the effect of trade on their wages: in countries with relatively high levels of human capital, those with high levels of human capital appear more likely to favor trade, and those not so endowed (or so endowed in countries with relatively low levels of human capital) appear more likely to oppose it. Hainmueller and Hiscox (2004; 2006) argue that the Stolper-Samuelson findings do not hold up upon closer inspection or in a 2002 Pew dataset. They do not rule out the possibility of distributional concerns playing a role, but do argue that the Stolper-Samuelson findings are "not clearly manifest" in the data at present.

[271] Jensen and Kletzer (2006).

[272] They take this to be evidence for the Polanyi-Cameron-Ruggie-Rodrik argument that governments can bolster support for globalization if they provide citizens with large government sectors and social safety nets to shield them from volatility [Polanyi (1944), Cameron (1978), Ruggie (1982), Rodrik (1997) and Rodrik (1998)]. I am concerned in this paper with whether these factors explain attitudes toward trade. Whether these attitudes ultimately affect the size of government expenditures through the political process is a separate question in some dispute. Alesina and Glaeser (2004, pp. 83-86) provide evidence that the degree to which an economy is open does not explain the amount of social spending, indicating instead that whether the political system is proportional or majoritarian is a much stronger predictor of social spending among OECD countries. Openness is not a significant predictor of spending in their regressions when the type of political system is included.

Thus, people's trade attitudes appear "pretty prudent", as their views appear to reflect their individual values and the impact that trade can be expected to have on their economic interests.[274] Values and interests may not be the whole story, however. Ideas may matter too. Hiscox and Hainmueller have asked whether education itself affects people's trade attitudes directly, rather than indirectly by giving people particular skills.[275] They find that while all types of education increase skills, only college education significantly increases a person's likelihood of favoring increased trade, all else equal.[276,277] This effect obtains regardless of whether people are in the labor force or not, which wage-based theories cannot explain. The authors consequently speculate that college education must affect people's trade attitudes by changing the way they think about trade, perhaps because "...it teaches students to think about trade and globalization in different ways and/or to evaluate it according to a different set of values."[278] Using a different method, Caplan goes further and suggests that if Americans had PhDs in

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[273] Scheve and Slaughter (2004) look at another dimension of risk. Using British panel data, they find that increased foreign direct investment, which can increase the elasticity of demand for labor and make workers' jobs more insecure, is positively correlated with individual perceptions of economic insecurity.

[274] After Jentleson (1992). Aldrich, Gelpi, Feaver, Reifler and Thompson Sharp (2006) reach this conclusion from a similar survey of the literature. Exactly how people understand their interests is not clear. While people's views are consistent with traditional trade theory, this body of work is surely unknown to the general public. Scheve and Slaughter (2001b, p. 43n) assume that some sort of low-information rationality is at work and also that people only consider their self-interest when they express these attitudes.

[275] Hiscox (2006) also criticizes the earlier studies on two other grounds. First, he argues, they did not take into account question wording effects. He finds that when he introduces Americans to survey questions about trade with "antitrade" introductions highlighting the possibility of job losses, 17% fewer people favor increased trade than those given no such introduction (p. 767). These and other framing effects are also larger for less educated Americans, indicating that question wordings introduce systematic biases in survey responses and that people's educations likely mediate how contemporary trade debates affect their attitudes. As will be discussed in more detail below, this effect is likely attributable to traditionally strong correlations between education and cognitive ability, and the tendency of higher cognitive ability to leave people relatively immune to framing effects. See Stanovich and West (1998; 2000).

[276] Hainmueller and Hiscox (2006).

[277] Gender is relevant with respect to education as well. College-educated women are systematically less likely to have pro-trade attitudes than college-educated men, which may reflect differing levels of exposure to economic ideas; this finding persists even after one takes into account numerous plausible controls. See Burgoon and Hiscox (2004).

[278] Hainmueller and Hiscox (2006, p. 470).

economics, their views would approach those of economists on a variety of economic issues including trade.[279]

Education, however, is highly correlated with cognitive ability.[280] It is also thought to increase people's tendency to seek out political information and influence how they process it.[281] If this ability in turn affects people's views on trade, then existing estimates of the impact of education on trade attitudes may be biased. Caplan and Miller use American data from the General Social Survey to see if such "ability bias" is likely to exist for trade and other economic attitudes, measuring cognitive ability with the WORDSUM verbal subtest from the Wechsler Adult Intelligence Scale (WAIS).[282] They find that estimates of the impact of education on Americans' trade attitudes (as measured by responses to questions about limiting imports to protect the economy and whether America benefits from membership in NAFTA) are either unbiased or biased upward only slightly when cognitive ability is omitted.[283] They also find that cognitive ability is a significant predictor of people's attitudes toward import limits, but, puzzlingly, not of their attitudes toward NAFTA. Cognitive ability may indeed have an effect on people's trade attitudes, though it is not clear whether this effect is robust.

[279] Caplan (2001); Caplan (2007). He uses an econometric model to mimic the effect of treating people with the knowledge that comes with an economics PhD, and separates its effect on trade attitudes from the effect of having a doctoral degree alone.
[280] See discussion in Frederick (2005) and Caplan and Miller (2006).
[281] See for example the discussions in Luskin (1987; 1990) and Zaller (1992, p. 21).
[282] Caplan and Miller (2006).
[283] This trend is unlike what they find with respect to people's attitudes on a variety of other economic issues. Trade may have special characteristics that other issues do not.

So education and cognitive ability may each have independent, positive and politically significant effects on people's attitudes toward trade.[284] But while the channels through which people's education affects their trade attitudes seem straightforward, those that might exist for cognitive ability seem more diffuse. Existing evidence suggests that more intelligent people tend to be more politically sophisticated, and that more politically sophisticated people tend to be more interested in politics, better at identifying their political interests and more likely to be persuaded by "reasoned argument" than symbolic appeals.[285] As Sniderman says, "It may sound innocent to say that the politically sophisticated and the politically indifferent make up their minds about political choices in different ways, but this is, I am obliged to say, a wolf's claim in sheep's clothing. If correct, standard accounts of public opinion are misspecified."[286] In the context of trade, it may be that the politically sophisticated acquire more reliable information than others, resulting in beliefs closer to those of economists. Or they may simply get more exposure to economists' consensus on the subject.[287]

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[284] Even these estimates of the impact of both education and cognitive ability on trade attitudes might contain bias because they do not control for variation in individual levels of risk aversion, which emerging evidence suggests *decrease* with cognitive ability (Frederick, 2005; Benjamin, Brown and Shapiro, 2006; and Dohmen, Falk, Huffman and Sunde, 2007). People of higher ability might therefore be more likely to favor trade liberalization because they are more accepting of or able to cope with the risks that come with it rather than because they possess any superior understanding of its benefits or comparative advantage. In sum, identifying the effects of education, cognitive ability and risk preferences on people's trade attitudes is a difficult task, even if one assumes that they affect them in a unidirectional manner. Existing estimates all omit one or more of these factors and hence are not completely satisfactory.

[285] Luskin (1990).

[286] Sniderman (1993, p. 223).

[287] One might also wonder whether people of higher cognitive ability are more likely to understand the theory of comparative advantage. Evidence for this is ambiguous. People who score better on a series of textbook-style comparative advantage resource allocation questions are less likely to favor import restrictions, though they also tend to be better educated than their more protectionist counterparts (Baron and Kemp, 2004). However, neither having heard of the concept of comparative advantage before nor having studied economics in high school or college can explain their higher scores on the test. While it is possible that such people simply gain an understanding of comparative advantage over time without knowing it, I suspect this task merely proxies for cognitive ability, leaving the causal chains open to speculation once again.

In sum, values, economic interests, and ideas appear to inform people's trade attitudes in the real world. All of these considerations must be born in mind in testing the hypotheses from the last chapter, which to recap are:

H1: When attention is low, people of higher cognitive ability will tend to find comparative analogies more persuasive than people of lower cognitive ability.

H2: When attention is low, the difference in the degree to which people of higher and lower cognitive ability find comparative advantage analogies persuasive will be attenuated when those analogies are more familiar, more structurally sound and possess fewer superficial attributes likely to distract people from making the relevant inferences.

H3: When attention is low, people of higher cognitive ability will tend to find mercantilist "trade is like war" analogies based on superficial similarities less persuasive than people of lower cognitive ability.

For these hypotheses to hold, the psychological impact of the analogies must be considerable. Below, I outline the experiment I used to test these hypotheses.

Experimental Design

To mimic the conditions of low attention so often associated with people's processing of political information, an online survey was used. The survey randomly assigned

respondents to one of four groups. The first group received the following control question:

Do you favor or oppose policies that limit imports from other countries?

followed by four possible responses: *Strongly Oppose, Somewhat Oppose, Somewhat Favor, and Strongly Favor*. The other three groups received this same question preceded by either a mercantilist analogy or one of two comparative advantage analogies as described below. Respondents were not offered a "Don't Know" option, though they had the option of not answering by simply proceeding to the next question.[288]

The wording of the question itself has several advantages. First, it is relatively clean and does not introduce considerations about protecting jobs or the economy, for example, as many questions have in the past. Second, the mercantilist and comparative advantage introductions detailed below suggest clear inferences about the desirability of *imports* as opposed to trade in general.

[288] This practice follows the recommendation of Krosnick et al. (2002). Given the length of the introductory treatments, the potential for satisficing by respondents was an acute concern. Therefore, no middle category or "Don't Know" option was offered.

Table 5.1: Survey Question Introduction Treatments by Type of Argument

Treatment	Text
Mercantilist (Trade is Like War)	Many commentators believe that imports are bad for the country because they make it poorer. They believe that trade is like war. Countries engage in both war and trade. In trade, a country earns money when it exports things and pays money when it imports things. The balance of trade is the difference between the value of what it exports to others and the value of what it imports from others. In a sense, the "balance of trade" is like the "balance of power". Just as a country wants the balance of power to be in its favor, it wants the balance of trade to be in its favor. Therefore trade surpluses are good for the country and trade deficits are bad. Consequently, these people believe the country is wealthier the more it exports and poorer the more it imports. **[141 words]**
Comparative Advantage (Tiger Woods)	Many commentators believe that imports are good for the country because they make it wealthier. They believe that importing is like professional golfer Tiger Woods hiring someone to mow his lawn. Tiger Woods gets wealthier hiring someone as long as he earns more money playing golf in the time he saves than he pays the person he hires – even if that person mows the lawn more slowly than Woods. In a sense, Woods "exports" golfing services and "imports" lawn mowing services. Likewise, the country gets wealthier by importing as long as it earns more from concentrating extra resources on its most productive activities than it pays for those imports – even if the exporting countries produce them less efficiently. Consequently, these people believe the country is wealthier when it produces what it earns the most from and imports the rest. **[140 words]**
Comparative Advantage (Bob Vila)	Many commentators believe that imports are good for the country because they make it wealthier. They believe that importing is like home improvement television show host Bob Vila hiring someone to renovate his house. Bob Vila gets wealthier hiring someone as long as he earns more money developing his show in the time he saves than he pays the person he hires – even if that person renovates more slowly than Vila. In a sense, Vila "exports" hosting services and "imports" home renovation services. Likewise, the country gets wealthier by importing as long as it earns more from concentrating extra resources on its most productive activities than it pays for those imports – even if the exporting countries produce them less efficiently. Consequently, these people believe the country is wealthier when it produces what it earns the most from and imports the rest. **[142 words]**

Note: All preambles are followed by the question: "*Do you favor or oppose policies that limit imports from other countries?*"

Third, it asks about government policies but not ones that are overly specific such as tariffs, with which respondents are often unfamiliar.[289] Fourth and finally, it is accessible, as headlines referring to "import limits" and so on often appear in television newscasts and newspapers. The introductory treatments, each approximately 140 words long, are shown in Table 5.1. The treatments are written in a style that citizens could plausibly encounter in the real world, like one might find in a newscast, op-ed or magazine article. They attempt to strike a balance between readability and getting across the technical substance of each idea faithfully. The first treatment represents the mercantilist idea from the previous chapter that "trade is like war" given the superficially similar phrases "balance of trade" and "balance of power". The first comparative advantage treatment draws on the "Tiger Woods" analogy discussed in the previous chapter. As noted earlier, the analogy is not perfect: people have no reason to expect that Tiger Woods is better at mowing his lawn than whomever he hires, and so might be distracted by this aspect of the analogy. The second comparative advantage treatment was designed to remedy this by substituting another celebrity, Bob Vila, for Tiger Woods.[290] Bob Vila is a home improvements guru widely known to Americans for hosting daytime television shows and selling branded products through his website. As in the Tiger Woods example, we assume he is better off hiring someone to perform a household task if it allows him to earn more money performing his day job. In this case, however, it also seems more plausible that he could actually be better at performing that task than the person he hires.

[289] See discussion in Hiscox (2006, p. 758n).
[290] Thanks to Dusan Koljensic for the suggestion of using Bob Vila.

In this sense then, the Bob Vila analogy is "better formulated" than the Tiger Woods one.[291,292]

Table 5.2: Modified Cognitive Reflection Test (MCRT) Questions and Answers

Question	Impulsive Answer	Correct Answer
Jerry received both the 15th highest grade and the 15th lowest grade in a class. How many students are there in the class? _____ *cents.*	30	29
If it takes 5 minutes for 5 machines to make 5 widgets, how many minutes would it take for 100 machines to make 100 widgets? _____ *minutes.*	100	5
In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days to cover the entire lake, how many days would it take for the patch to cover half of the lake? _____ *days.*	24	47

Source: Frederick (2005).[293]

[291] It was also thought that this analogy might appeal more to women, as Bob Vila markets garden and other tools on the Home Shopping Network. These advertisements appear directed at women more than men.

[292] Of course, we should only expect these analogies to be effective if people are familiar with these celebrities. To gauge name recognition and familiarity, respondents in the latter two treatment groups were asked whether they: a) had ever heard of the Tiger Woods/Bob Vila; b) had heard of him but *did not* know what he did for a living; or c) had heard of him and *did* know what he did for a living. Over 93% of the respondents in the Tiger Woods treatment group knew who he was and what he did for a living, while 78% of respondents in the Bob Vila treatment group knew who he was and what he did for a living.

[293] The first question was changed because it appeared to present difficulties for respondents in pretests; however, such concerns later proved to be unfounded. The first question was obtained from Frederick and was part of a longer, unpublished version of the CRT.

To gauge cognitive ability, respondents were given a slightly modified version of Frederick's Cognitive Reflection Test (MCRT) on which they could score from 0 to 3.[294] The test items are shown in Table 5.2. Each of the items has an impulsive, wrong answer that springs immediately to mind and a correct answer that for most people requires a few moments' thought. In this sense, the test measures people's tendency for "cognitive reflection". To my knowledge, this is the first time a variant of this test has been used with a nationally representative sample.

The primary advantage of the MCRT is that it is quick to administer and provides a measure that, among American college students at least, has a correlation of 0.43-0.46 with traditional measures of intelligence, such as SAT scores.[295] This correlation is somewhat modest.[296] While the MCRT is not a general measure of cognitive ability, it likely has many "sources of shared variance" with such tests.[297] And for the purposes of examining how cognitive ability (understood in terms of "Type 2" processing) affects people's reactions to analogies, it has characteristics that seem highly relevant to whether people are likely to focus on the superficial or structural aspects of a given analogy.

In particular, the impulsive answers all involve taking the numbers in the question and putting them together in a "superficial" way. In the first question, 15 and 15 make 30; in the second question, a pattern of 5, 5 and 5 leads people to attach 100, 100 and 100 to a similar situation; and in the third question, seeing 48 and "half" leads many people to

[294] See Frederick (2005).
[295] Frederick (2005). The correlation here refers to the original CRT.
[296] Stanovich (2009, p. 190).
[297] Frederick (2005, p. 35).

respond quickly with 24. The "reflective" answers, meanwhile, require people to pause and consider the underlying structure of the information each question offers and then apply it accordingly. It requires people to both override their "Type 1" reaction to the problem and perform the appropriate "Type 2" process correctly.[298] That said, the test is not perfect and only assesses, in Frederick's words, "one type" of cognitive ability.[299]

Values for this experiment were assessed with the following question: "How close do you feel to your neighborhood?"[300] People's interests with respect to trade were gauged with two types of questions. First, demographic information about respondents' educational attainment was obtained. Second, respondents were asked "How concerned are you about your job security?" on a 5-point scale, as well as the question "Do you think increased imports make your job *more* secure or *less* secure?" on a 5-point scale. People's level of risk aversion was also measured by asking people "How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?" on a 7-point scale.[301] Demographic information was also collected, along with answers to additional questions of interest, including whether or not people had ever taken high school or college-level economics courses.[302] Finally, the survey also recorded how long,

[298] See Stanovich (2009, pp. 38-40) on the distinction between initiating the override process and then actually performing the relevant calculations.
[299] Frederick (2005, p. 26).
[300] Resource constraints prevented further investigation of this dimension. However, based on the data reported in Mayda and Rodrik (2005), Americans' attachment to their country is generally very high and varies little. This "neighborhood" question was also used in the earlier studies by O'Rourke, Sinnott, Mayda and Rodrik and was thought to be the most relevant one with respect to trade attitudes as well.
[301] This question comes from Dohmen, Falk, Huffman and Sunde (2006). When used on an 11-point scale, it predicted risk-acceptant and risk-averse behaviors among Germans such as whether they smoked, were self-employed, were employed in the public sector, and invested in stocks.
[302] See Appendix A for details.

in seconds, each respondent spent on the screens with each of the MCRT questions and how long they spent on the screens with the trade questions and the introductions.

Data and Broad Trends

This survey was fielded by the firm Knowledge Networks to a nationally representative sample of 1,598 adult Americans in December 2007, of which 1,577 provided answers for the trade questions. For ease of exposition and comparison to past studies, people's responses are discussed in terms of whether they are "pro-trade" rather than whether they favor or oppose limits on imports. The responses are dichotomized into a *Protradebinary* variable, with 1 representing a favorable (unfavorable) view of trade (policies that limit imports) and 0 representing an unfavorable (favorable) view of trade (policies that limit imports). Table 5.3 reports the percentage of respondents favoring trade in the control and treatment groups.

These results suggest that the treatments had no first-order effects, which does not bode well for the hypotheses. We might have expected some general movement in these percentages, even if respondents varied in the degree to which they responded to the treatments. Why are there no obvious treatment effects? Before the more detailed analysis that follows, the simple percentages from the control group shown in Table 5.4 below can give us a sense of the determinants of Americans' trade attitudes.

