A STUDY OF THINK TANKS IN CANADA

PRODUCING AND PROMOTING POLICY IDEAS: A STUDY OF THINK TANKS IN CANADA

BY

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For Ally.

Abstract

This dissertation is about how think tanks produce and promote policy ideas. It is informed by 53 semi-structured interviews, financial and employee data for 30 think tanks over 11 years, documentary materials (including newspaper data, annual reports, strategic plans, communication reports, and publications), office visits at think tanks, and observation at public events. In substantive chapters, I address (*i.*) the funding environment underpinning think tank policy research in Canada, (*ii.*) the epistemic cultures shaping knowledge production, and (*iii.*) the rhetorical strategies of intellectuals — affiliated with or oriented to think tanks — challenging the scientific consensus on climate change in "the space of opinion."

In chapter two, I present a comparative analysis of think tank funding that challenges predictions derived from elite and pluralist theories, and builds on recent field theory. I find that the availability of state and private donor funding creates an environment where think tanks mostly cater to two types of sponsors with diverging preferences. The relative separation of state and donor funding is politically patterned, with conservative think tanks being funded by private donors and centrists by the state. Rather than being "independent" *or* members of a "corporate-policy elite," think tanks face extreme versions of common organizational problems, in particular resource dependencies and conflicting institutional logics.

In the third chapter, I draw on the sociology of ideas to propose that the production and promotion of policy ideas in think tanks vary in three ways. First, there are diverging tendencies towards universalism and contextualism in a broadly utilitarian epistemic culture. Secondly, think tanks vary in the extent to which they integrate their research and communication strategies in short and long term projects. Finally, among those active in the "space of opinion," some are seeking leverage for negotiations with elites, others to shape public opinion in specific ways, and others to rise to the top of an intellectual attention space as authoritative intellectuals.

Chapter four is a case study of intellectuals — affiliated with or oriented to think tanks — discussing climate change and climate science in "the space of opinion." Based on an inductive qualitative analysis of 417 systematically collected articles, I discuss two tactics writers have used in an effort to de-legitimate the scientific consensus on climate change. Without a vetted body of knowledge ready to take centre stage, and without appealing to non-scientific cultural authorities, writers (*i.*) re-frame consensus as a political construct, and their own skepticism as supremely scientific, and (*ii.*) "personalize" climate science by smearing high profile environmentalists and scientists, and chipping away at the character of mainstream climate scientists. Together, these tactics portray skeptics as more scientific than climate scientists.

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John McLevey

Toronto, ON

May 13, 2013

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Acronyms

APF — Asia Pacific Foundation

AIMS — Atlantic Institute for Market Studies

CALEDON — Caledon Institute of Social Policy

CARDUS — Cardus

CB — Conference Board of Canada

CCPA — Canadian Centre for Policy Alternatives

CCSD — Canadian Council on Social Development

CDAI — Conference of Defense Associations Institute

CHANGE — Change Foundation

CIC — Canadian International Council

CIGI — Centre for International Governance Innovation

CISS — Canadian Institute of Strategic Studies

CPRN — Canadian Policy Research Networks

CSLS — Centre for the Study of Living Standards

CTF — Canadian Tax Foundation

CWF — Canada West Foundation

FRASER — Fraser Institute

FRONTIER — Frontier Centre for Public Policy

HOWE — CD Howe Institute

IMF — Institute of Marriage and Family Canada

IOG — Institute on Governance

IRPP — Institute for Research on Public Policy

MACKENZIE — Mackenzie Institute

MEI — Montreal Economic Institute - Institut Economique de Montreal

MLI — MacDonald Laurier Institute

NSI — North-South Institute

PEMBINA — Pembina Institute

PPF — Public Policy Forum

Renewal — Centre for Cultural Renewal

SRDC — Social Research and Demonstration Corporation

SUZUKI — David Suzuki Foundation

Chapter 1

Introduction

In 2011, Canadian think tank The Centre for International Governance Innovation (CIGI) started negotiations with York University on a $60 million partnership that would found a school of international law. CIGI founder and former co-CEO of Research in Motion[1] Jim Balsillie would donate $30 million for 10 new research chairs and 20 graduate scholarships over 10 years, with matching donations from the Government of Ontario. A steering committee composed of two people from CIGI and three from York would determine the financial details and professional expectations of the new chairs. The arrangement raised concerns about academic freedom at York, with faculty from Osgoode Hall (proposed as a home for the program) and the Canadian Association of University Teachers (CAUT) being particularly vocal. The extensive coverage and public debate was characterized by polemics for and against the partnership, bringing into the open three common perspectives on think tanks, their status as experts, and the interests they serve.

Think tanks claim that precautionary measures and professionalism prevent funders from influencing their work, allowing intellectual "independence." This perspective is

[1] Now simply Blackberry.

based on a tradition of thinking about experts as able to transcend economic interests for collective good.[2] They claim that properly managing controversial economic relationships creates distance from their funders' interests, allowing them to work "independently" for the betterment of Canadian society.

Talk of independence is morally charged and emphasizes trust in people to behave professionally and "do the right thing." An Executive Vice-President of The Fraser Institute, and formerly a Director of Research for The MacDonald Laurier Institute, explained the importance of a "*culture* of independence," having the *courage* to say things your funders may not agree with, and having a *charismatic* leader whose vision creates a boundary between the think tank and funders' interests. He described the constant presence of attractive but inappropriate funding opportunities that only the most principled resist. Others advertise "rigorous peer review," claim deference to data and measurement over values and opinion, point to a record of ideological diversity, and make principled distinctions between "good" and "bad" relationships with businesses and the state. Finally, think tanks argue that diversified funding models give them the power to resist the desires of wealthy funders.

Just as many academics have worried about decreasing autonomy in universities and the risks of taking on the interests of primary resource providers (e.g. Slaughter and Rhodes, 2004; Berman, 2011), so too have they been skeptical of think tank claims to be independent of their funders and broader political movements. Some of my academic interviewees reported negative experiences with think tanks that have led them to distrust claims to "independence." For example, one academic economist reported intense moral dilemmas about violating established research practices. When explaining his reactions to "casual

[2]The ability of funders to directly impact think tank resources and reputations prevents them from being able to claim "autonomy" — which is an historical and structural argument about being disentangled from external interests and controlling the distribution of resources and the making of reputations in a field (e.g. Whitley, 1984; Bourdieu, 1990).

conversations" about manipulating findings and tailoring research to further political interests, he described the expensive dinner paid for by the funders and joked that the culture clash was so strong they would have to pay him a lot more money to talk again. He and other interviewees argued that there are simply too many powerful interests influencing think tank work.

Skepticism based on experience ranges the political spectrum, and is often a response to perceived violations of strongly held views of how research should be done. Others, drawing on leftist versions of elite theory (in the tradition of Mills, 1956), argue that corporately funded think tanks provide a platform for neoliberal intellectuals. Peschek (1987) and Domhoff (2010), for example, include think tanks in a wider power structure of corporate and political elites.

Flipping these claims around, conservative strands of elite theory portray academics in populist terms, for example as a self-interested class of cultural elites who are hostile to business.[3] Along these lines, some think tank supporters on the right have argued that the problem with policy research is not a lack of independence, but the liberal and leftist ideologies of a "new class" of intellectuals *sustained by distance* from funders. Since the 1970s, they have criticized the relative "autonomy" of academic, state, and journalistic fields and promoted think tanks as an alternative source of expertise in policy circles and the public sphere.

In an interview I conducted as part of this dissertation, the director of a conservative

[3]Criticizing academia has been a key strategy in the American conservative movement, in particular the re-branding of conservativism as populism. See (Gross et al., 2011) for an overview of research on American conservativism. Current survey research casts doubt on the conservative accusations of radicalism among the professoriate. Although the social sciences and humanities tend to be liberal-left, many tend towards the centre. There is no evidence of bias, and universities in general are politically diverse institutions (Nakhaie and Brym, 1999, 2011; Gross, 2013).

think tank spoke passionately of the "black hole" of academia, which incentivizes academics — "entirely lacking in self-discipline" — into selfishness and an unwillingness to work with outsiders on important and potentially high impact projects. The individualistic culture of academic research breeds an obsession with originality, and as academics differentiate themselves from their colleagues they become narrow and inconsequential. In a "parting thought," he stressed that "think tanks wouldn't exist if universities did their job."[4]

1.0.1 This Study

Recent literature on think tanks tends to focus on the problem of influence (Abelson, 2009) and macro-level field dynamics (Medvetz, 2012). But as illustrated by broader controversies about what think tanks do and whether or not they can be trusted, questions about the organizational and cultural aspects of knowledge production and promotion are also of central importance.