TABLE 5.3: Percentage of Respondents Favoring Trade (Opposing Import Limits)

Condition	Percent of Respondents Favoring Trade (Opposing Import Limits)
Control	43% N=393
Mercantilist (Trade is Like War)	44% N=391
Comparative Advantage (Tiger Woods)	43% N=395
Comparative Advantage (Bob Vila)	43% N=398
Overall	43% N=1,577

Table 5.4 summarizes how support for trade varied across different demographic variables and survey questions in the control group only. Women appear no more or less pro-trade than men, and people with bachelor's or graduate degrees seem significantly more pro-trade than those without. People's attachment to their neighborhood does not seem to be correlated with their attitudes toward trade away from the extremes, and people's concerns about the effect of imports on their job do seem to have a large, consistent effect on their attitudes where general concerns about job security do not. Risk preferences do not seem to bear strongly on trade attitudes. Raw MCRT scores do not seem to bear strongly on trade attitudes either, except for the small minority who score 3 out of 3 on the test (see Appendix E for a detailed discussion of the MCRT scores and their distribution).

TABLE 4: Percentage of Control Group Respondents Favoring Trade By Demographic Category or Question

Gender			43% N=190		43% N=203		
			Male		*Female*		
Education		41% N=41	33% N=126	39% N=107	52% N=72	68% N=47	
		Less than high school	*High school*	*Some college*	*Bachelor's degree*	*Graduate degree*	
How close do you feel to your neighborhood?	55% N=27	64% N=21	39% N=56	39% N=106	39% N=83	50% N=63	33% N=34
	Not close at all			*Somewhat close*			*Very close*
Labor force participation			44% N=152		42% N=241		
			Not in labor force		*In labor force*		
(If in labor force) How concerned are you about your job security?		48% N=85	52% N=53	36% N=46	24% N=17	33% N=37	
		Not concerned at all		*Somewhat concerned*		*Very concerned*	

(If in labor force) Do you think increased imports make your job more *secure or* less *secure?*	10% N=22 *Much less secure*		27% N=48 *Somewhat less secure*	46% N=142 *Neither more secure nor less secure*	74% N=21 *Somewhat more secure*	75% N=5 *Much more secure*	
How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?	40% N=29 *Try to avoid taking risks*	17% N=29	43% N=81	47% N=116 *Neither try to avoid taking risks nor fully prepared to take risks*	46% N=96	47% N=29	63% N=10 *Fully prepared to take risks*
MCRT score		41% N=189 *0*	41% N=91 *1*	37% N=65 *2*	62% N=48 *3*		
Party affiliation	38% N=184 *Democrat*			74% N=16 *Other*		44% N=193 *Republican*	
Economics courses	33% N=209 *No courses*			58% N=133 *High school*		53% N=99 *College*	

Democrats and Republicans do not show large differences, while those with Other or no party affiliations seem much more pro-trade. People who have taken an economics course appear much more pro-trade as well.

Analysis and Results

These trends are analyzed more rigorously in Table 5.5, which presents benchmark probit regressions of people's responses to the import limit question (*Protradebinary*). Models 1 through 4 include the control group only, and incrementally add controls for MCRT scores, party affiliation, and finally whether or not respondents have taken high school or college-level economics courses. Models 4 through 6 do the same but add the three treatment groups to the control group.

TABLE 5: Determinants of Trade Attitudes

Dependent Variable	*Protradebinary Control Group*			*Protradebinary Control and Treatment Group*		
Coefficient	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female	-0.03	-0.02	-0.01	-0.03	-0.02	-0.01
	(0.06)	(0.07)	(0.07)	(0.06)	(0.07)	(0.07)
Less than high school	0.13	0.12	0.13	0.14*	0.14*	0.12+
	(0.12)	(0.12)	(0.12)	(0.06)	(0.06)	(0.06)
Some college	0.02	0.02	-0.05	0.01	0.01	0.01
	(0.08)	(0.08)	(0.08)	(0.04)	(0.04)	(0.04)
Bachelor's degree	0.18+	0.17+	0.11	0.06	0.06	0.06
	(0.09)	(0.10)	(0.10)	(0.05)	(0.05)	(0.05)
Graduate degree	0.33***	0.29**	0.19+	0.17**	0.16**	0.16**
	(0.10)	(0.11)	(0.12)	(0.05)	(0.06)	(0.06)
Laborforce	-0.56***	-0.59***	-0.62***	-0.31***	-0.31***	-0.32***
	(0.12)	(0.12)	(0.12)	(0.08)	(0.08)	(0.07)
Laborforce X Effect of Imports On Job Security	0.20***	0.22***	0.25***	0.13***	0.13***	0.13***
	(0.05)	(0.06)	(0.06)	(0.03)	(0.03)	(0.03)
Union	-0.07	-0.09	-0.12	-0.12*	-0.12*	-0.13*
	(0.11)	(0.11)	(0.11)	(0.05)	(0.05)	(0.05)
Mercantilist (Trade is Like War)				0.00	0.00	-0.01
				(0.05)	(0.05)	(0.04)
Comp. Adv. (Tiger Woods)				0.01	0.01	0.01
				(0.05)	(0.05)	(0.05)
Comp. Adv. (Bob Vila)				0.02	0.02	0.02
				(0.05)	(0.04)	(0.04)
MCRT Scores	No	Yes	Yes	No	Yes	Yes
Party affiliation	No	No	Yes	No	No	Yes
Economics courses	No	No	Yes	No	No	Yes
Observations	371	371	371	1494	1494	1494

Notes: Dependent variable = 1 if respondent favors trade (opposes policies that limit imports) and 0 if opposes trade (favors policies that limit imports). Probit estimations include only those respondents with valid MCRT scores as described in Appendix E. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, closeness to neighborhood and risk preferences. Marginal effects of MCRT score, party affiliation and economics course dummies are not shown but discussed in the text.

Several factors stand out. First, gender does not appear to have any effect on trade attitudes in these benchmark models (though more on this later).[303] Second, only people with MCRT scores of 3 appear significantly more (9 percentage points, plus or minus 10 percentage points) pro-trade than those with MCRT scores of 0, and then only at the 10% level in model 6. Third, the effects of education appear greatest at the extremes: those with graduate degrees are significantly more likely, both politically and statistically, to favor trade than high school graduates while those with bachelor's degrees are not. Interestingly, those with *less* than a high school education appear significantly more likely to favor trade than those with high school or college educations.

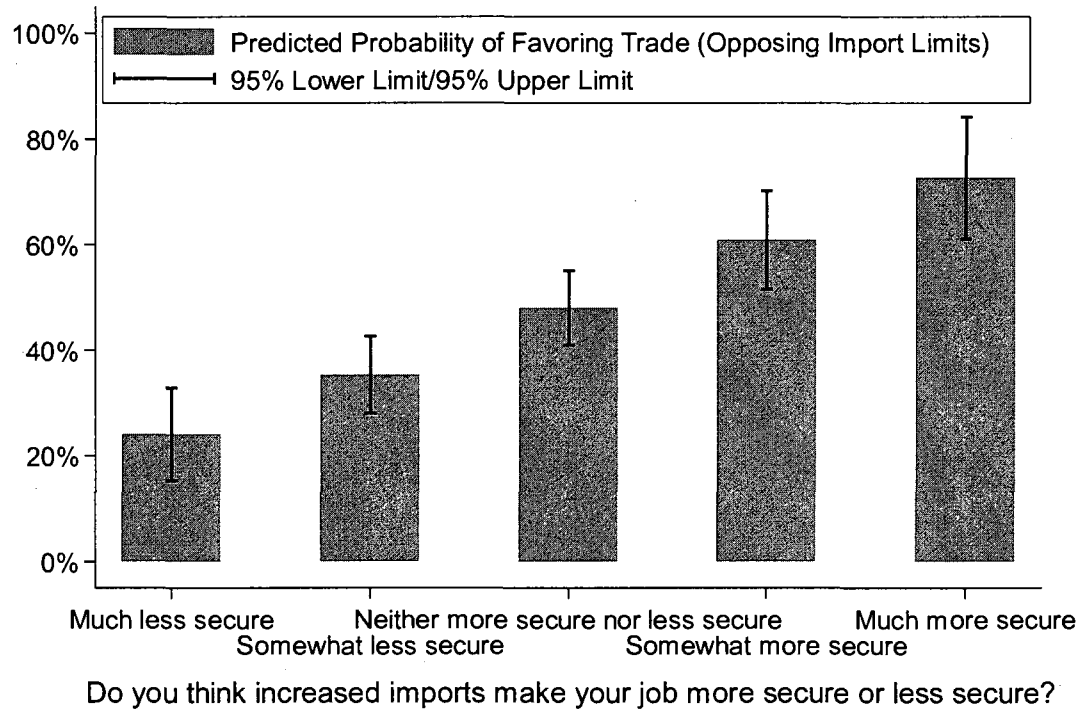
Fourth, how people perceive their job security to be affected by increased imports affects their views on import limits as one would expect. The models in Table 5.5 include a dummy variable indicating whether a respondent is in the labor market (including the unemployed looking for work), plus this same variable interacted with whether or not they think increased imports make their jobs more or less secure. As has been widely documented recently, the marginal effects and associated standard errors reported for interaction terms such as these do not necessarily have substantive interpretations in isolation – speaking of "main" and "interaction" effects can be misleading.[304] In this case, the trade attitudes of labor force participants depend on whether they believe imports positively or negatively affect their job security.

[303] This is a surprising finding given that Burgoon and Hiscox (2004) find robust gender differences in trade attitudes.

[304] See Braumoeller (2004), Brambor, Clark and Golder (2006) and Kam and Franzese (2007). Marginal effects for the interaction terms produced by the `dprobit` command in Stata (see Ai and Norton [2003] and Norton, Ai and Wang [2004]) were checked using Clarify.

For instance, based on Model 6, the predicted probability that a non-union member respondent outside of the labor force will favor trade in the control condition is 41% (plus or minus 8%) when all other variables are held at their sample means. Figure 5.1 shows the same predicted probabilities for a similar respondent in the labor force, this time in relation to how they perceive their job security to be affected by increased imports.[305]

Figure 5.1: The Effect of Imports on Job Security and Trade Attitudes



Note: Based on Model 5 in Table 5, these values reflect the predicted probability of a non-union laborforce participant in the control condition favoring trade, with all other variables held at their sample means (except treatment variables, which are held at zero to reflect the control condition).[306]

Clearly, how people perceive their job security to be affected by imports affects whether they think imports should be limited. For instance, those in the labor force who believe their job is made somewhat or much more secure by increased imports are significantly

[305] Once concerns about the impact of imports on job security are included in the model, people's concerns about their job security in general are not significant when added to the models.
[306] Results generated using SPost command in Long and Freese (2005).

more pro-trade than those outside the laborforce. Laborforce participants who believe their job is made much less secure by increased imports are significantly less pro-trade than those outside the laborforce. Table 5.5 also indicates that being in a union also matters: union members are 12 to 13 percentage points (plus or minus 10 percentage points) less likely to favor trade than non-union members. Fifth, once we control for other factors, Democrats appear approximately 6 percentage points more pro-trade than Republicans – the reverse of the effect we would expect from the overall trends – though this effect is only significant at the 10% level. People with Other or no affiliations appear much (18 percentage points, plus or minus 18 percentage points) more pro-trade than Republicans. Perhaps the Independents among them share a particularly pro-market or libertarian disposition that drives their attitudes toward trade. Sixth and finally, college economics courses do not seem to matter, whereas having taken a high school economics course seems to be quite significant. Based on Model 6, those who took a high school economics course were 7 percentage points more likely (plus or minus 6 percentage points) to favor trade than those who did not. This is not likely to be purely the result of the course itself, however, as some people will have chosen to take an economics course in high school (perhaps because of a pro-market orientation) while others will have taken one as required by the general curriculum.[307]

[307] Some US states require students to take economics courses to graduate from high school, while most do not. See National Council on Economic Education (2007).

TABLE 5.6: Determinants of Trade Attitudes by MCRT Score

Dependent Variable	*Protradebinary MCRT Score = 0*			*Protradebinary MCRT Score ≥ 1*		
Coefficient	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Female	0.12**	0.12**	0.12**	-0.17***	-0.16**	-0.16***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)
Less than high school	0.12+	0.12+	0.10	0.09	0.10	0.07
	(0.07)	(0.07)	(0.07)	(0.12)	(0.11)	(0.11)
Some college	0.05	0.05	0.06	-0.05	-0.05	-0.08
	(0.05)	(0.05)	(0.06)	(0.07)	(0.07)	(0.07)
Bachelor's degree	-0.04	-0.04	-0.02	0.14*	0.13+	0.11
	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)	(0.08)
Graduate degree	0.09	0.09	0.10	0.21**	0.19*	0.17*
	(0.09)	(0.09)	(0.09)	(0.07)	(0.07)	(0.08)
Laborforce	-0.32***	-0.32***	-0.33***	-0.30*	-0.30*	-0.31*
	(0.09)	(0.09)	(0.09)	(0.13)	(0.13)	(0.13)
Laborforce X Effect on Security	0.14***	0.14***	0.14***	0.11*	0.11*	0.12**
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)
Union	-0.16*	-0.16*	-0.17**	-0.06	-0.06	-0.06
	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.08)
Mercantilist (Trade is Like War)	-0.00	-0.00	-0.00	-0.03	-0.02	-0.04
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Comp. Adv. (Tiger Woods)	0.00	0.00	0.01	0.00	0.01	0.01
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Comp. Adv. (Bob Vila))	0.07	0.07	0.07	-0.10	-0.09	-0.09
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
MCRT Scores	No	Yes	Yes	No	Yes	Yes
Party affiliation	No	No	Yes	No	No	Yes
Economics courses	No	No	Yes	No	No	Yes
Observations	782	782	782	712	712	712

Notes: Dependent variable = 1 if respondent favors trade (opposes policies that limit imports) and 0 if opposes trade (favors policies that limit imports). Probit estimations include only those respondents with valid MCRT scores as described in Appendix E. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, closeness to neighborhood and risk preferences. Marginal effects of MCRT score, party affiliation and economics course dummies are not shown but discussed in the text.

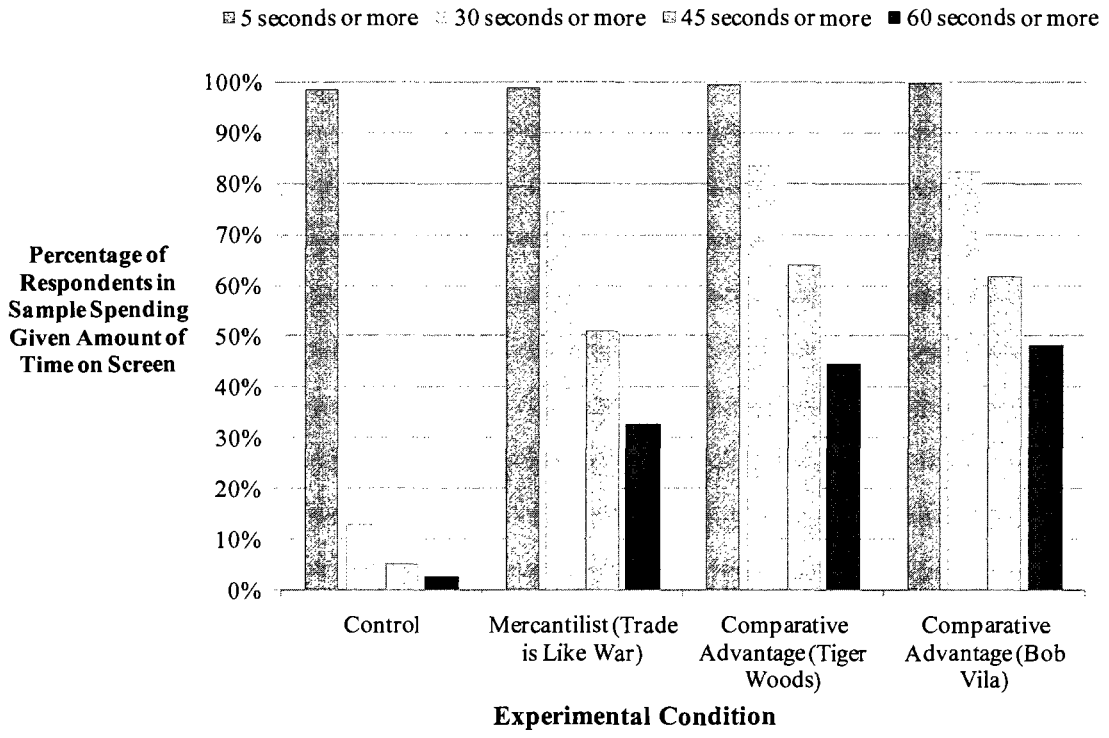
In sum, economic interests – as measured by whether people have advanced degrees and whether imports affect their job security – play a large role in people's attitudes toward trade. Not surprisingly, union membership also matters. And people without political affiliations or ones outside the two main parties seem especially pro-trade. In this dataset, values and attitudes toward risk do not appear to matter much. Similarly, cognitive ability as measured by the MCRT scores only appears to matter at the very high end.

How do the hypotheses hold up? For ease of exposition Table 6 takes models 4 through 6 from Table 5 and duplicates them for two subsamples: people of "low" cognitive ability (with MCRT scores of 0) and people of "high" cognitive ability (with MCRT scores of 1 or greater). As can be seen, none of the treatments has a significantly positive or negative effect on either of the two groups, so we should not expect to see any differences in those effects as the hypotheses would predict. More detailed interaction models (not shown here) that permit comparisons of coefficients across groups indicate that we can dismiss the hypotheses under these conditions. Indeed, the signs of the coefficients for the *Mercantilist (Trade is Like War)* and *Comparative Advantage (Bob Vila)* treatments trend in directions opposite to those predicted. It is interesting to note, however, that when the sample is split as it is here, women's predispositions toward trade relative to men's seem to differ depending on whether they scored 1 or better on the MCRT. Women who scored 0 are much *more* pro-trade than men who scored 0, while women who scored 1 or better are much *less* pro-trade than men who did so. This is a robust and hard to explain effect, worthy of future analysis and research.

Why didn't the hypotheses hold? Clearly labor market effects continue to drive much of people's attitudes in both subsamples, which may make people's attitudes hard to change. But another likely reason is that attention is scarce – many people did not spend much time reading these messages. Recall that data was collected on how much time respondents spent on the screens with the treatments. The more time spent on a screen, the more likely it is that the respondent actually read the treatment in full and considered its implications before providing an answer. Figure 5.2 shows, by condition, the percentage of respondents that spent *at least* 5, 30, 45 and 60 seconds on the screen they encountered (these thresholds are deliberately arbitrary to constrain the analysis). While the experiment *exposed* all respondents in the treatment conditions to certain messages, clearly a significant portion chose not to spend much time reading and hence *receiving* those messages.