The broad goal of this dissertation is to begin addressing some of these issues using tools from the sociology of ideas,[5] and from organizational and cultural sociology. To that end, chapter two examines issues related to think tank funding and the politics of policy knowledge by evaluating predictions derived from elite, pluralist, and field theory. My findings suggest that the funding environment think tanks operate in does not conform to what pluralists or elite theorists predict. Instead, think tanks work in uncertain contexts where they face exaggerated versions of the types of problems most organizations face. The most important of these is finding a way to promote the perception of independence in

[4] Ironically, his think tank relies heavily on research contracted out to like-minded academics (which is common in Canada), suggesting that his grievance is about what the academic field does to academics and how academic cultures and logics — having established distance from external interests — are harmful to knowledge economies. He believes think tanks exist to do what universities fail to do: *matter*.

[5] As laid out in Camic et al. (2011), Camic and Gross (2001), and in the recent calls for a renewed sociology of intellectual interventions (Eyal and Buchholz, 2010), and of expertise (Eyal, 2013).

the face of considerable resource dependencies.

The third chapter — which is my primary theoretical contribution — examines the epistemic cultures at work when think tanks produce and promote policy ideas. My analysis draws on concepts from the sociologies of science and knowledge to unpack variation in think tank epistemic cultures. These cultures are strongly shaped by the unique organizational context that think tanks operate in.

Finally, the fourth chapter is a case study of think tank intellectuals in "the space of opinion" (Jacobs and Townsley, 2011). It examines the rhetorical strategies that a group of intellectuals — affiliated with, or in some way oriented to — think tanks challenge the scientific consensus on climate change. This article, which looks at only one side of a complex and contentious public debate, is an exploratory first step towards a larger research agenda on public debates about climate change and climate science.

Although this is primarily a qualitative and comparative dissertation, the research strategy I adopted was also oriented to quantitative and historical "logics of inquiry" (see Alford, 1998; Luker, 2008). The result is a dissertation based on a wide range of original data, including:

- 53 semi-structured interviews with think tank executives, researchers and research coordinators, communications specialists, and research fellows
- Financial and employee data for 30 think tanks over 11 years, collected from the Canada Revenue Agency's public Charities Listing database
- 2 original newspaper datasets, including count and textual data
- A large collection of archival documents, including annual reports, strategic plans, communication reports, publications, speeches, and publicly available videos

I collected most of this data in 2011 and early 2012. Throughout the process, I took notes based on observations at think tank offices and several events, including a working lunch hosted in downtown Toronto by the Institute for Research on Public Policy.[6]

Scheduling my first few interviews proved challenging, and I was unsure if I would successfully gain access to the organizations I was interested in. Stories about conservative activists using interviews to "expose" supposedly compromising facts about liberal and left-leaning professors and social scientists were becoming more common in the American and Canadian media, and I expected that my already slim chances of getting interviews and establishing rapport would be lowered as controversial intellectuals with nothing to gain put up their guards. Fortunately my luck reversed when I took Chambliss' (1996) advice on how to gain access to organizations with a "side in" approach, and before long I was spending most of my time preparing for, doing, and analyzing interviews. Gradually I focused my broad interests on think tanks and policy expertise to a more limited set of issues.

After spending much time talking with think tank executives and research coordinators about how they get their money and how they manage their funding relationships, I started collecting data from the Canada Revenue Agency to provide context for the issues my participants were describing. When a friend lent his expertise to help me continue collecting that data in a much more efficient way,[7] I was able to explore issues related to think tank funding systematically. Eventually — much later than I expected — it became clear that the funding data illuminated patterns in the organizational environment that clarified the positions my interviewees were taking, and it helped me understand the reasons why *they* disagreed so strongly about "good" money and "bad" money.

[6] Discussions of data and methods on a more technical level can be found in each substantive article.

[7] Andrew Osmond wrote a Perl script that automated the collection process. Not only did this enable me to shift my energy to analysis of the data, it cut out the chances of human error.

I chose to write this dissertation as a series of articles rather than the format traditional in most of the social sciences because it enabled me to dip into a range of related issues about knowledge production in think tanks. The obvious downside to this approach is that no single idea has been developed as comprehensively as it would have in a dissertation that gradually develops an idea over multiple chapters. Similarly, each issue is not presented with as much thick description as I would otherwise prefer, and despite the fact that the data I collected for the overall project is rich and varied. There is inevitably some overlap in the material presented in each article, for example in discussions of the literature, data, and methods. Given that they tackle unique theoretical issues and are all quite empirically different, the overlap is minimal.

Chapter 2

Think Tanks, Funding, and the Politics of Policy Knowledge in Canada

Debates about think tank funding and how it affects the production of policy knowledge have been at the center of both scholarly debate and public discourse since they started to emerge on the American political and intellectual scenes. Money is at the heart of how think tanks are classified by insiders and outsiders, and is a common heuristic for judging credibility and broad political "allegiances."

Knowledge of think tank funding has been shaped by pluralist, elite, and most recently field theory. Each depicts think tanks, and the environments they operate in, in fundamentally different ways. For pluralists, think tanks are their own self-interested and determined actors, while for elite theorists they are tools to advance the economic and political interests of elites. In field theory, think tanks operate in complex environments where they have to manage relationships with their more economically and politically powerful sponsors.

These theories have mostly been developed in the American context, where funding is

dominated by donations from individuals and philanthropic foundations. In other countries, think tanks rely less on donations and more on the state, or on collaborative (if often strained) relationships with universities. Yet considering other countries has mostly led researchers to loosen their restrictive definitions of "think tank" (see cases in Stone and Denham, 2004) rather than developing systematic empirical studies of how funding environments shape the politics of policy knowledge.

In this article, I begin by considering how the case of think tanks differs from other research in the sociology of knowledge that addresses funding and resources. I then outline elite, pluralist, and field theories of think tanks and funding. I discuss predictions derived from these theories, which I evaluate using data collected from the Canada Revenue Agency for 30 organizations over 11 years. My findings do not support predictions from pluralist theory, and provide only qualified support for predictions based on elite theory. Instead, in support of predictions based on field theory, I find evidence that think tank political orientations are strongly related to their relationships with different types of donors. This suggests that think tanks are not acting strictly according to their own interests or those of a coordinated corporate-policy elite. Rather, they operate in an uncertain environment where they face extreme versions of common organizational problems, such as resource dependencies and conflicting institutional logics.

2.1 Literature and Theory

2.1.1 Funding in knowledge production

There is extensive research on funding and knowledge production in academic settings, for example, on intellectual reward structures (e.g. Merton, 1973; Rossiter, 1993; Siler

and McLaughlin, 2008), evaluative processes that guide decisions about the allocation of centralized resources (e.g. Cole, 1992; Lamont, 2009), and how specific organizational configurations shape scientific work (Whitley, 1984; Fuchs, 1992). Other research examines economic relationships in the higher education sector (Slaughter and Leslie, 1997; Berman, 2011), or the distribution of unique forms of capital — including economic — in intellectual fields (Bourdieu, 1990).

Organizational theories have addressed the links between funding and knowledge production most directly. For example Whitley (1984) differentiated between types of dependence in scientific work, including degrees of control over economic resources and variations in how scientists allocate rewards and recognition. Building on three of Whitley's variables — "task uncertainty," "mutual dependence," and "reputational autonomy" — Fuchs (1992) developed a theory of how organizational configurations produce levels of cognitive integration or fragmentation in intellectual fields.

Appropriately, most of this research focuses on comparisons within academic fields. Research on funding outside of academia generally examines the consequences of market logics on science (Owen-Smith, 2003; Mirowski and Van Horn, 2005; Murray, 2010; Evans, 2010), or commercial and academic cultures broadly (e.g. Kleinman and Vallas, 2001; Baber, 2001).

Think tanks differ from the usual cases in theoretically interesting ways. First, in the most general sense, research funding is raised or earned by organizations employing policy researchers, not awarded to individuals on the basis of intellectual merit recognized via peer evaluation. Think tanks do not control the allocation of resources among themselves, and the academic system of "organized skepticism" (Merton, 1973) does not apply. Finally, although think tanks may be funded in part through donations from corporations, they don't

contribute to the development of products for a market. How corporate funding influences think tank work will be different than how it influences work in the natural sciences and STEM fields.

2.1.2 Think tanks and funding

Pluralist and elite theory traditions have strongly shaped the academic discussion of think tanks by defining them as (*i.*) independent of established institutions, or (*ii.*) the intellectual pawns of corporate elites (following Mills, 1956).[1] In recent field theory[2] (*iii.*) the focus is not on whether think tanks *are* the pawns of elites, but rather on the complicated organizational and political environments in which they operate, and the underlying dependencies on powerful sponsors.[3]

For pluralists, think tanks are just another set of organizations with their own strategies and interests — for example inquiring into policy issues in a way that is reasonably detached from the economic and political fray (see Polsby, 1983). Influenced by this perspective, researchers commonly assert that think tanks are categorically *independent* from elites and established institutions such as the state and academia (e.g. Weaver, 1989; Stone, 2000; Rich, 2004). Having settled on independence, researchers often use a one or two year snapshot of total revenue to compare the relative size of think tanks that qualify for their organizational set. Discussions of where money comes from are usually part of descriptive profiles of specific think tanks rather than examining the links between politics and funding

[1] While think tank researchers have critiqued the elite and pluralist traditions for an inability to address questions of influence (Abelson, 2009), for being too mechanical, or for focusing too much on formal policy making (Medvetz, 2012), they still color our understanding of funding and knowledge production.

[2] By field theory, I don't only mean the version initially developed by Bourdieu. I am also referring to the variety of "institutional" theories that have dominated organizational sociology since the 1970s, in particular those dealing with organizational fields.

[3] I have set aside other approaches relevant to research on think tanks in general, such as the epistemic communities literature, that don't speak as directly to the issue of funding and knowledge production.

environments broadly.

Developing elite and power structure theories, Peschek (1987) and Domhoff (2010) have examined inter-organizational networks of elites and corporate funding (Domhoff, 2009) to argue that think tanks plan policy to further their class interests. Carroll and Carson (2003) make a similar argument at a global scale, arguing that corporate-policy interlocks are part of a project of international elite integration and the consolidation of corporate capital. In short, right-wing think tanks are "neoliberalisms organic intellectuals," furthering the interests of the most powerful (Carroll, 2007).[4] Similar arguments about Canadian think tanks as vehicles of elite interests can be found in general audience books on think tanks and economic elites (e.g. Gutstein, 2009; McQuaig and Brooks, 2010).

In his field analysis of American think tanks, Medvetz (2012) recasts think tanks as hybrid organizations operating in the space between the political, economic, academic, and media fields (see also Eyal, 2002, 2011). Building on Bourdieu (e.g. 1990; 1996), he argues that think tanks are unique in their ability to draw on the "capitals" defining those fields and put them to work in novel ways and in new contexts. Rather than being the tools of corporate elites *or* defined by their "independence" from established fields, this re-frames think tanks as *dependent* on a wide range of external actors, and emphasizes the meanings and strategies they develop around the resources they accumulate.[5]

Economic capital is perhaps the most consequential and symbolically powerful form of capital for think tanks themselves. On the one hand, they must present themselves as independent to general audiences. On the other hand, they must signal their dependence

[4] Although not about think tanks, from the perspective of neo-conservative versions of elite theory, having strong ties to the business and political worlds are re-framed as a virtue, and that the autonomy of the university (in Bourdieu's sense) has pulled it away from real world concerns.

[5] Dependence on funders is completely different than being pawns for advancing their class interests.

to potential funders in a "market of donations." This introduces questions that organizational scholars have long focused on, including how environments can constrain organizational autonomy through resource dependencies (Pfeffer and Salancik, 1978; Emerson, 1962; Burt, 1980), the challenges and opportunities presented by conflicting institutional logics (Friedland and Alford, 1991; Thorton and Lounsbury, 2012), and how they are managed by institutional entrepreneurs and "challengers" (DiMaggio, 1988; DiMaggio, 1991; Fligstein, 2001; Rao et al., 2003; Fligstein and McAdam, 2011, 2012).

2.1.3 Research questions and predictions

Research suggests that American think tanks are funded primarily by private donations (e.g. Smith, 1993; Rich, 2004), and that Canadian think tanks rely more on government grants and contracts. Increasingly there are also claims being advanced in the media and political fields[6] — unexamined in the academic literature — that some think tanks rely on non-Canadian donations to promote political agendas on both the left and the right. The first question, then, is:

- How important is funding from (*i.*) international donors and (*ii.*) the state to think tanks in Canada? What are the political orientations of think tanks receiving money from international donors?

If the Canadian "market for donations" is more international, or if the role of the state is more extensive, we can evaluate predictions about funding and political orientations based on elite, pluralist, and field theories. To that end:

[6]International donations are unsurprisingly politicized. The right has accused leftist and environmentalist think tanks of being funded by wealthy American liberals, while the left has accused think tanks of bringing the resources and tactics of the American right into Canada.

- Are there differences in how conservative, centrist, and left / progressive think tanks are funded? Are the most economically successful think tanks politically conservative or centrist?

How do pluralist, elite, and field theories translate into predictions that can be evaluated using data on think tank funding? From a pluralist perspective, we would not expect to find political patterns in think tank funding because of the assumption that think tanks are independent of their sponsors, and because they use their resources to pursue *their* goals and interests.

On the other hand, elite theories propose that think tanks are part of an *integrated* group of political and economic elites advancing their common class interests. We would expect to see conservative think tanks advancing those causes to be well funded regardless of whether their funding came from the state or from private donors. Think tanks not advancing those interests would be — according to elite theory — outside of the corporate-policy elite. They would rely on donations from sponsors supporting their cause, but as outsiders to the "power elite," we would expect them to be less economically successful.

From a field theory perspective — and organizational theory more generally — think tanks operate with strong dependencies in uncertain environments shaped by conflicting institutional logics. We would predict that the more diverse the funding environment, the wider the diversity of political perspectives that can be sponsored. Think tanks catering to the same types of funders would be expected to have common political ideologies.

Finally, for different reasons, elite and field theories would both predict that the most economically successful think tanks would be those effectively drawing on the resources of both the state and private donors. While elite theory would attribute this to their membership in the corporate-policy elite, field theory would interpret this as effectively catering

to the common interests of key sponsors.

2.2 Data and Methods

Canadian think tanks have to file annual T3010 Information Returns with the Canada Revenue Agency (CRA) to maintain their tax-exempt charitable status. The returns are available in a searchable database, making it is possible to look up information for specific organizations at specific times. To evaluate claims about funding and political orientations, I collected financial data from 2000 to 2011, or from founding date to latest filing, for 30 think tanks. To automate the collection process and eliminate human error, I used a Perl script to scrape data from the charities listings for each organization and create a dataset of all publicly available information.[7]

The case selection process was inclusive. I complied a list of think tanks mentioned by interviewees, from the literature, news stories and op-eds, and public lists and rankings (e.g. McGann, 2010). I excluded university-based institutes, consulting firms, some very small single-issue think tanks, and one non-profit think tank without charitable status.[8] Finally, I included two organizations whose activities are more extensive than others in the analysis: The David Suzuki Foundation and The Institute of Marriage and Family. The David Suzuki Foundation is an interesting comparative case because it has been the subject of many public conservative attacks, whereas The Institute of Marriage and Family is run by Focus on the Family Canada.

[7] Andrew Osmond wrote the Perl script, and I am very grateful for his expertise.

[8] The CRA does not regulate or collect data on university-based policy research institutes. Even if it did, university institutes have completely different funding and organizational structures. As previously discussed, there is a terminological debate in the think tank literature about what organizations count as think tanks (see Stone and Denham, 2004; Rich, 2004; Abelson, 2009; Medvetz, 2012). Although this analysis focuses mostly on organizations that fit the most restrictive definitions, my methodological choice is not meant as a stance in that debate.

To determine how think tanks in Canada are funded, I collected data from "Section E: Financial Information" of the Information Returns. Under the revenue section, I combined municipal, provincial, and federal sources into "government," and rental income, memberships, dues, fees, and sale of goods and services (except to government) as "self-generated revenue." I combined entries for tax-receipted and non tax-receipted gifts, and gifts from other registered charities, as "donations."

Drawing on this data, I used a truth table algorithm[9] to simplify and formalize a comparative analysis of think tank funding models that persist year to year. This required creating a simple dataset of binary variables indicating the "presence" or "absence" of each funding source in each organization's total funding. To determine the relative importance of each funding source for each think tank, I calculated the percentage of total funding it contributed to each year. I coded funding sources as "1" if a think tank made 20% or more of their total revenue from that source, and "0" if it contributed less than 20%.[10] In most cases, the funding models were consistent across every year, enabling me to simply code each funding source with an overall "1" or "0." When there were changes over the years, I considered each case individually, looking at the percentage of revenue generated by each source. Each time, it was easy to determine whether an overall "1" or a "0" was most appropriate. To help identify organizational and political patterns, I also coded think tanks as having moderate-high funding if their average annual revenue exceeded $2.5 million, and as low if it was less than $2.5 million.

The truth table algorithm generates a list of all the logically possible combinations of funding sources and then matches them to empirical cases in the dataset.[11] Logically

[9] Truth tables are common in set theory, logic, and in sociological Qualitative Comparative Analysis (Ragin, 1987, 2008; Amenta et al., 2009).

[10] 20% seemed to be a fairly important cutoff point. If a think tank didn't make at least 20% of their funding from a source, there tended to be a steep drop off.

[11] If this were a full Qualitative Comparative Analysis (Ragin, 1987), there would be a series of extra steps.

possible funding models without empirical matches were dropped from the analysis. This enabled me to inductively identify how think tanks are actually funded, and to compare across organizational cases.