Virtually all respondents spent at least 5 seconds on the screen, regardless of the condition. Respondents encountering the analogy treatments, however, had to read just over 150 words (the treatment plus the question itself), consider them, and provide a response. And even though the respondents were a relatively captive panel audience and encountered these messages at the very beginning of the survey, many of them evidently opted not to read the messages in detail. Only 51% of respondents in the "trade is like war" condition spent over 45 seconds on the screen, and only a third spent over 60 seconds. For the two comparative advantage treatment screens, just over 60% spent at least 45 seconds or more on the two comparative advantage treatment screens, while just under 50% spent at least 60 seconds these two treatment screens.

Figure 5.2: Time Spent on Screens by Condition



If we make the most basic assumption that all of this time was spent reading the question with the response provided immediately after, then those who spent 45 seconds or more read at a rate of roughly 225 words per minute (3.75 words per second) or less, while those who spent 60 seconds or more read at a rate of 150 words per minute (2.5 words per second) or less. These appear to be reasonable reading speeds, whereas the closer one gets to the 30 second threshold, the more implausible it is that people are reading, understanding and responding to the messages. Unfortunately, this dynamic in the data makes the effects of the treatments hard to interpret, as *receipt* of the message was not randomly varied across respondents as one would like in an experiment.

TABLE 5.7: Treatment Group Differences At Different Time Thresholds

Dependent Variable	*Protradebinary* Model 6			
Coefficient	≥ 5 sec.	≥ 30 sec.	≥ 45 sec.	≥ 60 sec.
Female	-0.01	-0.02	-0.04	-0.02
	(0.03)	(0.04)	(0.04)	(0.04)
Less than high school	0.11+	0.07	0.11	0.09
	(0.06)	(0.06)	(0.07)	(0.07)
Some college	0.01	0.01	0.03	0.04
	(0.04)	(0.05)	(0.05)	(0.06)
Bachelor's degree	0.06	0.02	0.06	0.06
	(0.05)	(0.06)	(0.06)	(0.07)
Graduate degree	0.15**	0.18**	0.19**	0.18*
	(0.06)	(0.06)	(0.07)	(0.08)
Laborforce	-0.33***	-0.29***	-0.36***	-0.38***
	(0.07)	(0.08)	(0.09)	(0.10)
Laborforce X Effect on Security	0.13***	0.11***	0.14***	0.15***
	(0.03)	(0.03)	(0.03)	(0.04)
Union	-0.13*	-0.14**	-0.12+	-0.07
	(0.05)	(0.05)	(0.06)	(0.08)
Mercantilist (Trade is Like War)	-0.00	-0.05	-0.03	-0.02
	(0.04)	(0.05)	(0.05)	(0.06)
Comp. Adv. (Tiger Woods)	0.02	0.04	0.04	0.04
	(0.05)	(0.05)	(0.05)	(0.06)
Comp. Adv. (Bob Vila))	0.02	0.01	-0.01	0.04
	(0.04)	(0.05)	(0.05)	(0.06)
MCRT Scores	Yes	Yes	Yes	Yes
Party affiliation	Yes	Yes	Yes	Yes
Economics courses	Yes	Yes	Yes	Yes
Observations	1490	1277	1031	817

Notes: Dependent variable = 1 if respondent favors trade (opposes policies that limit imports) and 0 if opposes trade (favors policies that limit imports). Probit estimations include only those respondents with valid MCRT scores as described in Appendix E. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, closeness to neighborhood and risk preferences. Marginal effects of MCRT score, party affiliation and economics course dummies are not shown but discussed in the text.

Any differences between those who chose to receive the message and those in the control group should therefore be interpreted with care because receipt of the message was chosen rather than assigned.

To examine this issue in more detail, Table 7 re-runs model 6 (controlling for MCRT scores, party affiliation and having taken high school or economics courses) for all respondents, but this time restricts the observations to those respondents in the control group who spent at least 5 seconds on the trade question screen and looks at four cases in which observations in the treatment groups are restricted to respondents who spent at least 5, 30, 45 or 60 seconds on their screens.

These models ask the question: Were those who spent at least a certain amount of time on the treatment screens significantly more or less likely to favor trade in comparison to the control group? Again, any differences we observe are not treatment effects per se, because people chose of their own accord to spend a certain amount of time reading the treatments, and this choice likely depends on a variety of unobserved factors.

The models in Table 5.7 show results very similar to those found in Table 5.6, as almost all respondents in the control group spent at least 5 seconds on their screen. But they also show that, even among those who stayed on the screens for 30, 45 or 60 seconds or more, the treatments had no effects on attitudes.

TABLE 5.8: Treatment Group Differences At Different Time Thresholds, MCRT Score = 0

Dependent Variable	*Protradebinary* Model 6			
Coefficient	≥ 5 sec.	≥ 30 sec.	≥ 45 sec.	≥ 60 sec.
Female	0.12**	0.11*	0.07	0.11+
	(0.04)	(0.05)	(0.05)	(0.06)
Less than high school	0.09	0.04	0.09	0.05
	(0.07)	(0.07)	(0.08)	(0.09)
Some college	0.06	0.08	0.12+	0.12
	(0.06)	(0.06)	(0.07)	(0.08)
Bachelor's degree	-0.02	-0.04	0.02	0.05
	(0.08)	(0.08)	(0.10)	(0.11)
Graduate degree	0.11	0.17+	0.17	0.14
	(0.09)	(0.10)	(0.11)	(0.13)
Laborforce	-0.33***	-0.27**	-0.35**	-0.37**
	(0.09)	(0.10)	(0.11)	(0.12)
Laborforce X Effect on Security	0.14***	0.11**	0.14***	0.16***
	(0.03)	(0.03)	(0.04)	(0.05)
Union	-0.16**	-0.13+	-0.10	-0.07
	(0.06)	(0.07)	(0.09)	(0.10)
Mercantilist (Trade is Like War)	0.00	-0.04	-0.01	0.01
	(0.06)	(0.07)	(0.07)	(0.08)
Comp. Adv. (Tiger Woods)	0.02	0.03	-0.00	-0.07
	(0.06)	(0.07)	(0.07)	(0.08)
Comp. Adv. (Bob Vila))	0.07	0.07	0.07	0.09
	(0.06)	(0.06)	(0.07)	(0.08)
MCRT Scores	Yes	Yes	Yes	Yes
Party affiliation	Yes	Yes	Yes	Yes
Economics courses	Yes	Yes	Yes	Yes
Observations	779	646	519	415

Notes: Dependent variable = 1 if respondent favors trade (opposes policies that limit imports) and 0 if opposes trade (favors policies that limit imports). Probit estimations include only those respondents with valid MCRT scores as described in Appendix B. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, closeness to neighborhood and risk preferences.

TABLE 5.9: Treatment Group Differences At Different Time Thresholds, MCRT Score = 1

Dependent Variable	*Protradebinary* Model 6			
Coefficient	≥ 5 sec.	≥ 30 sec.	≥ 45 sec.	≥ 60 sec.
Female	-0.17***	-0.15**	-0.18**	-0.17**
	(0.05)	(0.05)	(0.06)	(0.06)
Less than high school	0.06	0.10	0.10	0.12
	(0.11)	(0.12)	(0.12)	(0.13)
Some college	-0.07	-0.08	-0.09	-0.06
	(0.07)	(0.07)	(0.08)	(0.09)
Bachelor's degree	0.11	0.05	0.08	0.06
	(0.08)	(0.08)	(0.09)	(0.10)
Graduate degree	0.16*	0.17*	0.19*	0.20+
	(0.08)	(0.08)	(0.10)	(0.11)
Laborforce	-0.33**	-0.31*	-0.39**	-0.45**
	(0.13)	(0.14)	(0.15)	(0.15)
Laborforce X Effect on Security	0.12**	0.12*	0.14*	0.15*
	(0.04)	(0.05)	(0.06)	(0.06)
Union	-0.06	-0.11	-0.10	-0.06
	(0.08)	(0.08)	(0.09)	(0.11)
Mercantilist (Trade is Like War)	-0.04	-0.07	-0.07	-0.13
	(0.06)	(0.06)	(0.07)	(0.09)
Comp. Adv. (Tiger Woods)	0.02	0.02	0.08	0.17*
	(0.06)	(0.07)	(0.08)	(0.08)
Comp. Adv. (Bob Vila))	-0.09	-0.08	-0.11	-0.03
	(0.06)	(0.06)	(0.07)	(0.09)
MCRT Scores	Yes	Yes	Yes	Yes
Party affiliation	Yes	Yes	Yes	Yes
Economics courses	Yes	Yes	Yes	Yes
Observations	711	631	512	402

Notes: Dependent variable = 1 if respondent favors trade (opposes policies that limit imports) and 0 if opposes trade (favors policies that limit imports). Probit estimations include only those respondents with valid MCRT scores as described in Appendix E. Marginal effects ($\delta F/\delta x$) are shown with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. Models also include controls for age, closeness to neighborhood and risk preferences.

Tables 5.8 and 5.9 break down the results from Table 5.7 further by MCRT score. Table 5.8 shows results similar to those of Table 5.7 for people who scored zero on the MCRT, while Table 5.9 indicates that people who scored 1 or better and who spent at least 60 seconds on the Tiger Woods screen were significantly more likely to favor trade than people of similarly high cognitive ability in the control group. In regressions not shown here, this relationship also holds when we exclude the outliers on cognitive ability – those who scored 3 on the MCRT. However, it does not hold when we vary the time threshold more than a few seconds: it holds when the threshold is 55 seconds, but not when it is changed to 50, 65, or 70 seconds. Given that there is no reason to believe a 55- or 60-second threshold is more indicative of having read the treatment than, say, a 50- or 65-second threshold, we should not put any stock in this finding.

But even if we were to take this finding as given, it would not be sufficient to support the original hypothesis regarding comparative advantage analogies. While there do appear to be differences in trade attitudes among people of "high" cognitive ability who likely read the Tiger Woods treatments and similar people in the control groups, these differences are not significantly different from the statistically insignificant differences we saw among those of "low" cognitive ability.[308]

With respect to the original hypotheses then, we find that the mercantilist analogy was not persuasive and hence generated no meaningful differences in the degree to which different groups were persuaded. The Tiger Woods analogy had a large impact on people

[308] Regression tables and calculations for this assertion are not shown here for ease of exposition, as the broad conclusions from the data can be seen in the subsample regressions.

of high cognitive ability, but only under very limited conditions, and again generated no meaningful differences in the degree to which different groups were persuaded. The "better formulated" Bob Vila analogy had no effects either.

Replication With Results From Quebec

These results were broadly replicated in the Quebec survey as well, with a few differences. Respondents to the Quebec survey were given the same question about trade, along with the mercantilist and Tiger Woods analogies randomly assigned. As with the American respondents, the data do not support the hypotheses. However, it is interesting to note that the mercantilist analogy makes people more pro-trade if anything, while the Tiger Woods analogy has a similar effect, but one which cannot be attributed to people's processing the analogy in any great detail. Rather than reproduce the analysis above in its entirety for the Quebec sample, I highlight below just a few of the main findings and discuss them in relation to the ones presented above.

As before, people's responses are discussed in terms of whether they are "pro-trade" rather than whether they favor or oppose limits on imports, with 1 representing a favorable (unfavorable) view of trade (policies that limit imports) and 0 representing an unfavorable (favorable) view of trade (policies that limit imports). Table 2 reports the percentage of respondents favoring trade in the control and treatment groups.

Table 5.10: Percentage of Quebec Respondents Favoring Trade

Condition	Percent of Respondents Favoring Trade (Opposing Import Limits)
Control	34% N=407
Mercantilist "Trade is Like War" Analogy	43% N=381
Comparative Advantage "Tiger Woods" Analogy	43% N=413
Overall	40% N=1,201

Surprisingly, Quebeckers in the control group were even less pro-trade than their American counterparts, with only 34% opposing policies that limit imports from other countries, despite the widely held view that Quebeckers are generally pro-trade in orientation.[309] However, this could be a function of when the survey was taken: the Quebec respondents answered these questions in the midst of the recession in February 2009, while the American respondents answered them in December 2008 to January 2009. More interestingly, when we look at just the raw percentages, *both* the mercantilist and Tiger Woods analogies appeared to make the Quebec respondents more pro-trade, where neither moved the American respondents at all.

Regressions comparable to those in Table 5.5 showed that the determinants of trade attitudes in Quebec were similar to those in the United States, albeit with a few differences. Women were on average 9 (plus or minus 6) percentage points less likely to

[309] Martin (1995).

favor trade in Quebec, while American women were overall no less likely than American men to favor trade. Quebeckers with bachelor's degrees were 13 (plus or minus 8) percentage points more likely to favor trade while having a bachelor's degree in the United States surprisingly made little difference. But as we saw with the American respondents, Quebeckers with graduate degrees were significantly more pro-trade, and those with jobs exposed to export competition were significantly less pro-trade, with similar magnitudes in both cases. With respect to the analogical treatments, when all respondents were considered, those who encountered the mercantilist analogy were 10 (plus or minus 8) percentage points more pro-trade, while those who encountered the Tiger Woods analogy were 8 (plus or minus 8) percentage points more pro-trade, both significant at the 95% level. Clearly, the mercantilist analogy was not making people more anti-trade.

But as with the American respondents, attention to the stimuli was an issue. The Quebec respondents spent slightly less time on the analogies than did the American respondents, but the overall patterns are the same. And when we look at the effects on those who spent 45 or 60 seconds or more reading the analogies, we see that the effects largely disappear. While respondents who read the mercantilist analogy were 12 (plus or minus 10) percentage points more likely to favor trade than those in the control group, those who spent at least 60 seconds on it were not significantly more likely to favor trade than in the control group. Those who encountered the Tiger Woods analogy and spent 45 seconds or more on that screen were not significantly more likely to favor trade than those in the

control group. There were no significant differences in terms of reaction by cognitive ability either.

Thus, even though we saw some increase in the proportion favoring trade in both cases, it is hard to attribute this increase to people's processing of the analogy per se – more likely, many people simply scanned the words and entered a response. If we are trying to mimick people's reaction to op-ed style messages, this may actually be a fair characterization of how persuasion actually works – people scanning messages lightly and updating their beliefs based on their general sense of it. It is also interesting to see that on the whole, people reacted in a direction opposite to the one suggested by the mercantilist analogy. But overall, the treatments did not appear to affect people when they paid close attention to them.

Conclusion

Given economists' priors and worries, it is most surprising that the mercantilist "trade is like war" analogy does not appear to have dampened people's view of trade, regardless of how long they spent on the screen with it and regardless of whether they were of "low" or "high" cognitive ability. People seem generally unmoved by this type of argument, or moved in the opposite direction if anything. This comes in stark contrast to earlier studies which found that presenting convenience samples with "trade is war" and "trade is a war" messages decreased support for trade.[310] That we observe some effects from the Tiger Woods analogy but none from the Bob Vila analogy is also striking because each analogy shares the same core idea and structure.

[310] See Robins and Mayer (2000) and Hartman (2008).

Persuasion is a complex process. Overall, the stylized analogies presented to respondents in this experiment exerted little effect on their attitudes. One reason for this appears to be that attention is scarce, as political scientists have long recognized. Only a minority of the population appears willing to take more than a minute to consider an op-ed style, 140-word message. But even among those who appear to have taken the time to read such a message, little in the way of effects were found. On the one hand, this could be dispiriting to the person who sees a role for complex ideas informing the public's attitudes. On the other hand, as the neutral impact of the mercantilist analogy suggests, it also means that some "fallacious" arguments making the rounds may not lead public discourse astray to the quite the extent that experts sometimes fear.

Complex analogies and ideas may have more trouble than traditional framing devices in changing people's attitudes for several reasons. First, the models presented may already form a part of their attitudes, such that offering them to people has no effect. In this case, people may already think of trade in vaguely mercantilist terms and also recognize that it brings with it certain advantages. They may then find that neither type of analogy offers much in terms of new information and consequently do not update their beliefs. Second and more plausibly, people may know their interests on the subject well and worry little about what trade does for the wealth of the country. As we saw, people's attitudes on trade were "pretty prudent" and, among those in the laborforce, influenced by concerns about its effects on their job security. People – whether of high or low cognitive ability – may see that an analogy makes a compelling argument for or against import limits, but

nevertheless maintain their priors based on immediate concerns about the impact of imports on their jobs, their families and their communities. Third, since people's attitudes on economic issues do not always reflect their own self-interest,[311] it may be that the ideas that people hold with respect how trade affects the general good are hard to budge. If this is true, then analogies may not be enough to persuade people on their own. After all, respondents in the treatment conditions were not presented with any evidence that the analogies were valid or invalid. They were merely told that "many commentators" believed trade worked as the analogies suggested. For all they knew, these analogies were, like so many others, nothing more than "plausible conjectures".[312]

Indeed, while there is evidence to support the comparative advantage view, there is also debate today among professional economists as to whether a "new paradigm" is needed to go beyond comparative advantage to increase our understanding of international trade.[313] A number of normative considerations enter into debates about trade as well, which means that, despite economists' admiration for the idea, comparative advantage need not trump other considerations when it comes to trade.[314] Those who do not favor increased trade or who do not find the doctrine of comparative advantage to be a terribly powerful argument should not be regarded as misguided or somehow inferior in their mental capacities.

[311] E.g., Blinder and Krueger (2004).
[312] Holyoak and Thagard (1995).
[313] On evidence for comparative advantage, see Golub and Hsieh (2002). On the "new paradigm" see for example Grossman and Rossi-Hansberg (2006) and Baldwin (2006).
[314] See Driskill (2007) and Driskill (2008).

What seems clear is that, in this domain at least, complex analogies have a limited impact on people's attitudes, even if they might have a large impact on a particular subset of the population.

CHAPTER 6: CONCLUSION

So where does this leave us? It appears that an analogy to Kosovo can affect Quebeckers' assessments of the likelihood of international recognition for the province under specific circumstances, but cannot affect their more deeply held views on independence, except perhaps for those who are still on the fence about the issue. Nor could an analogy to the Great Depression affect either their confidence in the economy or their support for a stimulus package. And we have seen that, as far as more involved analogies go, neither of the two major types of analogies economists think about when it comes to international trade appear to have significant impacts on people's attitudes toward trade – at least, not ones that can be attributed to the content of the analogies themselves.

The Literature Revisited

Returning to the literature with which this discussion began, it appears that analogies like the ones above are not all-powerful when presented to the general public. Certainly the results from the Quebec-Kosovo experiment are interesting because they suggest that analogies can have some influence on our attitudes – perhaps even an unwanted influence, depending on one's priors. But on the other issues where the public was likely to have long-term, stable attitudes, analogies did not appear to have much effect. Of course, survey experiments cannot duplicate the day in, day out repetition of messages produced by political or advertising campaigns, so they have their limitations. And we should remember that many of the "classic" framing effects have been demonstrated using issues with which people have little or no ongoing acquaintance. For instance, people's attitudes Klu Klux Klan rallies change significantly depending on whether they

are framed in terms of free speech or threats to public order[315], but how much do people think about an issue like this on a daily basis? With respect to trade, the strongest framing effects on people's attitudes have related to framing the issue in terms of job losses and strong expert endorsements of open trade.[316] Analogies absent endorsements of this sort may simply be unpersuasive.