To evaluate claims about think tank funding and political orientations, I coded think tanks as "conservative," "centrist," or "left / progressive." These coding decisions — as well as others — were informed by substantive knowledge gained as part of a larger study of think tanks in Canada. I conducted 53 semi-structured interviews with think tank directors, rank-and-file researchers, communications specialists, and academic economists and political scientists who have worked with think tanks.[12] Following Smalls (2009a; 2009b) work on sequential interviewing and best practices for elite interviews (Hochschild, 2005; Spector, 1980), I recruited and interviewed people for their position in the think tank field. The interview schedule was adapted for different types of participants to improve data quality by focusing on their unique knowledge, but most addressed issues directly related to funding. Interviews generally lasted between 45 and 90 minutes and were analyzed thematically and comparatively (Miles and Huberman, 1994) using TAMS Analyzer 4 (Weinstein, 2006). In addition to this, I drew on a range of documentary materials,[13] discussions in the literature (e.g. Abelson, 2009), their general reputation in the policy community, and by reading opinion pieces and publications.

Of these codes, "conservative" captures the most variation (in part because there are so many of them), from politicized economic libertarians and social conservatives to those closer to the centre-right. "Centrist" is less varied, but includes think tanks that promote

However my use of the truth table algorithm is simply to facilitate a systematic comparison of cases. I used the QCA package for R developed by Thiem and Dusa (2013).

[12] I obtained ethics clearance from McMaster Research Ethics Board on February 15 2011.

[13] Including annual reports, publications, speeches, organizational histories, communication reports (3, confidential), strategic plans (3, confidential), and opinion pieces and news stories by or mentioning Canadian think tanks.

both centre-right and centre-left positions on a range of policy issues. Compared to others, their employees tend to be more politically diverse. Finally, the "left/progressive" code includes the social democratic Canadian Centre for Policy Alternatives, the liberal-left Caledon Institute of Social Policy, and the environmentalist David Suzuki Foundation. The research design requires setting aside more nuanced political distinctions among these organizations, but these reasonably general political orientations enable us to look at patterns across a larger number of organizations, which is an analytically useful trade-off.

2.3 Findings

2.3.1 The role of international donors and the state in Canada

Research on in the American context shows that most think tanks are funded by private donors. Based on voluntary disclosures, individual donations are the most common, followed by donations from foundations, corporations, and finally labor unions (see Smith, 1993; Rich, 2004). Funding data on major think tanks collected by Medvetz (2012) also shows donations as being the dominant funding sources, followed by self-generated revenue. Three major think tanks he profiles make most of their money from government grants and contracts: The National Bureau of Economic Research, the RAND Corporation, and the Urban Institute. However, these are unique organizations in a funding landscape otherwise dominated by donations.

Like American think tanks, the data suggest that Canadian think tanks make a considerable amount of money from private donors, self-generated revenue, and interest and investments. Claims about how the Canadian environment differs from the American context boil down to (*i.*) the role of international donors, and (*ii.*) more extensive state involvement.

Table 2.1: International Funding for Canadian Think Tanks (2009-10 Combined)

Think Tanks	Politics	Amount	% of total
Cardus	conservative	$638,749	22%
Fraser Institute	conservative	$3,816,662	14%
MacDonald Laurier Institute	conservative	$105,374	15%
Suzuki Foundation	left/progressive	$973,756	5%
Centre for Cultural Renewal	conservative	$8,604	3%
Asia Pacific Foundation	centrist	$83,048	3%
Centre for the Study of Living Standards	centrist	$25,786	2%
Institute for Marriage and Family	conservative	$229,567	<1%
Institute on Governance	centrist	$13,868	<1%
Canadian Centre for Policy Alternatives	left/progressive	$5,414	<1%

Is there any evidence for these claims?

Table 2.1 reports on all non-Canadian funding for think tanks in 2009 and 2010.[14] It shows that non-Canadian money almost always go to conservative think tanks, but that it is not an especially important funding source overall. Notably, The Fraser Institute made more from international donors in 2009 and 2010 than most Canadian think tanks made overall (see Figure 2.2 for context), but it accounts for only 14% of their total revenue. Although it contributes a meaningful amount of money to the social conservative think tank Cardus and the free market conservative think tank The MacDonald-Laurier Institute, it is a relatively small amount of money going to relatively small think tanks.

There is evidence, however, that funding from the state plays a fairly extensive role in sponsoring think tank research in Canada. Table 2.2 reports the results of the comparative analysis outlined in the data and methods section. (The acronyms can be matched to organizations in APPENDIX.) Combinations of each of these funding sources is represented with an asterisk. The rows show the number and names of cases matching each funding model. I have differentiated between those with moderate-high funding (average funding

[14] Unfortunately this data was not required in other years, and is incomplete in 2011 and 2012.

is greater than $2.5 million per year), and low funding (average funding is less than $2.5 million per year).

The comparative analysis identifies 15 different ways that think tanks combine individual revenue sources into broader funding models. They are not all equally common.[15] Twenty organizations use the same 5 models, and the remaining cases tend to be variations on a common theme: think tanks are funded by either private donors *or* the state, supplemented in many cases by other sources. Only 4 of the cases combined private donors and state funding, and 3 of them lean more towards funding by donors than by the state.

As Table 2.2 shows, the most commonly used funding model is to rely on donations alone. However 5 of the 8 think tanks funded this way survive with less than 2.5 million a year (Figure 2.2, discussed later, puts this in perspective). With the exception of the Public Policy Forum, these are all think tanks with strong political reputations. The David Suzuki Foundation is environmentalist, and the others are conservative. Other think tanks relying on donations supplement their funding with self-generated revenue or money from interest and investments.

[15]The Pembina Institute is not included in the comparative analysis below because their funding data was collected from annual reports rather than Information Returns. Although they have detailed financial information, they do not differentiate between private and government contracts.

Table 2.2: How Think Tanks are Funded in Canada

Funding Models	n	Moderate & High Funding	Low Funding
Funding from private donors			
DONOR	8	Fraser, CD Howe, Suzuki	Frontier, IMF, MEI, MLI, PPF
DONOR*SELF	3	Cardus	CIC, CISS
DONOR*SELF*OTHER	1	CCPA	
DONOR*OTHER	1		AIMS
DONOR*INTEREST	1		MacKenzie Institute
Funding from the state			
GOVERNMENT*SELF	5	Conference Board, SRDC, NSI	CCSD, IOG
GOVERNMENT*INTEREST	1		Asia Pacific Institute
GOVERNMENT*SELF*INTEREST	1		CSLS
GOVERNMENT	1	CPRN (closed in 2009)	
Funding from donors & the state			
DONOR*GOVERNMENT	3	CIGI, Canada West Foundation	Centre for Cultural Renewal
DONOR*GOVERNMENT*OTHER	1		Caledon Institute
Other			
SELF	1	CTF	
SELF*INTEREST*OTHER	1	Change Foundation	
INTEREST	1	IRPP	
OTHER	1		CDAI

* represents a combination of sources

The second most common model partners government grants and contracts with self-generated revenue. Think tanks using this model include The Conference Board of Canada and Social Research and Demonstration Corporation, both of which make a considerable amount of money with contract research for a range of clients. Unlike those making money almost exclusively from donations, none of these think tanks have strong political reputations. However grants and contracts are politicized *within* the think tank community. Interviewees from think tanks involved in contract research argue that it is an effective way of placing limits on funders who might otherwise feel they have a license to influence what the think tank does in general. Contractual relationships reduce the pressure to be "beholden" to key donors and to be politically consistent across projects and over time (Interview with Hodgson).

On the other hand, think tanks not involved in contract research routinely dismiss those who are as "not real think tanks." They argue that contracts signal accountability to a funder, potentially pushing them towards positions they disagree with, or compromising their ability to control communication strategies and the release of research and ideas more generally. When potential funders want to offer a contract or a grant, these think tanks encourage them to give their money in the form of a donation or as support for an event instead (Interviews with Robson and a Confidential Participant). In cases for and against contracts and grants, the positions think tanks take are intended to signify something about what funders should expect from them, and how outsiders should perceive the legitimacy of the relationship.

Think tanks who have successfully combined private donations and government grants and contracts are in many ways the most unique.[16] Of the three cases in Table 2.2, The

[16]This was the case for IRPP in the early 1970s. Since then, they have been surviving on the interest from these initial donations.

Centre for International Governance Innovation (CIGI) stands out.[17] First, unlike other think tanks that have received a lot of private donations, donations to CIGI have come from philanthropists with a vision for a state of the art global think tank with a non-partisan intellectual culture.[18] The same philanthropists — primarily Jim Balsillie and Mike Lazaridis, formerly of Research in Motion — founded and help support The Balsillie School of International Affairs, which offers PhDs and MAs in international relations, and the Perimeter Institute for Theoretical Physics. In some years, their donations have been matched by the Government of Ontario, with other support from the City of Waterloo and the federal government. In addition to these funding sources, they have grants from federal agencies (such as the Social Sciences and Humanities Research Council, Environment Canada, The Department of Foreign Affairs and International Trade, and Industry Canada) and from foundations and corporations.

Finally, the comparative analysis shows that identical funding models pay some think tanks very well and others poorly. Depending on political pattens, this finding has the potential to cast doubt on elite theory predictions. This is a complex issue, however, and there are many reasons why we might expect to find mixed economic outcomes for think tanks with identical funding models. Multiple interviewees noted that large and well-known organizations sometimes monopolize key funders, leaving others with an identical funding model a fraction of the resources. In path dependent fashion, successful think tanks grow over time, become better known, and continue to accumulate advantages (a kind of "Matthew effect" (see Merton, 1973) for think tanks).

[17]The money The Canada West Foundation and the Centre for Cultural Renewal have received is less balanced, weighted towards private donations.

[18]Whether or not it lives up to that vision is another matter.

2.3.2 Political patterns in government and private donor funding

Given their importance, Figure 2.1 looks more closely at government and private donor funding.[19] Stepping outside of the constraints of the formal comparative analysis, it acknowledges all government and private funding (not just that exceeding 20%), and plots the percentage of total funding it accounts for in each think tank for each year. The plot differentiates between "centrists," "conservatives," and "left / progressives."

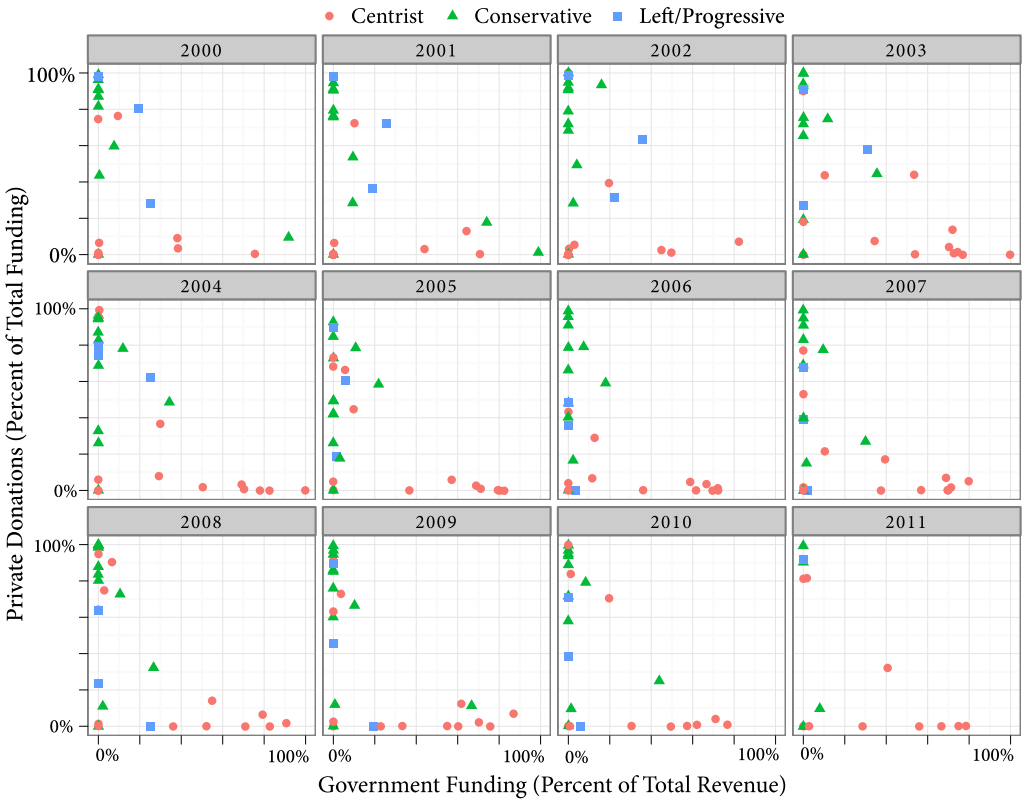

Figure 2.1: Private Donations and Government Funding

Figure 2.1 shows that some think tanks supported by either government grants and

[19]Figures 2.1 and 2.2 were created using ggPlot 2 for R, developed by Hadley Wickham (2009).

contracts or private donors occasionally attract small amounts of money from both sources. Comparing across years, it is clear these pairings are inconsistent, and are more likely the result of co-sponsored events than a funding model taking advantage of both sources. The middle-ground between government and private funding seems to be relatively unstable, and has become less common since 2004.

As identified in the comparative analysis, there is a cluster of conservative think tanks who consistently obtain the majority of their funding from private donors. This is less common when it comes to government funding, where think tanks rarely pass the 80% mark. In both cases, think tanks that supplement their government or private funding still tend to avoid combining these sources, turning instead to self-generated or other funding (as evidenced by the fact that decreases in one source are not often accompanied by an increase in the other).

Figure 2.1 shows a very clear political pattern shaping the exclusionary tendencies of these two funding sources. Private donations almost always support conservative think tanks (along with the rare centrist and The David Suzuki Foundation),[20] while government grants and contracts tend to support centrist organizations. The leftist (Canadian Centre for Policy Alternatives) and progressive (Caledon Institute) think tanks appear to have much less stable funding models than the others, at times balancing funding from donors and small amounts from the government, and other times relying almost exclusively on self-generated and other funding (such as in 2007 and 2008). Consistent with the general trend, they stopped effectively combining state and private donor funding in 2005.

The fact that most think tanks getting funding from the state are centrist doesn't necessarily mean that the state *favors* centrists.[21] Because funding models strongly shape what

[20]The Pembina Institute is excluded from this figure because it's financial records do not differentiate private and government contracts.

[21]Although they may publicly avoid think tanks with highly politicized reputations.

think tanks do, and because they are difficult to change, think tanks who make money from the government need to be able to appeal to whoever is in power in order to keep their doors open. Although this doesn't prevent them from criticizing the government or advocating unpopular policies (which may contribute to their credibility), it does mean that they will avoid becoming a think tank that a government would be interested in de-funding, or simply not consider worthy of the "investment." Think tanks relying on private donors don't have the same concerns about swift changes in their sponsors' political ideologies. Instead, they can focus on catering to their political and intellectual preferences, whether they are conservative, environmentalist, or leftist.

2.3.3 Size matters: funding and politics

In the discussion so far, think tanks of varying economic success have mostly been treated the same. Are the most economically successful think tanks in Canada funded differently that the less economically successful think tanks? From the perspective of elite theory, do they appear to be members of a corporate-policy elite? Or, as field theory would suggest, do they appear to be organizations that have effectively catered to the common interests of multiple important sponsors?

Figure 2.2 shows the rough distribution of think tank funding, with each case coded by political orientation. It suggests that think tanks in Canada fall into four funding categories. In relation to one another (and not organizations in general), there are a couple of exceptionally well funded think tanks operating with more than $25 million a year, a well funded group working with between $5 and $12 million, a moderately well funded group with between $2.5 and $5 million, and finally those with less than $2.5 million.