Another reason we likely see little in the way of effects, especially with the more complex analogies, is that I have treated persuasion as a fairly straightforward process – either it happens or it does not. Of course, we know this is not the case. But where analogies are concerned, this may be a more reckless simplification than it is with other types of framing devices. As psychologists have emphasized, understanding an analogy involves a multi-stage cognitive process, even before we consider whether it is actually likely to persuade someone.

As we have seen, analogies are usually offered in the hope that people will make inferences from them, following a mapping of similar elements between the source and target analogs. For any given analogy, people may or may not make the inferences intended by the person who presented it to them. And even if they do, they may not believe the analogy to be sound or apt. Finally, even if they accept the analogy as a sound or apt description of a situation, the inferences they derive from it may not be enough to change their attitudes on a subject when those attitudes are strongly held or driven by

[315] Nelson, Clawson and Oxley (1997).
[316] Hiscox (2006). Freund and Özden (2004) found that traditional gain/loss frames (based on Tversky and Kahneman, 1981) induced preference reversals when people were asked about a hypothetical tariff scenario that included several numbers to consider. Given the novelty of the information provided, however, it is not obvious that these preference reversals represent changes in people's underlying views toward trade.

myriad other factors. One can find an analogy compelling and still not change one's mind.

It is well worth examining these different stages in detail, especially if we accept that some analogies can be more accurate representations of reality than others – because they have been used to translate scientific evidence, for example, and are not mere conjectures. They are also well worth examining when we concern ourselves with whether those analogies aid citizens in making competent political choices.

In a broad discussion of how to improve citizen competence, Arthur Lupia describes three necessary conditions that must be met if citizens are to learn from others about the many issues they face. This learning process would likely include digesting many analogies, both simple and complex. Lupia argues that any information presented to people must win: 1) "The Battle for Attention and Working Memory"; 2) "The Battle for Elaboration and Long Term Memory"; and 3) "The Battle at the Precipice of Choice".[317] In short, new information must not overtax people's attention, stay with them, and then be of use to them later.

The evidence presented here largely ignores these complications, primarily because it trades off the amount of attention it gets from its subjects for scale and representativeness. We did see that attention was a serious constraint when people encountered the trade analogies. And the discussion around the Kosovo analogy did appear to affect the views of people who had heard about it and everyone who

[317] Lupia (2004).

encountered it. But we are a long way from knowing whether either of these analogies would affect people's behavior at the ballot box.

In future research, I would like to delve into these distinctions more deeply. While citizens remain constrained in how much attention they can devote to politics (and understandably so), we can still understand better what inferences they make about analogies and whether or not they find them compelling even under the low attention conditions offered by survey (and in some cases, lab) research. We could learn more about whether and why people find Kosovo to be a sound or unsound analog for Quebec, whether and why people think the present circumstances are like the Great Depression, and just what people think about trade as war or trade as hiring someone to mow your lawn.

Not all of this type of research needs to be done experimentally. In terms of understanding how analogies and metaphors play out in the real world, quasi-experimental studies could be helpful, though source material will be hard to find. Analogy changes, like other frame changes, are hard to isolate in the real world of political communication, though it can be done. Slothuus, for instance, exploits a natural change in the frame used by Denmark's Social Democratic party to define their position on early retirement benefits and finds that social democrats' attitudes moved as a result.[318] While this analysis relied upon a frame change rather than an analogy change, it seems likely that analogy changes could be similarly ferreted out in the real world of politics.

[318] Slothuus (2008).

Another important step that future research could make is in understanding how emotional analogies affect people's behavior, and if possible, separating out what each contributes to people's inferences or their attitudes. For example, we all suspect intuitively that analogies are a particularly effective means of conveying emotions; understanding what, if anything, they provide beyond literal communication of feelings would be interesting.

Is There a "Right" Way to Reason By Analogy?

This dissertation started by describing analogies as unreliable and untrustworthy – sometimes they can lead to great insights, but often they lead to great errors of judgment. Consequently, philosophers have tried for centuries to come up with a "logic" of reasoning by analogy, one which could, at least more often than not, lead to genuinely plausible conjectures and inferences one would have reason to take seriously. They have not been successful in doing so to date.

But there is reason for hope. As it happens, an exciting new framework has just been developed for thinking about what constitutes a good analogy and, by extension, what is likely to make for a bad analogy. In his forthcoming book *By Parallel Reasoning: The Construction and Evaluation of Analogical Arguments*, philosopher Paul Bartha outlines a normative theory of analogical reasoning which stems from two principles. The first principle he calls the "Requirement for Prior Association", which states that any hypothesized similarity between the source domain and the target domain needs an

explicit statement of the causal relationship assumed to operate in the source domain. The second principle he calls the "Requirement of Potential for Generalization", and it states that the source and target domains must be such that "...there is no compelling reason to deny that the prior association that obtains in the source domain could be generalized in a way that extends to the target domain."[319] Practically speaking, these two principles suggest that people attempting to generate hypotheses by analogy should do two things. First, they should carefully specify the causal model they believe to be operating in the source domain. Second, once they have settled on a causal model – with all its attendant conditions and qualifications – they should carefully consider whether it is likely to generalize to the target domain for which they are trying to generate hypotheses. This advice may seem obvious, but I believe this "articulation model", as Bartha calls it, is worthy of its name even if similar things have been said in the past.[320] It articulates concrete, if broad, steps that people should use to assess the plausibility of any conjectures or hypotheses they generate by analogy. And with just two principles to consider, it offers a quick means of screening for superficial or overly hasty analogies.

We often try to do something like this when we encounter an analogy, but usually discussion focuses on similarities and differences between the source and target, rather than identifying which causal mechanisms are present in the source. Consequently, we develop laundry lists of similarities and differences – some dealing with causation, many not – with no means of weighing them and then throw up our hands. We are often left

[319] Bartha (forthcoming, p. 29).
[320] As Gilovich (1981, pp. 797-798) put it in the context of historical cases: "If the outcome of a past event is used to predict the outcome of a current situation, then one must be certain that these two situations are similar in terms of those factors that determine their outcome."

unwilling to place much stock in an analogy, despite a nagging feeling that it might be capturing something important. Worse, we often do the opposite and put a lot of stock in an analogy, despite a nagging feeling that it is somehow a false one.

Consider how this approach might change discussion about the relevance of Kosovo for Quebec and the relevance of the Great Depression for the current recession. Before looking at the obvious similarities and differences between Kosovo and Quebec, it would instruct us to ask: Why did Kosovo get recognition from the countries it did, including the United States, France, the United Kingdom, and Canada? This may or may not be an easy question to answer, and one which an international relations scholar would be best placed to judge. We can imagine, however, that international security concerns played a role, as did Serbia's intention to join the European Union. And countries like Russia and China were likely concerned about an international precedent being set. The articulation model would then instruct us to ask: Would these same causal mechanisms be at play if Quebec declared itself independent without holding a referendum? Again, this is not an easy question to answer. But it would add some discipline and direction to our search for similarities, differences, and other potentially relevant analogs such as Montenegro.

Present discussions about the Great Depression could be better structured as well, though economists' obsession with models has tended to make their discussions more like what the articulation model would suggest. The articulation model suggests that if people are looking to the Great Depression for policy "lessons", they should first specify the causal mechanisms they assume were operating at the time. Still, it could help to be more

disciplined about it. Take, for instance, recent calls for politicians to avoid a repeat of the protectionist policies of the 1930s.[321] The prevailing assumption is that the Smoot-Hawley Tariff did damage to the economy in the 1930s, even when it is recognized that the tariff was not necessarily a principal cause of the Great Depression. But Barry Eichengreen has argued that the Smoot-Hawley Tariff may actually have been expansionary, and he has argued more recently that any tariffs are likely to be inconsequential after exchange rate movements – much like the British General Tariff of 1932 and unlike Smoot-Hawley.[322] While this is still a matter of debate and certainly does not mean that tariffs are a good idea, it does suggest caution about simple appeals to the Great Depression. We need to begin with a solid understanding of the underlying conditions and causal factors operating at the time of the Great Depression and only then look for structural similarities in our present situation and attempt to draw lessons from them, if indeed there are any to be drawn at all. Hopefully this is what people like Ben Bernanke and Christina Romer are doing at present, given their knowledge of the period.

In general, the articulation model is encouraging because it could provide *prescriptive* guidance to elites and citizens alike when they find themselves reasoning by analogy. It could help people not only avoid the "perseverance effect", but also give them a clear means of sorting through and discarding analogies early on, before they can frame an issue inappropriately.

[321] See for example *The Economist* (2008a; 2008b).
[322] Eichengreen (1986) and Eichengreen (2008).

In sum, there is still much to learn about how people actually reason by analogy and how they should or should not reason by analogy. I hope this dissertation has moved our knowledge further along this path.

APPENDIX A: CHAPTER 1 – SURVEY SOURCES

The results presented in Table 1.1 and Table 1.2 rely on data obtained from the sources described in Table A.1:

Table A.1: Survey Sources for Probit Regression Results

Model	Conflict	Year	Source of Survey	Date Fielded	N
1	Lebanon	1982	*CBS/New York Times* National Survey	Sept. 24-26	1,587
2	El Salvador	1983	*ABC News/Washington Post* Poll of Public Opinion on Current Social and Political Issues	May	1,501
3	Iraq	1990	*USA Today* Poll	Dec. 1-2	704
4,5	Iraq	2004	Pew Research Center Late April 2004 Iraq Omnibus	April 21-25	1,000
6,7	Iraq	2006	Pew Research Center December 2006 News Interest Index	Dec. 6-10	1,502

Note: The data and tabulations utilized in this paper were made available by the Inter-University Consortium for Political and Social Research and Pew Research Center as described above. Neither the collectors of the original the original data, the ICPSR, nor the Pew Research Center bear any responsibility for the analyses or interpretations presented here

With respect to the demographic variables, each model contains dummy variables for gender and educational attainment. Completion of high school is the omitted category among the education dummies. Dummies for party identification include Democrats, Independent and Other party affiliations where applicable, with Republicans being the omitted category. While some surveys asked independents and those with no party affiliation toward which established party they leaned, only the basic party affiliation question was used to preserve comparability across the surveys. Given the above, the baseline category in the regression models is that of a male Republican with a high school education who does not believe the conflict in question is like Vietnam.

As discussed in the main text, the dependent variable is categorical in each case, coded 1 if the respondent supports an American attack, intervention, or continued presence in the country in question and 0 otherwise. Table A.2 shows the wording of the dependent variable for each model.

Table A.2: Wording of Questions Regarding American Intervention

Model	Conflict	Year	Wording of Question Regarding American Intervention
1	Lebanon	1982	If the Marines who are now in Lebanon cannot achieve their goals without substantial reinforcements, would you favor sending in more marines, or would you favor withdrawing those who are there now? • Send in more • Withdraw • Don't Know/No Answer *[Variable 39, Question 21]*
2	El Salvador	1983	[After question regarding El Savlador] And would you approve or disapprove of the United States sending in troops to fight in El Salvador? • Approve • Disapprove • NA/Refused • Don't Know/No opinion *[Variable 49, Question 34]*
3	Iraq	1990	Last week, the United Nations authorized the use of force against Iraq if Iraq doesn't leave Kuwait by Jan. 15. If the Jan, 15 deadline elapses without Iraq leaving Kuwait, should the United States attack or should we give economic sanctions more time to work? • Attack • Allow sanctions to work • Don't know • Refused *[Variable 2, Question 2]*

Model	Conflict	Year	Wording of Question Regarding American Intervention
4,5	Iraq	2004	Do you think the U.S. should keep military troops in Iraq until a stable government is established there, or do you think the U.S. should bring its troops home as soon as possible? • Keep troops in Iraq • Bring troops home • Don't Know/Refused (Volunteered) *[Variable 5, Question 5]*
6,7	Iraq	2006	Do you think the U.S. should keep military troops in Iraq until the situation has stabilized, or do you think the U.S. should bring its troops home as soon as possible? • Keep troops in Iraq • Bring troops home • Don't Know/Refused (Volunteered) *[Variable 22, Question 22]*

Similarly, the independent variable of interest, *Like Vietnam*, is coded 1 if the respondent indicates they think the conflict is like or in danger of becoming like Vietnam and 0 otherwise. The question wordings for the Vietnam questions are shown in Table A.3.

Table A.3: Wording of Questions Relating to Vietnam Analogy

Model	Conflict	Year	Wording of Question Regarding Vietnam
1	Lebanon	1982	Some people say that what we're doing in Lebanon is like the way we got started in Vietnam. Other people say that the two situations are very different. Do you think this is like the beginning of our involvement in Vietnam, or not? • Yes • No • Don't Know/No Answer *[Variable 41, Question 23]*

Model	Conflict	Year	Wording of Question Regarding Vietnam
2	El Salvador	1983	Some people say the war in El Salvador is much like the war in Vietnam. Others say it is not at all like the war in Vietnam. Which of these views comes closer to your own? • Is like Vietnam • Is not like Vietnam • NA/Refused • Don't Know/No opinion *[Variable 51, Question 36]*
3	Iraq	1990	If fighting begins with Iraq, how likely is it to become another prolonged situation like the Vietnam conflict? • Very likely • Somewhat likely • Neither likely nor unlikely (Volunteered) • Somewhat unlikely • Very unlikely • Don't Know/Refused *[Variable 7, Question 7]*
4,5	Iraq	2004	Some people are now comparing Iraq to the war in Vietnam thirty years ago. Do you think Iraq will turn out to be another Vietnam, or do you think the U.S. will accomplish its goals in Iraq? • Will be another Vietnam • U.S. will accomplish its goals • Too early to tell/Don't Know/Refused (Volunteered) *[Variable 8, Question 8]*
6,7	Iraq	2006	Some people are now comparing Iraq to the war in Vietnam. Do you think Iraq will turn out to be another Vietnam, or do you think the U.S. will accomplish its goals in Iraq? • Will be another Vietnam • U.S. will accomplish its goals • Too early to tell/Don't Know/Refused (Volunteered) *[Variable 25, Question 25]*

The questions wordings vary somewhat, but all suggest a possible analogical similarity between the conflict in question and Vietnam and ask the respondent's view on whether it is an apt analogy. The latter three questions have more of a predictive component to them, however.

Respondents that did not provide or provided "Don't Know" responses for any of the questions included in the regressions results were excluded from the analyses. The results consequently include only those people who expressed an opinion on each variable in the analysis.

Models 5 and 7 also include additional, situation-specific variables under the rubric of *Other Controls* that could plausibly bear on people's attitudes toward the conflict and whether or not they are likely to favor Vietnam as an analogy for the situation in question.[323] These are included to illustrate how the statistical associations associated with the Vietnam analogy can change when additional attitude measures are included as controls. Table A.4 shows the variables and related question wordings. All are coded as dummy variables.

[323] In regressions not shown here, Models 1 and 2 were also run with similar controls added with substantively the same effects as in Models 5 and 7.

Table A.4: Wording of Additional Questions

Model	Conflict	Year	Wording of Additional Question(s)
1	Lebanon	1982	*[Important to U.S. Defense]* In the fighting between the government of Lebanon and its opponents, do you think it is important to the defense interests of the United States which side wins? • Yes • No • Don't Know/No Answer *[Variable 38, Question 20]*
2	El Salvador	1983	[*Threat to U.S.]* Suppose the rebel forces take over El Salvador and set up a pro-communist government: would that be a threat to the security of the United States, or not? [If "Yes, a threat" ask:) Well, would that be a major threat to the security of the United States or a minor threat? • Yes, a major threat • Yes, a minor threat • No, not a threat • NA/Refused • Don't Know/No opinion *[Variable 57, Question 42]*
5,7	Iraq	2004, 2006	[*Going well*] How well is the U.S. military effort in Iraq going? • Very well • Fairly well • Not too well • Not at all well • Don't Know/Refused (Volunteered) *[Variable 4, 21, Question 4, 21]*
5,7	Iraq	2004, 2006	[*Right to Invade*] Do you think the U.S. made the right decision or the wrong decision in using military force against Iraq? • Right decision • Wrong decision • Don't Know/Refused (Volunteered) *[Variable 3, 20, Question 3, 20]*

As the tables indicate, while believing the Vietnam analogy is appropriate remains robustly correlated with attitudes toward different conflicts, the magnitude of that correlation can change when other attitudes are considered in the cases of the 2004 and 2006 questions about Iraq. That controls for "Going well" and "Right to invade" reduce the conditional correlation of the Vietnam analogy is not wholly surprising. However, even after these attitudes are controlled for, there is a politically and statistically significant conditional correlation between respondents' views on the Vietnam analogy and the conflict in question in each model.

APPENDIX B: CHAPTER 2 – QUEBEC SURVEY QUESTIONS

The following survey was administered to 1,201 Quebeckers in Angus Reid Strategies' online Quebec panel from February 6 to February 21, 2009. The English version is below, followed by the French version.

[ENGLISH VERSION – INTRO SCREEN – CONSENT FORM]

This is a study being conducted by a public policy researcher at Harvard University. It asks a variety of questions about you and your views on certain economic and political issues. We expect that your participation in this study will take no more than 11 minutes. If you have any questions or concerns about the study, please contact the Angus Reid Forum support team at support@angusreidforum.com or the researcher at quebecstudy@gmail.com.

[SINGLE CHOICE]
Do you wish to continue?

Yes, I wish to continue
No, I do not wish to continue*

*** Please note: If you select 'No, I do not wish to continue' you will not be able to complete this survey at a later time.**

IF NO: 'Thank you for your time. Have a nice day.'

[NEW SCREEN]

[Part 1: Questions Regarding Quebec Sovereignty]

First, we would like to ask you some questions about your views on the subject of Quebec sovereignty.

[Time how long respondents spend on this screen]
[NOT REQUIRED]
[SINGLE CHOICE]
Q1. If a referendum were held today on Quebec sovereignty, would you vote for or against Quebec sovereignty?

For
Against
Don't Know

[Time how long respondents spend on this screen]
[NOT REQUIRED]
[SINGLE CHOICE]
Q2. How certain are you about this choice?

Very certain
Somewhat certain
Neither certain nor uncertain
Somewhat uncertain
Very uncertain

[NEW SCREEN]

[RANDOMIZE VERSION 1 and 2 i.e. Q3a to Q3b ASK ONLY 1 PER RESPONDENT]

[Version 1: Canadian first]

[NOT REQUIRED]
[SINGLE CHOICE]
Q3a. People have different ways of defining themselves. Do you consider yourself to be:

A Canadian only
A Canadian first but also a Quebecker
Equally a Canadian and a Quebecker
A Quebecker first but also a Canadian
A Quebecker only

[Version 2: Quebecer first]
[NOT REQUIRED]
[SINGLE CHOICE]
Q3b. People have different ways of defining themselves. Do you consider yourself to be:

A Quebecker only
A Quebecker first but also a Canadian
Equally a Quebecker and a Canadian
A Canadian first but also a Quebecker
A Canadian only

[NOT REQUIRED]
[SINGLE CHOICE]
Q4. In your opinion is the French language in Quebec threatened or not?

Not threatened at all
Somewhat threatened

Seriously threatened

[NOT REQUIRED]
[SINGLE CHOICE]
Q5. Do you agree or disagree that the Canadian federal government is too slow in responding to the needs of Quebec?

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

[NOT REQUIRED]
[SINGLE CHOICE]
Q6. Do you agree or disagree that francophone Quebeckers are recognized as equals in Canada?

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

[NOT REQUIRED]
[SINGLE CHOICE]
Q7. Do you think that the federal government treats Quebec better than, about the same as, or worse than it treats other provinces?

Much better
Somewhat better
About the same as others
Somewhat worse
Much worse

[NOT REQUIRED]
[SINGLE CHOICE]
Q8. If Quebec became sovereign, do you think the state of the French language in Quebec would be better than, about the same as, or worse than it is now?

Much better
Somewhat better
About the same
Somewhat worse
Much worse

[NOT REQUIRED]
[SINGLE CHOICE]
Q9. If Quebec became sovereign, do you think the state of the English language in Quebec would be better than, about the same as, or worse than it is now?

Much better
Somewhat better
About the same
Somewhat worse
Much worse

[NOT REQUIRED]
[SINGLE CHOICE]
Q10. If Quebec became sovereign, would the economic situation in Quebec in the medium term (say, 5-10 years) be better than, about the same as, or worse than it would be if Quebec remained a province of Canada?

Much better
Somewhat better
About the same
Somewhat worse
Much worse

[NEW SCREEN]

One issue that sometimes arises in the debate about Quebec sovereignty is whether the international community would recognize Quebec as an independent state if it unilaterally declared itself independent from Canada without holding a referendum. We would now like to ask your views about this possibility.

[NEW SCREEN]

[RANDOMIZE VERSION 1, 2 and 3 i.e. Q11 to Q13 ASK ONLY 1 PER RESPONDENT]

[Version 1: Control Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q11. If Quebec unilaterally declared itself independent without holding a referendum, how likely do you think the international community would be to recognize Quebec's independence?

Very likely
Somewhat likely
Neither likely nor unlikely
Somewhat unlikely
Very unlikely

[Version 2: Treatment Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q12. Early last year, a sovereigntist politician suggested that if Quebec unilaterally declared itself independent from Canada without holding a referendum, it would quickly gain recognition from a lot of countries.

If Quebec unilaterally declared itself independent without holding a referendum, how likely do you think the international community would be to recognize Quebec's independence?

Very likely
Somewhat likely
Neither likely nor unlikely
Somewhat unlikely
Very unlikely

[Version 3: Treatment with Analogy Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q13. Early last year, a sovereigntist politician suggested that if Quebec unilaterally declared itself independent from Canada without holding a referendum, it would quickly gain recognition from a lot of countries, just like Kosovo did.

If Quebec unilaterally declared itself independent without holding a referendum, how likely do you think the international community would be to recognize Quebec's independence?

Very likely
Somewhat likely
Neither likely nor unlikely
Somewhat unlikely
Very unlikely

[NOT REQUIRED]
[SINGLE CHOICE]
Q14. How certain are you about this choice?

Very certain
Somewhat certain
Neither certain nor uncertain
Somewhat uncertain
Very uncertain

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q15. Now, if a referendum were held today on Quebec independence, would you vote for or against Quebec independence?

For
Against
Don't Know

[NOT REQUIRED]
[SINGLE CHOICE]
Q16. Prior to filling out this survey, did you know that the province of Kosovo had unilaterally declared itself independent from Serbia early last year?

Yes
No

[NOT REQUIRED]
[SINGLE CHOICE]
Q17. If Quebec unilaterally declared itself independent from Canada without holding a referendum, how similar do you think its situation would be to Kosovo's?

Very similar
More similar than different
As similar as it is different
More different than similar
Very different

[NEW SCREEN]

[Part 2: Control and Treatment Questions Relating to Imports]

Now we would like to ask you about your views about international trade, and in particular your attitudes toward goods and services imported into Canada.

[NEW SCREEN]

[RANDOMIZE VERSION 1, 2 and 3 i.e. Q18 to Q20 ASK ONLY 1 PER RESPONDENT]

[Version 1: Control]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q18. Do you favour or oppose policies that limit imports from other countries?

Strongly favour
Somewhat favour
Somewhat oppose
Strongly oppose

[Version 2: Comparative Cost Tiger Woods Analogy Treatment]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q19. Many commentators believe that imports are good for the country because they make it richer. They believe that importing is like professional golfer Tiger Woods hiring someone to mow his lawn. Tiger Woods gets richer hiring someone as long as he earns more money playing golf in the time he saves than he pays the person he hires – even if that person mows the lawn more slowly than Woods.

In a sense, Woods "exports" golfing services and "imports" lawn mowing services. Likewise, the country gets richer by importing as long as it earns more from concentrating extra resources on its most productive activities than it pays for those imports – even if the exporting countries produce them less efficiently.

Consequently, these people believe the country is richer when it produces what it earns the most from and imports the rest.

Do you favour or oppose policies that limit imports from other countries?

Strongly favour
Somewhat favour
Somewhat oppose
Strongly oppose

[Version 3: Trade is Like War Analogy Treatment]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q20. Many commentators believe that imports are bad for the country because they make it poorer. They believe that trade is like war. Countries engage in both war and trade. In trade, a country earns money when it exports things to others and pays money when it imports things from others. The balance of trade is the difference between the value of what it exports and the value of what it imports.

In a sense, the "balance of trade" is like the "balance of power". Just as a country at war wants the balance of power to be in its favor, a country that trades wants the balance of trade in its favor. Therefore trade surpluses are good and trade deficits are bad.

Consequently, these people believe the country is wealthier the more it exports and poorer the more it imports.

Do you favour or oppose policies that limit imports from other countries?

Strongly favour
Somewhat favour
Somewhat oppose
Strongly oppose

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q21. Prior to filling out this survey, had you ever heard of Tiger Woods and did you know what his primary occupation was?

Had heard of him, and knew what he did for a living
Had heard of him, but did not know what he did for a living
Had never heard of him

[NEW SCREEN]

[Part 3: Cognitive Reflection Test and Other Psychological Questions]

Now we would like to ask you to give your response to some short word and number problems. They may seem unusual, but just do your best.

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-99]
Q22. Jerry received both the 15th highest and the 15th lowest mark in the class. How many students are in the class?

Answer: _____ students.

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-99]
Q23. A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?

Answer: _____ cents

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-1000]
Q24. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?

Answer: _____ minutes.

NEW SCREEN]
[Time how long people spend on this screen]

[NOT REQUIRED]
[NUMERIC, RANGE 0-1000]
Q25. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?

Answer: _____ days.

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q26. How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?
Please use a scale of 1 to 7, where '1' equals 'Fully prepared to take risks' and '7' equals 'Try to avoid taking risks'.

(1) Fully prepared to take risks
(2)
(3)
(4) Neither fully prepared to take risks nor try to avoid taking risks
(5)
(6)
(7) Try to avoid taking risks

[NEW SCREEN]

[Part 4: Job Security Questions]

Now we would like to ask you some questions about how you feel about your job security.

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q27. What is your current employment status?

I work as a paid employee
I am self-employed
I am an owner/partner in a small business, professional practice or farm
I work at least 15 hours per week without pay in a family business/farm
I am unemployed, temporarily laid off, but looking for work
I am retired
I am disabled
I am a homemaker
Other

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q28. How concerned are you about your job security?
Please use a scale of 1 to 5, where '1' equals 'Not concerned at all' and '5' equals 'Very concerned'

(1) Not concerned at all
(2)
(3) Somewhat concerned
(4)
(5) Very concerned

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q29. Do you think increased imports make your job more secure or less secure?
Please use a scale of 1 to 5, where '1' equals 'More secure' and '5' equals 'Less secure'

(1) More secure
(2)
(3) Neither more secure nor less secure
(4)
(5) Less secure

[NEW SCREEN]

[Part 5: Recesssion/Depression Question]

[RANDOMIZE VERSION 1, 2 and 3 i.e. Q30a to Q 30c ASK ONLY 1 PER RESPONDENT]

[Version 1: Control Group]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q30a. Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the Canadian economy is in a recession.

Considering everything, would you say that your family is better off financially, the same, or worse off financially than it was say six months ago?

Better off
The same
Worse off
Don't know

[Version 2: Treatment Group]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q30b. Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the financial crisis is quite severe, and that the Canadian economy is in a recession.

Considering everything, would you say that your family is better off financially, the same, or worse off financially than it was say six months ago?

Better off
The same
Worse off
Don't know

[Version 3: Treatment Group]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q30c. Finally, there is a lot of public debate at present about the Canadian economy and the financial crisis in the United States. In particular, a lot of analysts believe that the financial crisis is quite severe, like the one that contributed to the Great Depression in the 1930s, and that the Canadian economy is in a recession.

Considering everything, would you say that your family is better off financially, the same, or worse off financially than it was say six months ago?

Better off
The same
Worse off
Don't know

[NOT REQUIRED]
[SINGLE CHOICE]
Q31. Again considering everything, do you think that your family will be better off financially, the same or worse off financially six months from now than it is now?

Better off
Same
Worse off
Don't know

[NOT REQUIRED]
[SINGLE CHOICE]
Q32. How do you feel the job situation and overall employment will be in your community
six months from now? Do you think there will be more jobs, about the
same number of jobs or fewer jobs than now?

More jobs
About the same number of jobs
Fewer jobs
Don't know

[NOT REQUIRED]
[SINGLE CHOICE]
Q33. Do you think that right now is a good time or a bad time for the average Canadian to make a major outlay for things such as a home or a car or some other major item?

Good time
Bad time
Don't know

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q34. Do you agree or disagree that the Canadian government should spend money to stimulate the economy, even if it means large budget deficits for a few years?

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

[NOT REQUIRED]
[SINGLE CHOICE]
Q35. Did you vote in the Quebec provincial elections on December 8th, 2008?

Yes
No

[ASK Q36 IF Q35 = Yes]
[NOT REQUIRED]
[SINGLE CHOICE]
Q36. Which party did you vote for?

Liberal Party of Quebec
Parti Quebecois
Action Democratique du Quebec (ADQ)
Quebec Solidaire
Parti Vert du Quebec
Another party

[ASK Q37 IF Q35 = No]
[NOT REQUIRED]
[SINGLE CHOICE]
Q37. If you had voted, which party would you have voted for?

Liberal Party of Quebec
Parti Quebecois
Action Democratique du Quebec (ADQ)
Quebec Solidaire
Parti Vert du Quebec
Another party

Thank you for your participation in this study. In the space below, please provide us with any comments you might have regarding this survey.

[Open ended text box here]

And if you have any questions or concerns about the study, please contact the Angus Reid Forum support team at support@angusreidforum.com or the researcher at quebecstudy@gmail.com.

[FRENCH VERSION - INTRO SCREEN – CONSENT FORM]

Cette étude est menée par un chercheur en politiques publiques à l'Université de Harvard. Les différentes questions qui vous seront posées portent sur vos opinions sur certains sujets politiques et économiques. Vous ne devriez pas avoir besoin de plus de 11 minutes pour compléter le questionnaire.

Si vous avez des questions ou inquiétudes concernant l'étude, veuillez contacter l'équipe de soutien technique d'Angus Reid Forum à assistance@forumangusreid.com ou l'enquêteur à quebecstudy@gmail.com.

[SINGLE CHOICE]
Voulez-vous continuer?

Oui, je veux continuer
Non, je ne veux pas continuer*

* Veuillez noter que si vous sélectionner 'Non, je ne veux pas continuer', vous ne pourrez pas revenir au questionnaire pour le compléter ultérieurement.

IF NO : 'Merci pour votre temps. Bonne journée.'

[NEW SCREEN]

[Part 1: Questions Regarding Quebec Sovereignty]

Tout d'abord, nous aimerions vous poser quelques questions pour connaître votre opinion au sujet de la souveraineté du Québec.

[Time how long respondents spend on this screen]
[NOT REQUIRED]
[SINGLE CHOICE]
Q1. Si un référendum sur la souveraineté du Québec se tenait aujourd'hui, voteriez-vous pour ou contre la souveraineté du Québec?

Pour
Contre
Ne Sais Pas

[Time how long respondents spend on this screen]
[NOT REQUIRED]
[SINGLE CHOICE]
Q2. À quel point êtes-vous certain(e) de ce choix?

Très certain(e)
Plutôt certain(e)
Ni certain(e) ni incertain(e)
Plutôt incertain(e)
Très incertain(e)

[NEW SCREEN]

[–RANDOMIZE VERSION 1 and 2 i.e. Q3a to Q3b ASK ONLY 1 PER RESPONDENT]

[Version 1: Canadian first]

[NOT REQUIRED]
[SINGLE CHOICE
Q3a. Les gens ont différentes façons de se définir. Considérez-vous être:

Canadien(ne) seulement
Canadien(ne) d'abord, mais aussi Québécois(e)
Canadien(ne) et Québécois(e)
Québécois(e) d'abord, mais aussi Canadien(ne)
Québécois(e) seulement

[Version 2: Quebecer first]

[NOT REQUIRED]
[SINGLE CHOICE]
Québécois(e) seulement
Québécois(e) d'abord, mais aussi Canadien(ne)
Québécois(e) et Canadien(ne)
Canadien(ne) d'abord, mais aussi Québécois(e)
Canadien(ne) seulement

[NOT REQUIRED]
[SINGLE CHOICE]
Q4. Selon vous, la langue française au Québec est-elle menacée?

Pas menacée du tout
Plutôt menacée
Vraiment menacée

[NOT REQUIRED]
[SINGLE CHOICE]
Q5. Seriez-vous d'accord pour dire que le gouvernement fédéral canadien est trop lent pour répondre aux besoins du Québec?

Fortement d'accord
Plutôt d'accord
Ni d'accord ni en désaccord
Plutôt en désaccord
Fortement en désaccord

[NOT REQUIRED]
[SINGLE CHOICE]
Q6. Seriez-vous d'accord pour dire que les Québécois francophones sont reconnus comme égaux au Canada?

Fortement d'accord
Plutôt d'accord
Ni d'accord ni en désaccord
Plutôt en désaccord
Fortement en désaccord

[NOT REQUIRED]
[SINGLE CHOICE]
Q7. En général, le gouvernement fédéral traite-t-il le Québec mieux, à peu près de la même façon ou moins bien que les autres provinces du Canada?

Vraiment mieux
Plutôt mieux
À peu près de la même façon
Plutôt moins bien
Vraiment moins bien

[NOT REQUIRED]
[SINGLE CHOICE]
Q8. Si le Québec devenait souverain, pensez-vous que la situation de la langue française au Québec serait meilleure, à peu près la même ou moins bonne que maintenant?

Vraiment meilleure
Plutôt meilleure
À peu près la même
Plutôt moins bonne
Vraiment moins bonne

[NOT REQUIRED]
[SINGLE CHOICE]
Q9. Si le Québec devenait souverain, pensez-vous que la situation de la langue anglaise au Québec serait meilleure, à peu près la même ou moins bonne que maintenant?

Vraiment meilleure
Plutôt meilleure
À peu près la même
Plutôt moins bonne
Vraiment moins bonne

[NOT REQUIRED]
[SINGLE CHOICE]
Q10. Si le Québec devenait souverain, pensez-vous que la situation économique au Québec à moyen terme (par exemple, 5-10 ans) serait meilleure, à peu près la même ou moins bonne que si le Québec demeurait une province du Canada?

Vraiment meilleure
Plutôt meilleure
À peu près la même
Plutôt moins bonne
Vraiment moins bonne

[NEW SCREEN]

Une question qui est parfois soulevée dans le débat sur la souveraineté du Québec est de savoir si la communauté internationale reconnaîtrait le Québec comme État indépendant s'il se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum. Nous aimerions maintenant connaître votre point de vue sur cette possibilité.

[NEW SCREEN]

[RANDOMIZE VERSION 1, 2 and 3 i.e. Q11 to Q13 ASK ONLY 1 PER RESPONDENT]

[Version 1: Control Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q11. Selon vous, si le Québec se déclarait unilatéralement indépendant sans la tenue d'un référendum, quelle serait la probabilité que la communauté internationale reconnaisse son indépendance?

Très probable
Plutôt probable
Ni probable ni improbable
Plutôt improbable
Très improbable

[Version 2: Treatment Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q12. Au début de l'année dernière, un politicien souverainiste a suggéré que si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, il obtiendrait rapidement la reconnaissance de nombreux pays.

Selon vous, si le Québec se déclarait unilatéralement indépendant sans la tenue d'un référendum, quelle serait la probabilité que la communauté internationale reconnaisse son indépendance?

Très probable
Plutôt probable
Ni probable ni improbable
Plutôt improbable
Très improbable

[Version 3: Treatment with Analogy Condition]

[NOT REQUIRED]
[SINGLE CHOICE]
Q13. Au début de l'année dernière, un politicien souverainiste a suggéré que si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, il obtiendrait rapidement la reconnaissance de beaucoup de pays, tout comme l'a obtenu le Kosovo.

Selon vous, si le Québec se déclarait unilatéralement indépendant sans la tenue d'un référendum, quelle serait la probabilité que la communauté internationale reconnaisse son indépendance?

Très probable
Plutôt probable
Ni probable ni improbable
Plutôt improbable
Très improbable

[NOT REQUIRED]
[SINGLE CHOICE]
Q14. À quel point êtes-vous certain(e) de ce choix?

Très certain(e)
Plutôt certain(e)
Ni certain(e) ni incertain(e)
Plutôt incertain(e)
Très incertain(e)

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q15. Maintenant, si un référendum sur l'indépendance du Québec se tenait aujourd'hui, voteriez-vous pour ou contre l'indépendance du Québec?

Pour
Contre
Ne Sais Pas

[NOT REQUIRED]
[SINGLE CHOICE]
Q16. Avant de participer à ce sondage, saviez-vous que la province du Kosovo s'était déclarée unilatéralement indépendante de la Serbie au début de l'année dernière?

Oui
Non

[NOT REQUIRED]
[SINGLE CHOICE]
Q17. Selon vous, si le Québec se déclarait unilatéralement indépendant du Canada sans la tenue d'un référendum, à quel point cette situation serait-elle similaire à celle du Kosovo?