The two "largest" think tanks in Canada — The Conference Board of Canada and The

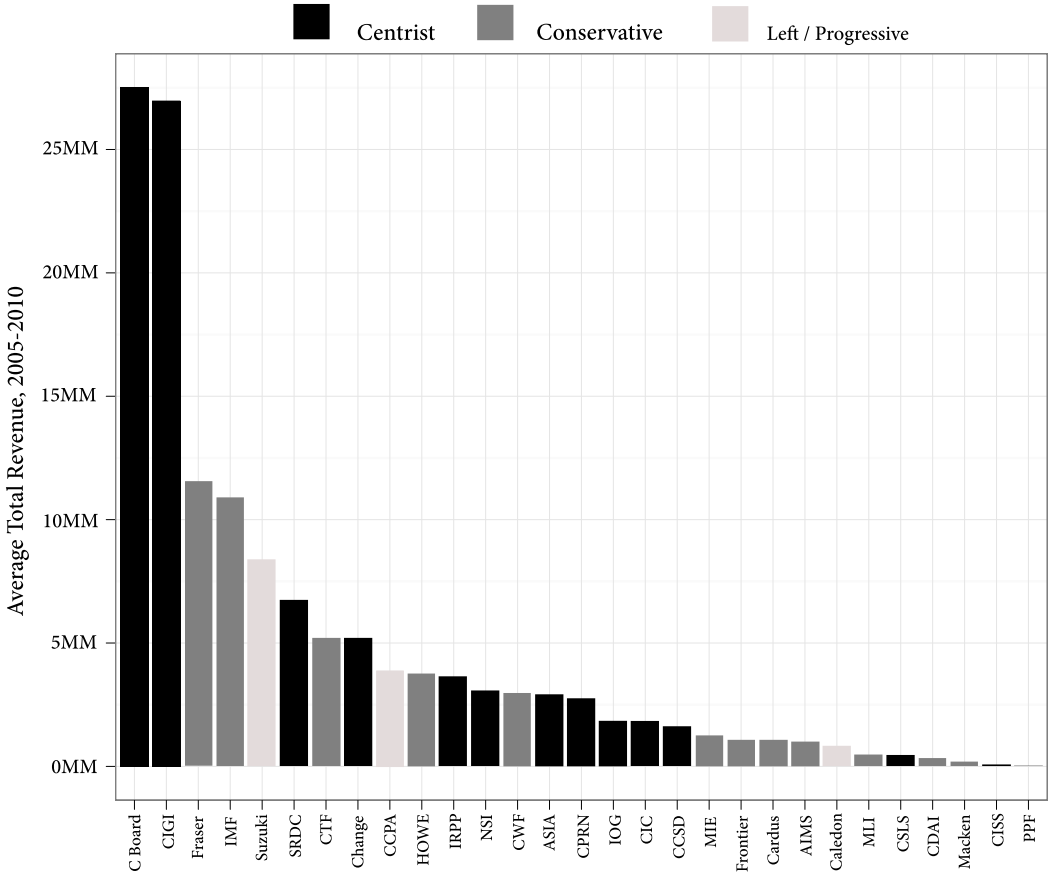

Figure 2.2: Think Tanks by Funding and Politics

Centre for International Governance Innovation — have different funding models, but share some important similarities. CIGI, discussed earlier, is one of only a few organizations[22] that has been repeatedly successful in getting funding from both private donors and the state. However, it has done so in part by breaking out of the network of donors that supports many conservative think tanks, catering instead to the shared visions and interests of

[22]Counting IRPP in the 1970s, which falls outside the window of this analysis.

a group of philanthropists, bureaucratic organizations (e.g. the Social Sciences and Humanities Research Council), and corporate sponsors.

The Conference Board has also had some success in catering to government and private interests simultaneously, but rather than relying on donors — whom they have avoided in the traditional sense — they offer extensive contract research services, consulting, and corporate leadership training. Large teams of economists work on stakeholder funded projects such as "economic performance and trends," "organizational excellence," and "health, healthcare, and wellness."

With the exception of the Social Research and Demonstration Corporation (SRDC), which identifies strongly as a politically-neutral contract policy research institute, another tier of highly funded think tanks have strong ties to political movements. The Fraser Institute is one of the primary intellectual wings of the conservative movement in Canada and has partnered with conservatives in the United States and around the world to advocate for "economic freedom." This includes offering rewards to think tanks in developing countries for their advocacy of free market policies.[23] The Institute for Marriage and Family is more complicated because it is formally part of Focus on the Family Canada (they share a budget). The David Suzuki Foundation — working with a few million less than The Fraser Institute and the Institute of Marriage and Family Canada — is a non-profit that engages in a wider range of activities than organizations that see themselves strictly as policy institutes.

Those operating with $5 million or less each year include a relatively high concentration of centre right and conservative think tanks, a couple of progressive think tanks, and some single issue think tanks. The fact that there are so many small conservative think tanks here, including some that are just as radical as The Fraser Institute, is evidence that not all

[23] See www.freetheworld.com.

think tanks are equally bankrolled for their support of conservative causes.

2.4 Discussion and Conclusion

This article addressed questions at the core of pluralist, elite, and field theories of think tank funding and the politics of policy knowledge. I find that the key way the Canadian funding environment differs from the American one is the more prominent role of the state. With a few rare exceptions, think tanks tend to rely on either the state or private donations, which they supplement with self-generated revenue or interests and investment revenue. The separation of these two sources is politically patterned, with private donors mostly supporting conservative think tanks and the state mostly supporting centrists.

There is variation in the more specific ways that think tanks are funded, including considerable stratification among think tanks that on paper are sponsored in very similar ways, and that share the same political ideologies. Both the state and private donors pay some think tanks very well, and others very poorly.

These political patterns cast doubt on the pluralist assumption of independence, furthering recent criticisms of those theories in the think tank literature (e.g. Abelson, 2009; Medvetz, 2012). There is also reason to be skeptical of elite theories — which predict elite integration — given the strong separation of state and donor funded think tanks both economically and politically. The think tanks most aggressively pursuing the interests of corporate elites are often well funded, but they are not the most economically successful, and there are many that are struggling economically despite their strong advocacy of corporate interests.

Elite theorists would be quick to point out that the philanthropists supporting CIGI are themselves economic elites, and that the consulting and contract work performed by The

Conference Board also align them with elite interests. From this perspective, CIGI and The Conference Board are Canada's "corporate-policy elite." However in line with criticisms of the tradition more generally, this formulation is too simple. Rather than explaining how funding relationships might shape policy work in particular ways, it defines successful organizations as members of the corporate-policy elite because they have been successful, not because of what they do. As Medvetz (2012) noted, elite and pluralist theories tend to counter these problems by saying that think tanks are think tanks if they are not advancing the interests of the elites, or on the other hand if they *are* advancing the interests of the elites rather than their own interests.

The findings do provide considerable evidence in support of field theory explanations of funding and politics. Put simply, the explanation is that because of the work they do, and because they operate in multiple environments at once (Medvetz, 2012), think tanks face exaggerated versions of common organizational problems, including resource dependencies and competing institutional logics.

In the bigger picture, the data suggest a more complicated reality where think tanks are neither the pawns of their corporate donors nor independent operators pursuing their own interests and ideologies detached from broader resource dependencies and the interests of their powerful sponsors. Building on Medvetz (2012), most think tanks operate in an uncertain environment where they have to protect themselves from the changing passions of their sponsors. They have to make themselves appealing to groups of funders who share common interests, which, in the process, makes them unappealing to other potentially generous funders.

Conventional wisdom to "follow the money" in single cases places blame on individual donors, as if switching out current donors for new ones would resolve larger conflict of

interest issues. This obscures broader field dynamics and the considerable "money work" think tanks do as they cultivate relationships with funders, ensure donations "look right" on paper, manage public images, and keep doors open despite yearly fluctuations in funding. Research should comparatively examine how think tanks *actually* manage funding relationships (as opposed to how we think they do, or how they say they do). We need further research on the institutional dynamics that shape think tank funding, making specific criteria more or less important to different sets of funders. And of course there is work to be done to pull these broad patterns down to finer comparisons of fewer cases.

Finally, as granting agencies are renewing their strategic plans, as more research is being conducted outside of universities, and as the federal government is downsizing its research capacity, we need to take an empirical approach to debating models for funding research. This should include an examination of how funding sources (i) structure fields to the advantage of some and the disadvantage of others, (ii) promote homogenous or pluralistic knowledge bases around social, political, and economic problems, and (iii) how the introduction of new interests complicate the process of developing sophisticated explanations and interpretations. Such an approach might help foster a more realistic debate about the consequences of pushing more think tanks towards private funding, which is currently the biggest change underway in how think tanks in Canada are funded.

Chapter 3

How do Think Tanks Produce and Promote Policy Ideas?

3.1 Introduction

Research on science and technology is increasingly focused on the consequences of public-private partnerships, the commercialization of university-based science, and the growth of non-academic science for the practice and content of expertise (e.g. Kleinman and Vallas, 2001; Kleinman, 2003; Evans, 2010; Mirowski and Van Horn, 2005; Sismondo, 2009). Although researchers have started to examine hybridity in social and political research (e.g. Eyal, 2002; Stampnitzky, 2010; Medvetz, 2012), questions about how expertise is affected by hybridization with the non-profit and private sectors, journalism, and social movements have not been raised to the same degree. Consequentially, our understandings of how think tanks produce and promote policy ideas are strongly shaped by political depictions (e.g. Domhoff, 2010; Polsby, 1983) and excessively general organizational typologies (e.g. Weaver, 1989). These influential ways of distinguishing between think tanks brush aside

important questions about epistemic cultures and research practices that have been raised about commercial science.

Think tanks are an increasingly visible set of actors in the Canadian political, policy, and intellectual worlds, contributing to discussions on issues as diverse as climate change and educational outcomes.[1] What are the ideas, beliefs, and practices about knowledge, communication, and the space of opinion (Jacobs and Townsley, 2011) that think tank researchers bring to their work? In short, what are the epistemic cultures and styles (Knorr Cetina, 1999; Lamont, 2009) facilitating the production and promotion of ideas?

Based primarily on 53 semi-structured interviews, I propose that think tank epistemic cultures vary in three important ways: (1) in terms of diverging tendencies towards universalism and contextualism within a broadly utilitarian culture, (2) how, and the extent to which, research and communication strategies are integrated in long and short term projects, and (3) understandings of the "space of opinion" as a resource to be leveraged, or as a public intellectual space with it's own intellectual logics and hierarchies (Jacobs and Townsley, 2011). I discuss each of these sources of variation in turn — along with their institutional context — after outlining relevant theory and presenting the data and methods.