Très similaire
Plus similaire que différente
Aussi similaire que différente
Plus différente que similaire
Très différente

[NEW SCREEN]

[Part 2: Control and Treatment Questions Relating to Imports]

Maintenant, nous aimerions connaître vos opinions sur le commerce international, et en particulier à propos des importations de biens et services au Canada.

[NEW SCREEN]

[RANDOMIZE VERSION 1, 2 and 3 i.e. Q18 to Q20 ASK ONLY 1 PER RESPONDENT]

[Version 1: Control]

[Time how long people spend on this screen in each case]
[NOT REQUIRED]
[SINGLE CHOICE]
Q18. Êtes-vous favorable ou opposé(e) aux politiques qui limitent les importations en provenance d'autres pays?

Fortement favorable
Plutôt favorable
Plutôt opposé(e)
Fortement opposé(e)

[Version 2: Comparative Cost Tiger Woods Analogy Treatment]

[Time how long people spend on this screen in each case]
[NOT REQUIRED]
[SINGLE CHOICE]
Q19. Beaucoup de commentateurs croient que les importations sont bonnes pour le pays parce qu'elles le rendent plus riche. Ils croient que l'importation est comme si le golfeur professionnel Tiger Woods embauchait quelqu'un pour tondre sa pelouse. Tiger Woods devient plus riche en embauchant quelqu'un si ce qu''il gagne en jouant au golf pendant le temps qu'il aurait passé à tondre sa pelouse est supérieur à ce qu'il paie à la personne qu'il embauche – même si cette personne tond la pelouse plus lentement que lui.

Dans un sens, Woods «exporte» les services de golf et «importe» les services de tonte de pelouse. De même, le pays devient plus riche en important pourvu qu'il gagne plus en consacrant ses ressources supplémentaires sur ses activités les plus productives que ce qu'il paie pour ces importations - même si les pays exportateurs les produisent moins efficacement.

Par conséquent, ces gens croient que le pays est plus riche quand il produit ce qui lui rapporte le plus et importe le reste.

Êtes-vous favorable ou opposé(e) aux politiques qui limitent les importations en provenance d'autres pays?

Fortement favorable
Plutôt favorable
Plutôt opposé(e)
Fortement opposé(e)

[Version 3: Trade is Like War Analogy Treatment]

[Time how long people spend on this screen in each case]
[NOT REQUIRED]
[SINGLE CHOICE]
Q20. Beaucoup de commentateurs croient que les importations sont mauvaises pour le pays parce qu'elles le rendent plus pauvre. Ils croient que le commerce est comme la guerre. Les pays s'engagent dans la guerre et le commerce. En commerce, un pays gagne de l'argent lorsqu'il exporte les choses vers les autres et paie de l'argent lorsqu'il importe les choses des autres. La balance commerciale est la différence entre la valeur de ce qu'il exporte et la valeur de ce qu'il importe.

Dans un sens, «la balance commerciale» est comme «la balance de pouvoir». Tout comme un pays en guerre veut que la balance de pouvoir soit en sa faveur, un pays qui fait du commerce veut que la balance commerciale soit en sa faveur. Donc les surplus commerciaux sont bons pour le pays et les déficits commerciaux sont mauvais.

Par conséquent, ces gens croient que plus le pays exporte, plus il est riche et que plus il importe, plus il est pauvre.

Êtes-vous favorable ou opposé(e) aux politiques qui limitent les importations en provenance d'autres pays?

Fortement favorable
Plutôt favorable
Plutôt opposé(e)
Fortement opposé(e)

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q21. Avant de participer à cette enquête, aviez-vous déjà entendu parler de Tiger Woods et saviez-vous ce qu'il faisait dans la vie?

J'avais entendu parler de lui et savais ce qu'il faisait dans la vie
J'avais entendu parler de lui, mais je ne savais pas ce qu'il faisait dans la vie
Je n'avais jamais entendu parler de lui

NEW SCREEN]

[Part 3: Cognitive Reflection Test and Other Psychological Questions]

Maintenant, nous voudrions connaître vos réponses à quelques problèmes d'arithmétique. Ils peuvent avoir l'air un peu compliqué, mais faites de votre mieux.

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-99]
Q22. Jerry a reçu la 15ème note la plus haute et la 15ème note la plus basse dans la classe. Combien d'étudiants y a-t-il dans la classe?

Réponse: _____ étudiants

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-99]
Q23. Une balle et une batte de baseball coûtent $1.10 ensemble. La batte coûte $1.00 de plus que la balle. Combien coûte la balle?

Réponse: _____ cents

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-1000]
Q24. S'il faut 5 minutes à 5 machines pour faire 5 bidules, combien de temps faut-il à 100 machines pour faire 100 bidules?

Réponse: _____ minutes

[NEW SCREEN]

[Time how long people spend on this screen]
[NOT REQUIRED]
[NUMERIC, RANGE 0-1000]
Q25. Dans un lac, il y a une feuille de nénuphar. Chaque jour, la taille de la feuille double. S'il faut 48 jours à la feuille pour couvrir tout le lac, combien de temps lui faudra-t-il pour couvrir la moitié du lac?

Réponse:_____jours.

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q26. Comment vous voyez-vous: êtes-vous généralement une personne qui est tout à fait prête à prendre des risques ou essayez-vous d'éviter de prendre des risques?
Veuillez répondre sur une échelle de 1 à 7, où 1 signifie « je suis tout à fait prêt(e) à prendre des risques », et 7, « j'essaie d'éviter de prendre des risques ».

(1) Je suis tout à fait prêt(e) à prendre des risques
(2)
(3)
(4)Je ne suis pas tout à fait prêt(e) à prendre des risques mais je n'essaie pas d'éviter de prendre des risques
(5)
(6)
(7) J'essaie d'éviter de prendre des risques

[NEW SCREEN]

[Part 4: Job Security Questions]

Maintenant, nous aimerions vous poser quelques questions pour connaître votre sentiment face à votre sécurité d'emploi.

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q27. Quel est votre emploi actuel?

Je suis salarié(e)
Je suis indépendant(e)
Je suis un propriétaire ou un associé dans une petite entreprise, cabinet professionnel ou ferme
Je travaille au moins 15 heures par semaine sans rémunération dans une entreprise/ferme de famille
Je suis sans emploi, mis à pied temporairement, mais je cherche un emploi
Je suis à la retraite
Je suis handicapé(e)
Je suis un(e) homme/femme au foyer
Autre

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q28. Dans quelle mesure êtes-vous préoccupé(e) par votre sécurité d'emploi? Veuillez répondre sur une échelle de 1 à 5, où 1 signifie « pas du tout préoccupé(e)», et 5, « très préoccupé(e) ».

(1)Pas du tout préoccupé(e)
(2)
(3)Plutôt préoccupé(e)
(4)
(5)Très préoccupé(e)

[NOT REQUIRED]
[SINGLE CHOICE GRID]
Q29. Pensez-vous que l'augmentation des importations rend votre travail plus sécuritaire ou moins sécuritaire?
Veuillez répondre sur une échelle de 1 à 5, où 1 signifie « plus sécuritaire », et 5, « moins sécuritaire ».

(1)Plus sécuritaire
(2)
(3)Ni plus ni moins sécuritaire
(4)
(5)Moins sécuritaire

[NEW SCREEN]

[Part 5: Recesssion/Depression Question]

[RANDOMIZE VERSION]

[Version 1: Control Group]

[Time how long people spend on this screen in each case]
[NOT REQUIRED]
[SINGLE CHOICE]
Q30a. Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que l'économie canadienne est en récession.

Tout bien considéré, diriez-vous que la situation financière de votre famille est meilleure, la même ou pire actuellement qu'il y a six mois?

Meilleure
La même
Pire
Ne sais pas

[Version 2: Treatment Group]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]

Q30b. Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que la crise financière est très grave, et que l'économie canadienne est en récession.

Tout bien considéré, diriez-vous que la situation financière de votre famille est meilleure, la même ou pire actuellement qu'il y a six mois?

Meilleure
La même
Pire
Ne sais pas

[Version 3: Treatment Group]
[Time how long people spend on this screen in each case]

[NOT REQUIRED]
[SINGLE CHOICE]
Q30c. Il y a actuellement beaucoup de débats publics sur l'économie canadienne et la crise financière aux États-Unis. Beaucoup d'analystes pensent que la crise financière est très grave, comme celle qui a contribué à la Grande Dépression des années 1930, et que l'économie canadienne est en récession.

Tout bien considéré, diriez-vous que la situation financière de votre famille est meilleure, la même ou pire actuellement qu'il y a six mois?

Meilleure
La même
Pire
Ne sais pas

[NOT REQUIRED]
[SINGLE CHOICE]
Q31. Tout bien considéré, croyez-vous que la situation financière de votre famille sera meilleure, la même ou pire dans six mois qu'elle ne l'est actuellement?

Meilleure
La même
Pire
Ne sais pas

[NOT REQUIRED]
[SINGLE CHOICE]
Q32. De quelle façon croyez-vous que la situation de l'emploi dans votre communauté évoluera d'ici six mois? Croyez-vous qu'il y aura plus d'emplois, à peu près le même nombre d'emplois ou moins d'emplois que maintenant?

Plus d'emplois
À peu près le même nombre d'emplois
Moins d'emplois
Ne sais pas

[NOT REQUIRED]
SINGLE CHOICE]
Q33. Pour le Canadien moyen, croyez-vous que c'est un bon moment ou un mauvais moment pour faire l'achat d'une maison, d'un véhicule ou de tout autre article constituant une dépense importante?

Bon moment
Mauvais moment
Je ne sais pas

[NEW SCREEN]

[NOT REQUIRED]
[SINGLE CHOICE]
Q34. Seriez-vous d'accord pour dire que le gouvernement du Canada devrait dépenser de l'argent pour stimuler l'économie, même si cela implique des déficits budgétaires importants pour plusieurs années?

Fortement d'accord
Plutôt d'accord
Ni d'accord ni en désaccord
Plutôt en désaccord
Fortement en désaccord

[NOT REQUIRED]
[SINGLE CHOICE]
Q35. Avez-vous voté lors de l'élection provinciale du Québec qui s'est tenue le 8 décembre 2008?

Oui
Non

[ASK Q36 IF Q35 = Oui]
[NOT REQUIRED]
[SINGLE CHOICE]
Q36. Pour quel parti avez-vous voté?

Parti libéral du Québec
Parti Québécois
Action Démocratique du Québec (ADQ)
Québec Solidaire
Parti vert du Québec
Un autre parti

[ASK Q37 IF Q35 = Non]
[NOT REQUIRED]
[SINGLE CHOICE]
Q37. Si vous aviez voté, pour quel parti auriez-vous voté?

Parti libéral du Québec
Parti Québécois
Action Démocratique du Québec (ADQ)
Québec Solidaire
Parti vert du Québec
Un autre parti

Merci pour votre participation à cette étude. Si vous avez des commentaires à propos de cette étude, veuillez nous en faire part dans l'espace ci-dessous.

[Open ended text box here]

Si vous avez des questions ou inquiétudes concernant l'étude, veuillez contacter l'équipe de soutien technique d'Angus Reid Forum à assistance@forumangusreid.com ou l'enquêteur à quebecstudy@gmail.com.

APPENDIX C: CHAPTER 2 – ADDITIONAL ANALYSIS

This appendix first presents more detailed results regarding the effect of the Kosovo analogy on Quebeckers' assessments of the likelihood of recognition as described in the main text, followed by a brief discussion of how the Kosovo analogy affected attitudes toward independence among those who indicated they did not know how they would vote in a referendum on sovereignty.

Ordered Probit Regressions

Below I present results from ordered probit models sharing the same specification as those in Tables 2.2 and 2.3, except the dependent variable is the full 5-point scale on which respondents assessed the likelihood of international recognition if Quebec unilaterally declared itself independent without holding a referendum. The results for the non-interacted model support the use of the binary probit model used in the main text. The results with respect to the interacted model are slightly less robust, but still supportive of the main findings.

First, Tables C.1 and C.2 show the simulated effects of the *Sovereigntist statement with Kosovo analogy* treatment on pro-sovereignty respondents' propensity to choose each category, relative to the *Control* and *Sovereigntist statement* condition respectively, based on the non-interacted Model 3 presented in Table 2.2. Tables C.3 and C.4 do the same for the Don't Know respondents, and Tables C.5 and C.6 do the same for the anti-sovereignty respondents below.

Table C.1: Effect of Kosovo Treatment Relative to Control Excluding Interactions

Pro-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.012	0.019	0.058	0.097	0.104
Somewhat likely	0.013	0.014	0.017	0.021	0.022
Neither likely nor unlikely	-0.021	-0.021	-0.020	-0.019	-0.019
Somewhat unlikely	-0.044	-0.043	-0.040	-0.036	-0.036
Very unlikely	-0.028	-0.026	-0.015	-0.005	-0.002

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.2: Effect of Kosovo Treatment Relative to Statement Excluding Interactions

Pro-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.024	0.031	0.068	0.106	0.113
Somewhat likely	0.017	0.018	0.022	0.026	0.027
Neither likely nor unlikely	-0.025	-0.025	-0.024	-0.023	-0.022
Somewhat unlikely	-0.053	-0.052	-0.048	-0.044	-0.043
Very unlikely"	-0.032	-0.030	-0.019	-0.008	-0.006

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.1 shows that when moving from the *Control* condition to the *Sovereigntist statement with Kosovo analogy* condition, the probabilities associated with answering either "Very likely" or "Somewhat likely" each increase, while those for the other three categories each decrease. These changes are all statistically significantly different from zero at the 5% level.

Table C.3: Effect of Kosovo Treatment Relative to Control Excluding Interactions

Don't Know Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.008	0.014	0.043	0.073	0.079
Somewhat likely	0.028	0.029	0.033	0.037	0.038
Neither likely nor unlikely	-0.009	-0.009	-0.008	-0.008	-0.007
Somewhat unlikely	-0.045	-0.045	-0.042	-0.039	-0.039
Very unlikely	-0.048	-0.045	-0.026	-0.008	-0.004

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.4: Effect of Kosovo Treatment Relative to Statement Excluding Interactions

Don't Know Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.016	0.022	0.051	0.080	0.085
Somewhat likely	0.035	0.036	0.040	0.045	0.046
Neither likely nor unlikely	-0.010	-0.009	-0.009	-0.008	-0.008
Somewhat unlikely	-0.054	-0.053	-0.050	-0.047	-0.046
Very unlikely"	-0.054	-0.051	-0.032	-0.014	-0.010

Note: Changes in predicted probabilities based on Model 3 as described in Table 2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.2 similarly shows that the probabilities associated with the top two categories increase while those associated with the bottom three decrease, and that these changes are statistically significantly different from zero at the 5% level. In Table C.1, the increase in probability associated with the "likely" categories is approximately 7.5 percentage points while it is approximately 9 percentage points in Table C.2.

Table C.5: Effect of Kosovo Treatment Relative to Control Excluding Interactions

Anti-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.003	0.005	0.017	0.029	0.032
Somewhat likely	0.036	0.037	0.039	0.042	0.042
Neither likely nor unlikely	0.016	0.017	0.019	0.022	0.023
Somewhat unlikely	-0.022	-0.022	-0.021	-0.020	-0.019
Very unlikely	-0.099	-0.092	-0.055	-0.019	-0.011

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.6: Effect of Kosovo Treatment Relative to Statement Excluding Interactions

Anti-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.006	0.008	0.020	0.032	0.034
Somewhat likely	0.043	0.044	0.047	0.049	0.050
Neither likely nor unlikely	0.020	0.021	0.024	0.027	0.028
Somewhat unlikely	-0.025	-0.025	-0.023	-0.022	-0.022
Very unlikely"	-0.110	-0.103	-0.067	-0.031	-0.024

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.2. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

These results are all broadly consistent with what we find in the corresponding binary probit model. Since the specification does not allow probabilities to change as a result of different treatment effects, the pattern of results for the Don't Know respondents in Tables C.3 and C.4 is very similar to that of the pro-sovereignty respondents.

As Tables C.5 and C.6 show, the pattern of results for the anti-sovereignty respondents is slightly different, but still suggests that use of the binary probit model is appropriate. For anti-sovereignty respondents, the probability associated with the "Neither likely nor unlikely" category increases when the Kosovo treatment is used, in addition to those associated with choosing the "likely" categories. All changes are statistically significantly different from zero. Because more anti-sovereignty respondents said that it was "Very unlikely" or "Somewhat unlikely" that Quebec would receive international recognition, it is not too surprising that the analogy pushes some people into the middle category as well as the "likely" categories.

Broadly speaking then, these results are consistent with the binary probit model results. The binary probit model makes sense here because it requires respondents to put themselves firmly into the "Somewhat likely" or "Very unlikely" categories rather than the rather noncommittal "Neither likely nor unlikely" category. For the pro-sovereignty and undecided respondents, the ordered probit model suggests this is a meaningful change in attitudes, while for the anti-sovereignty respondents, the ordered probit model suggests that the binary model actually understates the amount of attitude change induced by the Kosovo analogy.

Tables C.7 trough C.12 perform the same analysis for the interacted Model 3 in Table 2.3. Here, the results are somewhat less clear, as they are in the binary probit model.

Table C.7: Effect of Kosovo Treatment Relative to Control Including Interactions

Pro-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	-0.029	-0.018	0.042	0.102	0.113
Somewhat likely	0.011	0.011	0.014	0.017	0.017
Neither likely nor unlikely	-0.015	-0.015	-0.015	-0.014	-0.014
Somewhat unlikely	-0.033	-0.032	-0.030	-0.027	-0.027
Very unlikely	-0.032	-0.029	-0.012	0.005	0.008

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.8: Effect of Kosovo Treatment Relative to Statement Including Interactions

Pro-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	-0.027	-0.016	0.041	0.099	0.110
Somewhat likely	0.011	0.011	0.014	0.016	0.017
Neither likely nor unlikely	-0.015	-0.015	-0.014	-0.014	-0.014
Somewhat unlikely	-0.032	-0.032	-0.029	-0.027	-0.026
Very unlikely	-0.030	-0.027	-0.012	0.004	0.007

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

These tables show the same pattern as in C.1 and C.2, with the exception that the increase in the probability associated with the "Very likely" category is not statistically different from zero at conventional levels of significance (rather $p<0.25$).Similarly, the change in probability associated with the "Very unlikely" category is not statistically significantly different from zero at conventional levels ($p<0.25$).

Table C.9: Effect of Kosovo Treatment Relative to Control Including Interactions

Don't Know Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	-0.163	-0.146	-0.053	0.0393	0.057
Somewhat likely	-0.041	-0.041	-0.036	-0.032	-0.031
Neither likely nor unlikely	0.012	0.012	0.012	0.013	0.013
Somewhat unlikely	0.045	0.046	0.049	0.053	0.053
Very unlikely	-0.031	-0.212	0.028	0.077	0.086

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.10: Effect of Kosovo Treatment Relative to Statement Including Interactions

Don't Know Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	-0.055	-0.042	0.027	0.096	0.109
Somewhat likely	0.024	0.024	0.027	0.030	0.030
Neither likely nor unlikely	-0.003	-0.003	-0.002	-0.001	-0.001
Somewhat unlikely	-0.032	-0.31	-0.030	-0.028	-0.028
Very unlikely	-0.088	-0.078	-0.022	0.033	0.043

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Again, the probabilities associated with the "likely" categories increase while those associated with the other three categories decrease. Overall, however, the same broad pattern of point estimates of these changes holds as before. For the respondents who Don't Know how they would vote in a referendum on sovereignty, the pattern is much less clear.

Table C.11: Effect of Kosovo Treatment Relative to Control Including Interactions

Anti-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Control* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.008	0.011	0.030	0.048	0.052
Somewhat likely	0.062	0.062	0.067	0.071	0.072
Neither likely nor unlikely	0.027	0.028	0.032	0.036	0.037
Somewhat unlikely	-0.038	-0.038	-0.036	-0.034	-0.034
Very unlikely	-0.155	-0.145	-0.092	-0.040	-0.030

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Table C.12: Effect of Kosovo Treatment Relative to Statement Including Interactions

Anti-Sovereignty Respondents	Simulated change in predicted probability of choosing a given category regarding the likelihood of international recognition when changing from *Sovereigntist statement* condition to *Sovereigntist statement with Kosovo analogy* condition				
Category	95% Lower Bound	90% Lower Bound	Point Estimate	90% Upper Bound	95% Upper Bound
Very likely	0.008	0.011	0.030	0.048	0.052
Somewhat likely	0.062	0.062	0.067	0.071	0.072
Neither likely nor unlikely	0.027	0.028	0.032	0.036	0.037
Somewhat unlikely	-0.038	-0.038	-0.036	-0.034	-0.034
Very unlikely	-0.154	-0.144	-0.092	-0.040	-0.031

Note: Changes in predicted probabilities based on Model 3 as described in Table 2.3. Simulations represent a francophone who has not heard about Kosovo and believes Quebec's situation would be "as similar as it is different" to Kosovo's if it unilaterally declared itself independent without holding a referendum

Relative to the control condition, the Kosovo analogy appears to make these respondents *less* likely to choose the "likely categories, but it makes them *more* likely to choose them relative to the statement condition. Furthermore, the confidence intervals for these changes are not consistently different from zero at conventional levels of significance. This suggests as in the binary probit model that the effects on these respondents are hard

to estimate given the small number of them in the sample. This finding does not change the nature of the findings discussed in the main text.

Finally, for anti-sovereignty respondents we actually see precisely the same pattern of results in Tables C.11 and C.12 as we do in C.5 and C.6 – when an ordered probit is used, the effects of the analogy on those with anti-sovereignty respondents are if anything stronger in nature.

Overall then, the findings are most robust to using an ordered probit as opposed to binary probit specification when the model excluding interactions is used. However, the pattern of point estimates is similar in nature even when the interacted model is used, though not all of them are statistically different from zero. As with the binary probit model, there is suggestive evidence that the Kosovo analogy affects both pro- and anti-sovereignty respondents while having no clear effect on those who are undecided about sovereignty.

"Don't Know" Respondents and Attitudes Toward Independence

While the main text examines the question of whether or not the Kosovo analogy affects respondents' assessments of the likelihood of international recognition in the event Quebec unilaterally declared itself independent without a referendum, it does not address the separate question of whether or not the Kosovo analogy affects people's overall attitudes toward independence, given that people's priors about the likelihood of international recognition – with or without a referendum – might be affected by it. The short answer to this question is that it does not appear to affect Quebeckers' attitudes,

except among those who are undecided about sovereignty. Here I provide a longer answer.

After respondents were asked their views on the likelihood of international recognition in the survey, they were asked how certain they were about their assessment of that likelihood; this question yielded no useful variation. Immediately following that question, respondents were asked:

> *Now, if a referendum were held today on Quebec independence, would you vote for or against Quebec independence?*
>
> *For*
> *Against*
> *Don't Know*
>
> *Maintenant, si un référendum sur l'indépendance du Québec se tenait aujourd'hui, voteriez-vous pour ou contre l'indépendance du Québec?*
>
> *Pour*
> *Contre*
> *Ne Sais Pas*

This question was asked to see whether either of the treatments affected people's views on independence in general.[324] Quebeckers have historically been presented with constitutional choices variously described as "sovereignty", "sovereignty-association", "sovereignty with an economic association", and "independence", among others. Precisely what the distinctions are among these different monikers is often unclear (hence the federal government's motivation to pass the Clarity Act). Surveys have also shown that levels of support often differ according to which of these terms is used.[325] In recent

[324] Following the question about independence, respondents were asked whether they had heard about Kosovo's declaration of independence and how similar Quebec's situation would be to Kosovo's under the circumstances described earlier.
[325] Yale (2008).

years, however, the use of such varied terms has decreased, as has the variance in responses associated with them.[326] Accordingly, the Léger Marketing tracking poll discussed in Figure 2.1 also changed its wording in 2006 to ask only about "sovereignty" as opposed to sovereignty "after having made a formal offer to Canada for a new political and economic partnership", as was contemplated in the 1995 referendum.

Therefore it is at least conceivable that people's attitudes toward "sovereignty" (asked about at the beginning of the survey) and "independence" (asked about later in the survey) could differ and even be affected by the treatments. In practice, this was not the case among people who expressed positive or negative opinions on sovereignty: among the 1,071 respondents who provided responses other than "Don't Know" to both questions, the correlation in responses is 0.99 ($p<0.001$) – a perfect match for virtually every respondent. Only 4 (2 in the *Control* group, 2 in the *Sovereignty statement* group, and 0 in the *Sovereignty statement with Kosovo analogy* group) pro-sovereignty respondents were anti-independence, and only 4 (2 in the *Control* group, 2 in the *Sovereignty statement* group, and 0 in the *Sovereignty statement with Kosovo analogy* group) pro-independence respondents were anti-sovereignty. Thus, for people who expressed positive or negative opinions toward sovereignty, the treatments had no effect on how people said they would vote in a referendum on independence, even though the results in the main text suggest that the Kosovo treatment did affect their views on the likelihood of international recognition in the absence of a referendum.

[326] Ibid.

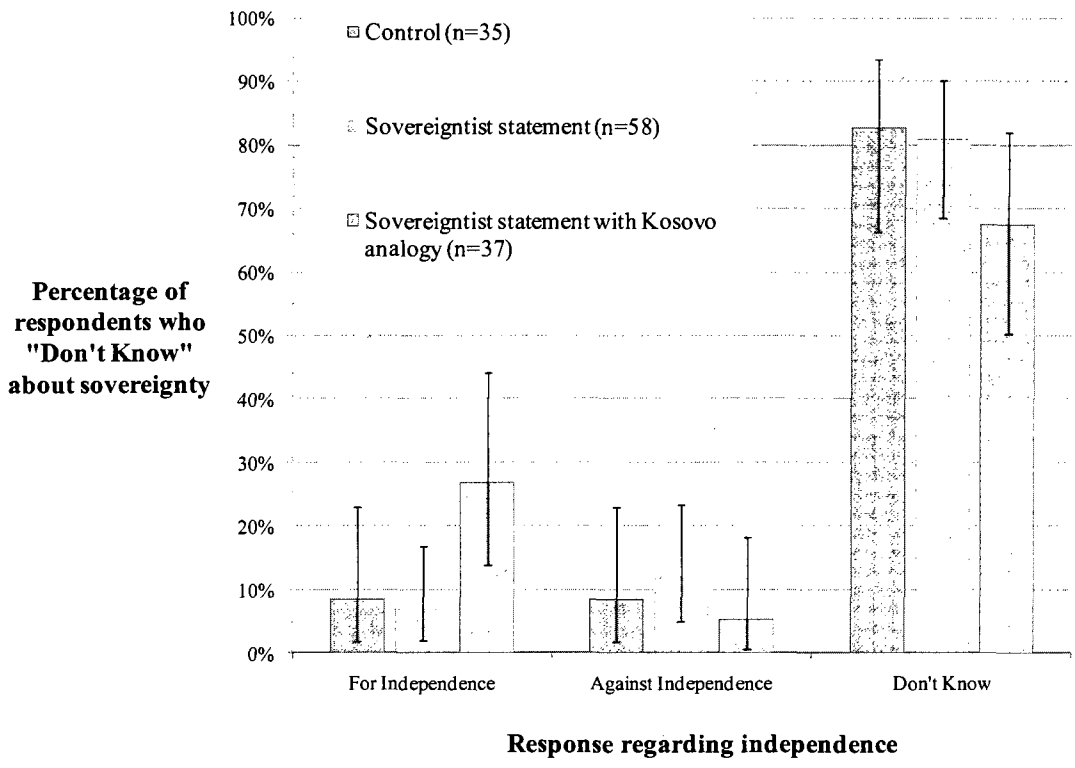
Interestingly, the data suggest the opposite pattern of results among the "Don't Know" respondents. In the main text one could conclude that the Kosovo analogy affected undecided respondents' views on international recognition only when the analogy's effects were assumed to be the same across all priors about sovereignty. When those effects were permitted to vary by prior, the analogy had no substantively or statistically significant effects on undecided respondents' views about the likelihood of international recognition.

In contrast, Figure C.1 suggests that, although the Kosovo analogy did not affect undecideds' assessments about recognition, it did actually make them substantially more likely than people like them in the other two conditions to say they would vote for independence in a referendum than those in the other two conditions. While the small sample size (n=130) is a concern, the Fisher exact test statistic indicates that there is a probability of only 0.072 that the outcomes and experimental conditions are independent of one another, suggesting we should look more closely at how the treatments might have affected the respondents' choices.

The Kosovo analogy appears to matter: an undecided respondent in the *Sovereigntist statement with Kosovo analogy* condition was actually 18 (plus or minus 17) percentage points more likely to indicate they were pro-independence than one in the *Control* group ($p<0.05$) and 20 (plus or minus 14) percentage points more likely to be pro-independence than one in the *Sovereigntist statement* condition ($p<0.01$).[327]

[327] Statistics shown for two-tailed tests of differences in proportions. We can also ask whether these respondents were significantly less likely to report that they "Don't Know" how they would vote in a

Figure C.1: Attitudes Toward Independence of Respondents Who "Don't Know" about Sovereignty



Note: Error bars represent 95% confidence intervals.

These are interesting results because they suggest that the Kosovo analogy may actually move the views of the key swing voters on the subject that matters most: independence itself. These results should be interpreted with caution, however. The sample size is small and these are only bivariate comparisons, unlike those in the main text.

referendum on independence. In a one-tailed/two-tailed) test, undecided respondents in the *Statement with Kosovo analogy* were 15 percentage points ($p<0.14/p<0.07$) less likely to be undecided on independence than those in the *Control* condition and 13 percentage points ($p<0.14/p<0.07$) less likely to be undecided on independence than those in the *Sovereignty statement* condition.

APPENDIX D: CHAPTER 3 – COMPARATIVE ADVANTAGE IN DETAIL

The technical definition of the Law of Comparative Advantage (or Cost) refers to the traditional 2-country, 2-good, 1-factor model or its extensions along these dimensions.[328] It is a statement about the range of relative output or factor prices under which two countries can achieve gains from trade. Specifically, given a home and foreign country, goods 1 and 2, factor input coefficients a_i and a_i* (stars indicate foreign quantities), wage rates w and w*, and world prices p_1 and p_2, the law holds that if:

(1a) $$\frac{a_1}{a_2} \leq \frac{p_1}{p_2} \leq \frac{a_1^*}{a_2^*}$$

or alternatively,

(1b) $$\frac{a_2^*}{a_2} \leq \frac{w}{w^*} \leq \frac{a_1^*}{a_1}$$

then two countries will produce more aggregate output if they specialize and trade.[329] Economists have since specified numerous additional conditions that must obtain both for this and more general statements (involving many countries, goods and factors) to hold.[330] Absent such careful specifications, some international economists even deem

[328] Thanks to Richard Zeckhauser for drawing my attention to this point. Haberler (136, pp. 128-129) says this explicitly: "The exact meaning of 'comparative advantage' should be noted. There must be at least two countries and two goods, and we have to compare the ratio of the costs of production of one good in both countries (80/120) with the ratio of the costs of production of the other good in both countries (90/100)." Economists of course tend to use the term more loosely in colloquial and even more formal discussion.

[329] These equivalent statements come from Ruffin (2002, p. 730) and the discussion in Blaug (1996, pp. 118-120).

[330] See Dixit and Norman (1980, p. 93-96). Obstfeld and Rogoff also note that important assumptions and restrictions apply when comparative advantage is applied in international economics to a country's current account, which "can be interpreted as depending on comparative advantage in trade across time, by analogy with comparative advantage in trade across different goods at the same point in time in classic international trade theory" (Obstfeld and Rogoff, 1999, pp. 280).

statements like this one to be "vague, intuitive."[331] Given its nature then, the analogy Ricardo first used to describe the concept must also be seen as somewhat vague.

Mankiw's Analogy

The main text excerpts a passage from Mankiw's widely used economics textbook in which he implies that gains from trade are possible for both parties as long as the equilibrium price of the traded good is greater than the opportunity cost of the less productive party and less than the opportunity cost of the more productive party. In effect he says that, denoting c_{ij} as the opportunity cost of producing product $i=1,2$ to person $j=1,2$, and p_i as the price of product i, and assuming that $c_{i2} > c_{i1}$, then gains from trade are possible if:

(2) $$c_{i1} < p_i < c_{i2}$$

even if it is the case that:

(3) $$a_{i1} < a_{i2} \qquad \text{for all } i$$

where a_{ij} denotes the labor productivity coefficients for any person j producing product i. Mankiw uses the analogy to highlight certain structural correspondences between his source scenario and the target of trade amongst countries. As described in the main text, the analogy does a reasonably good job of conveying the substance of the idea.

But where even quite mathematical treatments are seen as vague, the analogy is a little bit vaguer still for two main reasons, despite being better than the others discussed in the paper. First, while it introduces the price in between the opportunity costs which other

[331] Dixit and Norman (1980, p. 9).

definitions and analogies sometimes omit, only a single product is traded in this analogy. Second, many assumptions are unspecified – for instance, the exact forms of Tiger Woods' and Forrest Gump's utility and production functions are not unknown.

None of this significantly diminishes the utility of the analogy. This appendix merely serves to keep track of just what exactly the idea is that people are trying to convey and what sacrifices are made in conveying it with an analogy.

APPENDIX E: CHAPTER 5 – MCRT QUESTIONS

The Modified Cognitive Reflection Test (MCRT) is used as a proxy for cognitive ability in this experiment, and only respondents who provided "valid" answers were included in the results presented in the main text. Respondents were deemed to have provided valid answers if they met two criteria: first, the respondent had to provide an answer for each of the three questions; second, the respondent had to spend at least as long on each screen as the respondents who provided the quickest correct answer – in this case, 6 seconds on the screen with the "Jerry" question, 7 seconds on the screen with the "lilies" question, and 8 seconds on the screen with "widgets" question.

Table E.1: Distribution of MCRT Scores by Educational Attainment

CATEGORY	Probability of Providing Valid Answer [95% CI]	MCRT Scores Conditional on Providing 3 Valid Answers: Mean Score [95% CI]	Percent Scoring 0	1	2	3	n
All	0.95 [0.94, 0.96]	1.08 [1.00, 1.17]	53% 798	21% 320	15% 226	12% 179	1,523
Less than high school	0.92 [0.87, 0.96]	0.48 [0.35, 0.62]	71% 114	15% 24	8% 13	6% 9	160
High School	0.95 [0.93, 0.97]	0.55 [0.47, 0.62]	67% 320	18% 86	11% 49	5% 26	481
Some college	0.95 [0.93, 0.97]	0.86 [0.76, 0.96]	50% 212	23% 95	17% 71	10% 42	420
Bachelor's degree	0.98 [0.95, 0.99]	1.20 [1.07, 1.34]	36% 99	26% 72	19% 53	19% 51	275
Graduate degree	0.97 [0.93, 0.99]	1.48 [1.31, 1.64]	28% 53	23% 43	21% 40	27% 51	187

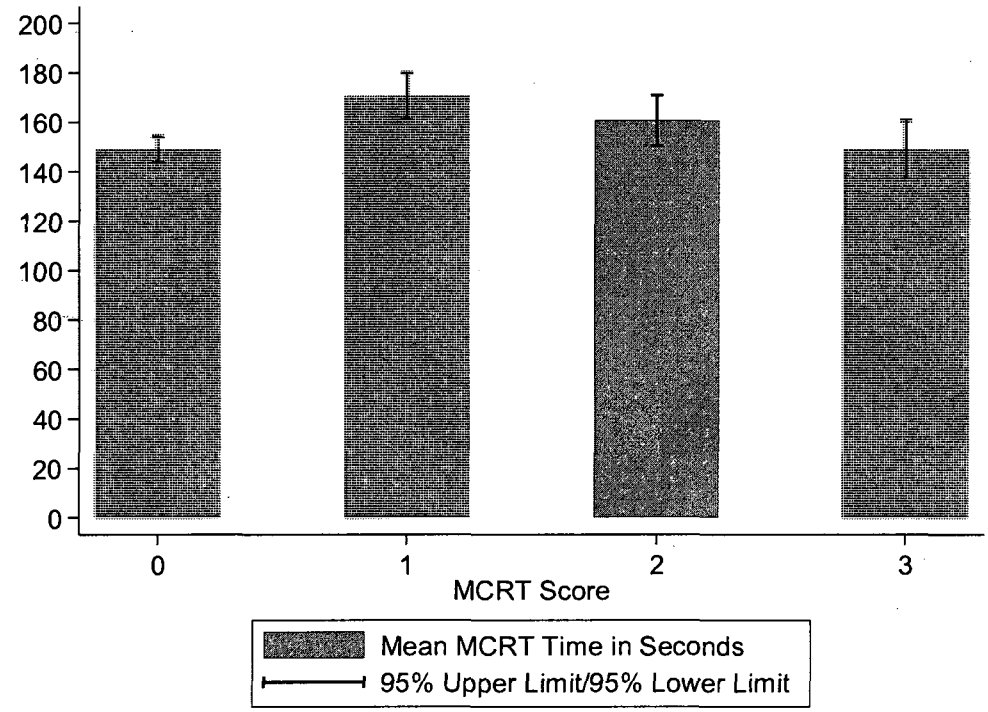
Table E.1 shows the probability that respondents provided valid answers by educational attainment along with the distribution of the test scores among those who did provide valid answers. In general, the response rates across educational categories were quite high and did not vary more than a few percentage points. The exception to this rule is that people with less than a high school education were 5 percentage points less likely ($p<0.001$) to have answered all 3 questions than those with bachelor's or graduate degrees. They are therefore somewhat underrepresented in the results presented in the main paper, while the overeducated are relatively overrepresented. However, it seems unlikely that the overall findings reported in the main text would change if those with less than a high school education had been as likely to provide responses as the other groups.