[1] In this article, I am using "researcher" and "expert" in the same inclusive way that new sociologists of ideas use the term "intellectual." (see the discussion in Gross, 2008). In addition, this research is not about whether think tank produced knowledge is true or false; it is about the different types of beliefs think tank experts have about the truth status of their own claims and how those beliefs influence the production of policy research and advice. The difference is laid out in Kurzman's (1994) essay on the empirical study of epistemology.

3.2 Theory

3.2.1 Current Explanations

Most of the recent literature on think tanks focuses on their involvement in political processes, their influence on policy outcomes, their historical origins, and their structural topography (Abelson and Lindquist, 2000; Lindquist, 2004; Abelson, 2009; Stone and Denham, 2004; Medvetz, 2012). There is very little work on how think tanks actually go about producing and communicating knowledge other than profiles of specific think tanks, or descriptive overviews of common think tank activities: they produce research, hold conferences and working lunches, write opinion pieces, talk to journalists, appear before parliamentary committees, spend a lot of time fund-raising, develop media strategies, maintain websites, and increasingly spend a lot of time on Twitter.

Despite having a fairly comprehensive list of the things that think tanks do, we don't know much about the "machineries of knowledge" (Knorr Cetina, 1999) that enable them to know what they know, and what the key sources of variation in those machineries are. Instead, current explanations of how think tanks produce and promote policy ideas are based on political depictions or shallow organizational typologies. On the political side of things, think tanks are presented as either members of a "corporate-policy elite" (e.g. Domhoff and Dye, 1987; Domhoff, 2009, 2010) — which leftists see as invalidating their knowledge and conservatives as bringing it closer to the real world — or as independent institutes where researchers can be more or less trusted to carry out their research as academics do. When it comes to knowledge production, political distinctions offer little more than a statement about whether think tanks should be trusted.

A considerable amount of the research on think tanks is about how to deal with organizational hybridity, mostly to address the issue of how to define think tanks as organizations (e.g. McGann and Weaver, 2000; Stone and Denham, 2004). These debates produced Weaver's (1989) popular typology of think tanks as advocates, contract researchers, or universities without students. Given diversity across and within universities and disciplines, describing a think tank as a university without students says almost nothing about how it produces and promotes policy ideas. Furthermore, the typology classifies *types of think tanks*, rather than the complex *types of strategies, practices, or cultures* that might co-exist within think tanks and other hybrid policy research organizations.

Breaking with these debates, Abelson (2009) placed a greater emphasis on if and how think tanks influence policy outcomes by examining their strategies in Canadian and American political processes. Medvetz (2010, 2012) examined hybridity itself, tracing the emergence of a multi-institutional space in which organizations mediate and transfer forms of symbolic capital from one field to another. At a very general level, Medvetz's (2012) analysis speaks to the broad social forces that shape intellectual production in think tanks. He shows how the hybridity of the American think tank field engenders complex intellectual dispositions and practices, resulting in a tension between academic orientations on the one hand, and the policy aide, the policy entrepreneur, and the media specialist on the other. Drawing on the widely used juxtaposition of the action-oriented policy hack and the evidence-obsessed policy wonk, the conflict is over the kind of work that is prioritized: the ability to move ideas through the channels of the policy world, or to produce evidence to back up ideas. This re-framing of the problem is necessarily very general and does not get into differences in epistemic cultures, dispositions, and strategies in the think tank world.

3.2.2 Epistemic Cultures and the Sociology of Ideas

Recently, work in the sociology of ideas has drawn inspiration and approaches from research on science to focus on the diversity of knowledge practices and cultures in concrete organizational settings (see Swidler and Arditi, 1994; Camic et al., 2011).[2] Although much more work has been done on academic and commercial science, recent work examines the production and diffusion of expert knowledge from the social sciences and humanities (Camic et al., 2011; Leahey, 2008), often with an emphasis on "intellectual interventions" (Eyal and Buchholz, 2010). Notable examples include economics and finance (Babb, 2002; Fourcade, 2009; Knorr Cetina and Bruegger, 2002), sociology (Abbott, 2001; Steinmetz, 2004; McLaughlin, 2005; Abend, 2006), philosophy (Collins, 1998; Gross, 2008), and multi-disciplinary efforts to promote and reward excellence with prestigious chairs and research grants (Siler and McLaughlin, 2008; Lamont, 2009). Others have examined social science research in the thick boundaries between militaries and the state (e.g. Eyal, 2002; Stampnitzky, 2010; Solovey, 2013).

In line with this new wave of research, "epistemic culture" is perhaps one of the most promising theoretical tools for understanding knowledge production in the social sciences generally, and think tanks specifically. Knorr Cetina (1999) introduced the concept in her comparative ethnographic research on high energy physics and molecular biology. At the time, the sociology of science was mostly focused on the actions of individuals working in institutional settings. She shifted the focus to the "cultural and organizational machinery" that enables scientists to "know what they know."[3] In short, "epistemic cultures are the

[2]This signals a break with older traditions in the sociology of knowledge (Camic and Gross, 2001), and in the sociology of intellectuals, which have long focused on the political affiliations of intellectuals (Brym, 1978; Kurzman and Owens, 2002) in what Eyal and Buchholz (2010) term "the problem of allegiance."

[3]Think tanks can be usefully thought of as organizational vehicles for coordinated intellectual interventions (Eyal and Buchholz, 2010). Sometimes individual researchers fade into the organizational brand, and at other times, they become public intellectuals with the role of the think tank downplayed.

cultures of knowledge settings," which are rapidly expanding and changing as more expert knowledge is produced outside of university settings (Knorr Cetina, 2007).[4]

In a study of evaluation in multi-disciplinary granting agencies, Lamont differentiates between "positivist", "utilitarian", "constructionist", and "comprehensive" epistemic styles in the social sciences and humanities. Positivist and utilitarian styles are very similar, seeking to produce generalizable empirical findings, disprove theories, and solve puzzles by testing hypotheses with formal models. The difference is that utilitarians place great importance on "real world" problems while positivists are interested in theoretical puzzles that may or may not have clear "real world" significance. Constructionist epistemological styles emphasize details and empirical complexity, and consider personal, political, and social elements as important in research. There is an anti-positivist emphasis on "giving voice" to people through socially and politically engaged research. Finally, comprehensive styles emphasize empirical complexity, contextual specificity, and insist on a theoretically informed research agenda.

The institutional logics of policy research and the business and political fields work against non-utilitarian epistemic cultures. For example, it is clear that there are no constructionist epistemic cultures equivalent to those described by Lamont.[5] Positivist styles are also absent because the emphasis on professional puzzles is separate from the emphasis on social problems, which is what differentiates them from utilitarian styles. Institutional logics push against *verstehen*, uniqueness, and contextually specific claims in favor

[4]Heath (2012) combines work on epistemic *cultures* with work on epistemic *communities* developed in the international relations literature (Haas, 1992).

[5]Although there are think tanks sympathetic to the constructionist emphasis on politically and socially engaged research, they don't look like constructionists in other ways. Constructionist styles may also come through in criticisms of other people's work.

of knowledge that is actionable.[6] In short, the think tanks that stay in business are all committed utilitarians. And yet it is clear that there is a world of difference between many of these organizations. What, then, are the epistemic cultures that shape the production and promotion of policy ideas in think tanks?

3.3 Data and Methods

My analysis of think tank epistemic cultures is based primarily on 53 semi-structured interviews. Given think tank organizational hybridity, there is no clear population of researchers to randomly sample. Following Small's (2009a; 2009b) work on sequential interviewing, and best practices when interviewing "elites" (Hochschild, 2005; Spector, 1980), I systematically recruited people based on their experience and position. I used a "side-in" (Chambliss, 1996) approach by recruiting rank and file researchers first, and working my way up organizational hierarchies and interviewing more powerful employees and directors when I had established rapport with others. In addition to opening access to some people who generally refuse interview requests, this also improved the quality of my data. I identified policy fellows through think tank websites, recommendations, and by examining the CVs of political scientists and economists working in applied areas in major Canadian research universities.

My participants include think tank executives (20), research directors and coordinators (15), communications specialists (6), academic policy fellows or regular contributers from economics and political science (6), and other think tank staff. There were 34 women and 19 men in the sample.

[6] As Vaughan (1996) documented in her research on NASA, as research moves up the chain, context, contingency, and qualitative insights are stripped out so as to make knowledge more actionable and usable in decision making.

Interviews were structured around 4 sets of questions: (1) career history and work experiences, (2) questions about fundraising, project development, "peer review," intellectual skills, "good" and "bad" policy researchers, and communication, (3) strategies and outcomes, and (4) knowledge of and opinions about other think tanks in Canada.[7] Although I asked many of the same questions to everyone, I also followed the "best practice" of tailoring my interviewees to the person or the job type. This helped establish rapport, improved data quality, and allowed me to develop a more comprehensive understanding of think tank epistemic cultures. Researchers and fellows are often more open than directors about controversial and compromising issues, while directors are more aware of overall operations and are better versed in the "myth and ceremony" of the institute. Communications teams give the most sophisticated descriptions of idea promotion since they implement communications strategies and can account for their personal practices and networks.