Even where people did provide valid answers, one might still worry that performance on this test is largely driven by effort. While mental effort was not observed in this experiment, the time spent on the screens comprising the test was observed.[332] Time spent is certainly an imperfect proxy for mental effort, but it is worth examining.[333] Those who provided valid answers spent an average of 2 minutes, 35 seconds on the three questions, excluding the outlying 13% who spent over 6 minutes (or more than 2 minutes per question). This means people spent an average of 52 seconds (74 seconds in the full sample of valid MCRT scores) – considering each of the three questions, despite their cognitively demanding nature. People do not appear to have entered an answer quickly and moved on.

[332] Each question was shown on a separate screen.
[333] Borghans, Meijers and Weel (2008) attempt to determine when mental effort and time invested are each likely to affect cognitive test scores, including one of Frederick's CRT questions.

Those who scored 1 or better spent a statistically significant ($p<0.001$) average of 13 seconds or just under 10% longer on the screens than people who scored 0.[334] So effort, insofar as it can be measured using the time invested, does seem to matter somewhat for getting at least one question right.

Figure E.2: Time Spent on MCRT Screens By MCRT Score



Note: Includes only those respondents who provided valid MCRT answers and took less than 6 minutes to complete all 3 questions.

However, Figure E.1 shows that performance on the MCRT is not simply a linear function of time spent on the screens. As scores improve from 1 to 2 to 3, time spent actually decreases.

[334] The difference grows to 42 seconds – or 20% – longer and remains significant ($p<0.05$) when the outliers are included.

In his original report of results from the CRT, Frederick found that men appeared to perform better on the test than women and concluded that the test must capture "...something men have more of", though the subjects were primarily American college students.[335] To see if this finding holds for the more representative sample, Table E.2 breaks down the MCRT data presented earlier by gender. Here we can see that it is men with less than a high school education that bring the response rate down for respondents in that category; women with less than a high school education answered at rates closer to men and women in all other educational attainment categories. And consistent with Frederick's earlier finding, men did much better on the MCRT than did women both in general and within educational attainment categories. It is hard to explain these differences, especially given the simple nature of the test.

We might expect women to have invested less time in the test than did men, since we saw that those who scored 1 or better spent more time on the MCRT screens than did those who scored 0. Perhaps surprisingly, this does not appear to be the case. Men did not spend significantly longer on the test screens than did women: men spent an average of 157 seconds (plus or minus 5 seconds) while women spent an average of 153 seconds (plus or minus 6 seconds) on the test. This same is true when outliers are included. The gender differences in test scores cannot be explained by differences in time spent on the screens.

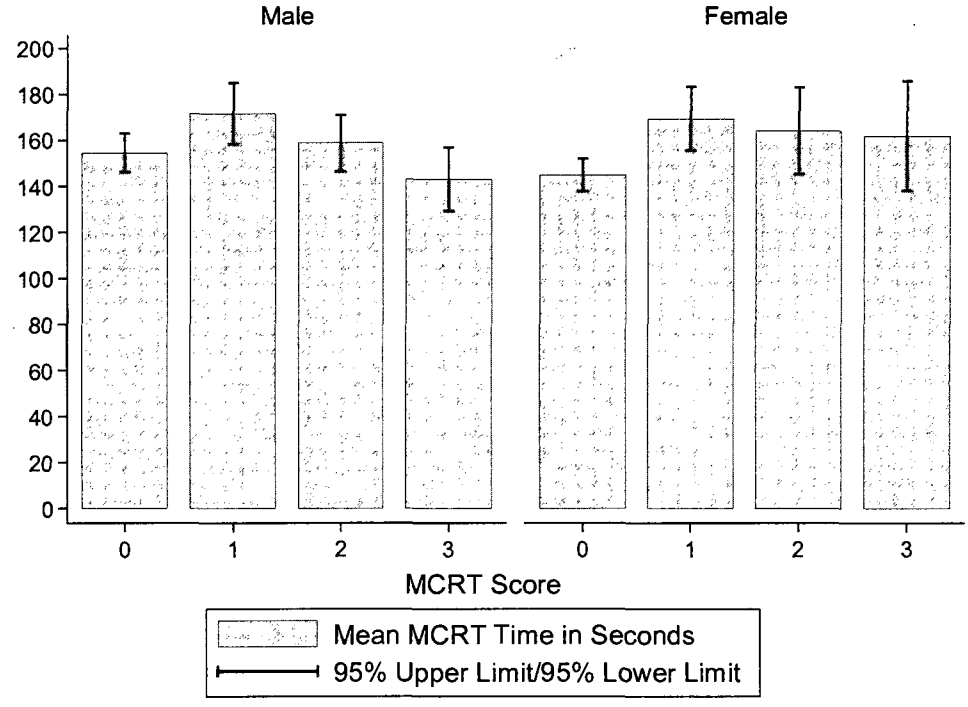
[335] Frederick (2005, p. 37).

Table E.2: Distribution of MCRT Scores by Gender and Educational Attainment

CATEGORY	Probability of Providing Valid Answer [95% CI]	MCRT Scores Conditional on Providing 3 Valid Answers					
		Mean Score [95% CI]	Percent Scoring 0	1	2	3	n
Men	0.96 [0.94, 0.97]	1.08 [1.00, 1.17]	44% 331	21% 156	19% 147	16% 124	758
Less than high school	0.88 [0.78, 0.95]	0.71 [0.44, 0.98]	60% 35	19% 11	10% 6	10% 6	58
High School	0.96 [0.93, 0.98]	0.68 [0.55, 0.80]	61% 143	18% 42	15% 35	7% 16	236
Some college	0.96 [0.93, 0.98]	1.05 [0.91, 1.20]	43% 93	21% 46	22% 48	13% 28	215
Bachelor's degree	0.98 [0.94, 1.00]	1.49 [1.30, 1.67]	26% 38	24% 35	24% 34	26% 37	144
Graduate degree	0.98 [0.93, 1.00]	1.72 [1.50, 1.95]	21% 22	21% 22	23% 24	35% 37	105
Women	0.95 [0.93, 0.96]	0.64 [0.57, 0.70]	61% 467	21% 164	10% 79	7% 55	765
Less than high school	0.95 [0.89, 0.98]	0.35 [0.21, 0.50]	77% 79	139% 13	7% 7	3% 3	102
High school	0.94 [0.90, 0.96]	0.42 [0.32, 0.51]	72% 177	18% 44	6% 14	4% 10	245
Some college	0.93 [0.89, 0.96]	0.67 [0.54, 0.80]	58% 119	24% 49	11% 23	7% 14	205
Bachelor's degree	0.97 [0.93, 0.99]	0.89 [0.72, 1.07]	47% 61	28% 37	15% 19	11% 14	131
Graduate degree	0.95 [0.88, 0.99]	1.16 [0.91, 1.40]	38% 31	21% 21	26% 16	17% 14	82

Figure E.2 breaks down the data presented in Figure B1 by gender as well. For men and women, people who scored 1 spent significantly ($p<0.05$ and $p<0.001$, respectively) longer on the screens than those who scored 0.[336] Men who scored 2 or 3 did not spend significantly longer than men who scored 0. Women who scored 2 did spend significantly ($p<0.05$ when outliers are excluded, $p<0.10$ when they are not) longer than women who scored 0, as did women who scored 3 ($p<0.10$) when outliers were excluded.

Figure E.2: Time Spent on MCRT Screens By MCRT Score and Gender



Note: Includes only those respondents who provided valid MCRT answers and took less than 6 minutes to complete all 3 questions.

[336] When those who spent longer than 6 minutes are included, $p<0.05$ for men and $p<0.10$ for women.

The main difference across genders is that women who scored 1, 2 or 3 invested more time in the questions than did women who scored 0, while men who scored 2 or 3 spent no longer than men who scored 0. One can also see from the figure that women who scored 1, 2,or 3 generally spent approximately the same amount of time or longer on the screens than did men with the same scores. Women who scored 0, however, spent significantly ($p<0.05$) less time than men who scored 0, but only when outliers are excluded.

TABLE E.3: Determinants of MCRT Scores

Dependent Variable	*MCRT Score*					
Coefficient	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Less than high School	-0.15+ (0.08)	-0.11 (0.08)	-0.10 (0.08)	-0.16+ (0.08)	-0.12 (0.08)	-0.11 (0.08)
Some college	0.36*** (0.08)	0.35*** (0.07)	0.32*** (0.07)	0.37*** (0.07)	0.36*** (0.07)	0.33*** (0.07)
Bachelor's degree	0.66*** (0.09)	0.66*** (0.09)	0.63*** (0.09)	0.67*** (0.09)	0.66*** (0.09)	0.63*** (0.09)
Graduate degree	1.06*** (0.11)	1.04*** (0.11)	1.03*** (0.11)	1.07*** (0.11)	1.05*** (0.11)	1.03*** (0.11)
MCRT Time in seconds	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)			
Ln(MCRT Time in seconds)				0.09* (0.04)	0.09* (0.04)	0.11* (0.04)
Female		-0.40*** (0.06)	-0.40*** (0.06)		-0.40*** (0.06)	-0.40*** (0.06)
Age			-0.00* (0.00)			-0.00* (0.00)
R^2	0.14	0.17	0.18	0.14	0.18	0.18
Observations	1,523	1,523	1,523	1,523	1,523	1,523

Notes: Ordinary least squares regression with robust standard errors in parentheses. +p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. MCRT scores range from 0 to 3.

Lastly, Table E.3 presents simple ordinary least squares regressions of MCRT scores on standard demographic variables and controls for time spent, using both the raw time in seconds and its natural logarithm to assume diminishing returns to time spent. As before, high school is the omitted educational category. These regression reinforce the earlier findings. Even when time spent, age, and educational attainment are controlled for, women score an average of 0.40 (plus or minus 0.11) lower than do men when all other variables are held at their sample means. Overall, these persistent and puzzling differences cannot be explained by time invested in the test. Myriad possible explanations could account for them – e.g., educational opportunities, the type and nature of educational experiences, and the factors that in turn influence those outcomes. And research has shown that a variety of factors, including other personality traits, can affect performance on tests of cognitive ability.[337] But this is a separate research question beyond the scope of this study.

For the time being the MCRT is the best proxy for cognitive ability, apart from educational attainment, that I could obtain from a large-scale survey. While it is certainly possible that the test underrepresents women in the "high" cognitive ability category, there is no *a priori* reason to believe this underrepresentation would dramatically change that results presented in the chapter.

[337] Borghans, Duckworth, Heckman and Weel (2008).

APPENDIX F: CHAPTER 5 – SURVEY QUESTIONS

This is a study being conducted by researchers at Harvard University. It asks you to complete some questionnaires and give your views on certain issues including trade and immigration.

PART 1: TRADE

First we would like to ask you about your views on goods and services traded between the United States and other countries.

1. There has been an ongoing debate in the media about whether increased trade with other countries is good or bad for the United States. How familiar are you with this debate?

Not familiar at all			Somewhat familiar			Very familiar
(1)	(2)	(3)	(4)	(5)	(6)	(7)

[Randomly assign respondents to one of four versions]

[Version 1: Control]

3_1. Do you favor or oppose policies that limit imports from other countries?

Strongly oppose	Somewhat oppose	Somewhat favor	Strongly favor
(1)	(2)	(3)	(4)

[Version 2: Comparative Cost Tiger Woods Analogy Treatment]

3_2. Many commentators believe that imports are good for the country because they make it wealthier. They believe that importing is like professional golfer Tiger Woods hiring someone to mow his lawn. Tiger Woods gets wealthier hiring someone as long as he earns more money playing golf in the time he saves than he pays the person he hires – even if that person mows the lawn more slowly than Woods. In a sense, Woods "exports" golfing services and "imports" lawn mowing services. Likewise, the country gets wealthier by importing as long as it earns more from concentrating extra resources on its most productive activities than it pays for those imports – even if the exporting countries produce them less efficiently. Consequently,

these people believe the country is wealthier when it produces what it earns the most from and imports the rest.

Do you favor or oppose policies that limit imports from other countries?

Strongly oppose	Somewhat oppose	Somewhat favor	Strongly favor
(1)	(2)	(3)	(4)

[Version 3: Comparative Cost Bob Vila Analogy Treatment]

3_3. Many commentators believe that imports are good for the country because they make it wealthier. They believe that importing is like home improvement television show host Bob Vila hiring someone to renovate his house. Bob Vila gets wealthier hiring someone as long as he earns more money developing his show in the time he saves than he pays the person he hires – even if that person renovates more slowly than Vila. In a sense, Vila "exports" hosting services and "imports" home renovation services. Likewise, the country gets wealthier by importing as long as it earns more from concentrating extra resources on its most productive activities than it pays for those imports – even if the exporting countries produce them less efficiently. Consequently, these people believe the country is wealthier when it produces what it earns the most from and imports the rest.

Do you favor or oppose policies that limit imports from other countries?

Strongly oppose	Somewhat oppose	Somewhat favor	Strongly favor
(1)	(2)	(3)	(4)

[Version 4: Mercantilist Trade is War Analogy Treatment]

3_4. Many commentators believe that imports are bad for the country because they make it poorer. They believe that trade is like war. Countries engage in both war and trade. In trade, a country earns money when it exports things to others and pays money when it imports things from others. The balance of trade is the difference between the value of what it exports and the value of what it imports. In a sense, the "balance of trade" is like the "balance of power". Just as a country at war wants the balance of power to be in its favor, a country that trades wants the balance of trade in its favor. Therefore trade surpluses are good and trade deficits are bad. Consequently, these people believe the country is wealthier the more it exports and poorer the more it imports.

Do you favor or oppose policies that limit imports from other countries?

Strongly oppose	Somewhat oppose	Somewhat favor	Strongly favor
(1)	(2)	(3)	(4)

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4. How interested are you in international affairs?

Not interested at all			Somewhat interested			Very interested
(1)	(2)	(3)	(4)	(5)	(6)	(7)

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5. How close do you feel to your neighborhood?

Not close at all			Somewhat close			Very close
(1)	(2)	(3)	(4)	(5)	(6)	(7)

[Question on views about ethnic minorities and discrimination]

[This version of Questions 6 and 7 should be included only for respondents in "Version 2: Comparative Cost Tiger Woods Analogy Treatment"]

6_2. How interested are you in golf?

Not interested at all			Somewhat interested			Very interested
(1)	(2)	(3)	(4)	(5)	(6)	(7)

7_2. Before you read the earlier question involving Tiger Woods, had you ever heard of him and did you know what his primary occupation was?

Had never heard of him 1
Had heard of him, but did not know what he did for a living 2

Had heard of him, and knew what he did for a living 3

[This version of Questions 6 and 7 should be included only for respondents in "Version 3: Comparative Cost Bob Vila Analogy Treatment"]

6_3. How interested are you in home improvements?

Not interested at all			Somewhat interested			Very interested
(1)	(2)	(3)	(4)	(5)	(6)	(7)

7_3. Before you read the earlier question involving Bob Vila, had you ever heard of him and did you know what his primary occupation was?

Had never heard of him 1
Had heard of him, but did not know what he did for a living 2
Had heard of him, and knew what he did for a living 3

PART 3: WORD AND NUMBER PROBLEMS

Now we would like to ask you to give your response to 3 brief word and number problems. They may seem unusual, but just do your best. Answers will be provided at the end of the survey for your information.

CRT_4. Jerry received both the 15th highest grade and the 15th lowest grade in a class. How many students are there in the class?

Answer:[ ] students.

CRT_3. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days to cover the entire lake, how many days would it take for the patch to cover half of the lake?

Answer:[ ] days.

CRT_2. If it takes 5 minutes for 5 machines to make 5 widgets, how many minutes would it take for 100 machines to make 100 widgets?

Answer:[ ] minutes.

PART 4: PERSONAL PREFERENCES

Now we would like to ask you three questions about your general preferences in life.

[Randomize order of PP_1 to PP_3]

PP_1. How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

Try to avoid taking risks			Neither try to avoid taking risks nor fully prepared to take risks			Fully prepared to take risks
(1)	(2)	(3)	(4)	(5)	(6)	(7)

PP_2. Imagine you have a choice between receiving $3,400 this month or $3,800 next month. Which would you choose?

$3,400 this month.....1
$3,800 next month 2

PP_3. How do you see yourself: are you generally a person who is cautious or impulsive by nature?

Impulsive			Neither cautious nor impulsive			Cautious
(1)	(2)	(3)	(4)	(5)	(6)	(7)

PART 5: IMMIGRATION

[Questions on immigration devised by Michael Hiscox and Jens Hainmueller]

PART 6: JOB SECURITY

Now we would like to ask you a few questions about how you feel about your job security.

JS_1. How concerned are you about your job security?

Not concerned at all		Somewhat concerned		Very concerned	Not Applicable (Retired or currently unemployed)
(1)	(2)	(3)	(4)	(5)	(6)

JS_2. Do you think increased imports make your job *more* secure or *less* secure?

Much less secure	Somewhat less secure	Neither more secure nor less secure	Somewhat more secure	Much more secure
(1)	(2)	(3)	(4)	(5)

[If married]

JS_3. Is your spouse currently employed?

Yes 1
No.....2

[If spouse employed]

JS_4. How concerned are you about *your spouse's* job security?

Not concerned at all		Somewhat concerned		Very concerned
(1)	(2)	(3)	(4)	(5)

[If spouse employed]

JS_5. Do you think increased imports make *your spouse's* job *more* secure or *less* secure?

Much less secure	Somewhat less secure	Neither more secure nor less secure	Somewhat more secure	Much more secure
(1)	(2)	(3)	(4)	(5)

[If spouse employed]

JS_6. Which job – your own or your spouse's – contributes more to your total household income?

My job contributes all of the household income			Both jobs contribute equally			My spouse's job contributes all of the household income
(1)	(2)	(3)	(4)	(5)	(6)	(7)

PART 7: ECONOMICS BACKGROUND

Now we would like to ask you some questions about the economy and any economic education you might have had.

EK_1. What must the government do to reduce high inflation?

Increase both spending and the money supply 1
Decrease both spending and the money supply 2
Decrease spending and increase the money supply 3
Increase spending and decrease the money supply.....4

EK_3. Have you ever taken any economics courses in high school or college?

High school: Yes/No
College: Yes/No

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