Interviews were digitally recorded and coded using TAMS 4 (a qualitative data analysis application for Mac). A combination of inductive and deductive codes were grouped into broader thematic sets and refined through comparisons across cases. I used code co-occurrence matrices to refine the analysis by listing talk from interviewees about knowledge production alongside organizational affiliations (Miles and Huberman, 1994).

Although the analysis is informed primarily by interview data, it has been developed and refined through consideration of other data as well. As part of a larger study on think tanks in Canada, I collected financial and employee data from the Canada Revenue Agency's public Charities Listings for 30 think tanks over 11 years, content analyzed two large newspaper datasets, and examined a variety of organizational documents including annual reports, communication reports (3, confidential), strategic plans (3, confidential), and publications. Finally, this analysis is informed by observation at think tanks events and

[7] See Appendix B.

office visits.

Although ethnographic research is ideally suited for research on practices, many studies of knowledge and culture have traditionally relied on interviews. There is also a tradition of using interviews to understand the cultural and organizational structures of specific belief systems. This study is no different. I have not directly observed "peer review" processes in think tanks first hand, nor have I witnessed exchanges with authors and researchers. Instead, I have interviewed many different types of think tank researchers about these processes *in detail*. Ethnographic methods would have tied the analysis to a few organizations rather than enabling me to look across the field and develop the analysis comparatively. Most researchers agree that — given diversity — in depth studies of particular think tanks tends to distort a more accurate understanding of the field of the whole (Abelson, 2009). This is particularly true when one looks at the largest and most successful think tanks, missing the long tail of small organizations. Although the standard limitations of analyzing talk rather than practices apply (e.g. see Swidler, 2003), I don't think that a more observational strategy would have changed the findings.

Below, I refer to confidential interviewees by their position. I follow this convention for most "on the record" interviewees in the text, although their names are attributed at the end of quotes.

3.4 Findings

How think tanks produce and promote policy ideas varies in three ways. First, they differ in terms of diverging tendencies to universalism and contextualism within a broadly utilitarian epistemic culture. Secondly, they differ in the extent to which they couple their research and communication strategies in long and short term projects. Finally, they differ in how

they understand the "space of opinion" — a particularly influential part of the public sphere (Jacobs and Townsley, 2011) — as a resource to be leveraged in exchanges with elites, or as an intellectual attention space that they can rise to the top of as authoritative public intellectuals. Below, I discuss each source of variation, followed by a consideration of how they are shaped by underlying institutional logics.

3.4.1 Diverging Tendencies within a Utilitarian Epistemic Culture

Although we don't find full range of social science epistemic cultures (Lamont, 2012) in think tanks, we do find epistemic variation within a broadly utilitarian epistemic culture. Drawing on Abbott (2001),[8] Figure 3.1 represents this variation as a fractal pattern, which can be simplified as diverging tendencies towards universalism and contextualism in policy research. Below, I present qualitative data illustrating both.

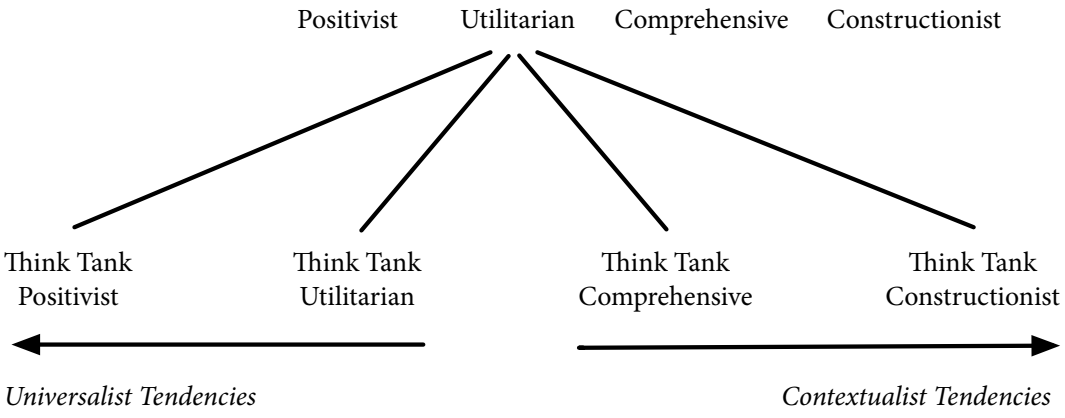

Figure 3.1: Fractal Pattern in Think Tank Epistemic Cultures

[8] Abbot has proposed that knowledge develops through fractal patterns, and that distinctions reproduce themselves at various levels. For example the difference between qualitative and quantitative methodologies is reproduced on both sides of that division.

Universalist Tendencies

The universalist epistemic style in think tanks informs beliefs about how the world works independent of any context, in most cases regarding the "immutable laws" of markets, human nature, and the rational motivations of individuals. There is a reluctance to introduce too much contingency into policy research and recommendations because (*i.*) it runs against the intellectual consensus of mainstream economics,[9] (*ii.*) because it is less actionable, and (*iii.*) in some cases, because of powerful political ideologies. Beyond these issues, there is an epistemic belief that truth is stable, consistent, and universal, and that research capturing the truth should *also* be stable, consistent, and universal. Think tank "peer review" and academic self-selection processes bring the most conventional and ideological aspects of economics into think tanks.

The primary purpose of "peer review" is to downplay innovation and make sure the foundation for policy research conforms to the minimal expectations of mainstream economics.[10] To the extent that think tanks are genuinely interested in academic research, they are focused on being consistent with "core" knowledge, not the disputed "research frontiers" (for the distinction, see Cole, 1992). As one typical academic economist described his role as a reviewer of think tank manuscripts:

> Would other professional economists who read this, umm, not be worried that the analysis has been too oversimplified? Is it an easy set of results to report to a non-economist? Has the baby been thrown out with the bathwater? I mean yeah, these are kind of stark and arresting results, but actually they could be embarrassed by the fact they they're based on simplifications that are too

[9] Textbook neoclassical theory and rational choice theory dominate think tanks in Canada.

[10] It doesn't always works that way, of course, but that's what it's *intended* for. There are are many cases where think tanks have been professionally challenged.

> expensive, as it were. (Interview with a senior economist)

Consider that the desired reaction from professional economists is to prevent worry while reporting "stark and arresting" results (which is often code for findings that inspire politically radical policy solutions). Many other reviewers described the same goal of protecting sometimes extreme policy positions from professional critique as much as possible.

The tendency to reproduce the most conventional aspects of mainstream economics is also reinforced by the fact that most academics prefer to share their less professionally significant work with think tanks. Most (though not all) save their more time-consuming and original work for journals where it will be evaluated and read by their peers, and is more likely to benefit them in a university setting. When I asked one academic if he would consider contributing to some of Canada's more politicized think tanks, he explained that he would be deterred more by their low academic standing than by political biases on the left or the right. He continued:

> Sometimes you have big pieces that you are hoping to publish in a good journal, and other times you have pieces that are probably going to be less significant and you are more likely, I think, to publish those in something like a CD Howe backgrounder or a [John Deutsch Institute] book. You've done the work, you'd like to see it out there, but maybe it is of less overall importance. So for example, most of my work has been on income distribution things. My recent JDI paper was on income distribution in the senior population. So it wasn't the kind of big piece... it was just a small piece that happened to fit their interest in that volume. But it would not, probably, have fared well if I had sent it to an academic journal. A lot of colleagues seem to do this. (Interview with a senior economist)

Most academics see the work they publish with think tanks as an extension of their teaching rather than an original contribution to economics.[11] Once again, think tanks are interested in "core" knowledge, not work on the "research frontiers," making the connection to teaching an easy one for academics.

Peer review and *self-selection* both serve to make think tank research professionally conventional rather than innovative, even when the policy recommendations are politically radical. The intention is to shift debate to recommendations and reduce the chances of a professional critique of econometric practices. This allows think tanks to frame academic criticisms as differences of opinion rather than exposing fundamental flaws (which would damage their credibility in the policy community much more).

Another type of "universalism" in think tanks is related to the more ideological strand of market fundamentalism. The stronger think tank researchers hold to the "truth" of the laws of markets and human nature, the fewer things that need to be reasoned through on their own accord [12]. There is a strong belief in markets, rationality, and perfect information as transcendent scientific and moral truths (this goes far beyond professional orthodoxies). For example Michael Walker, one of the founders of The Fraser Institute, is proud of the fact that nobody at The Fraser Institute has changed their position on a policy issue since the 1970s. He attributes their recent "mainstream" status to a political climate that is increasingly receptive to the "truth" about markets.

[11] A reviewer suggested that academics might "double up" by publishing with a think tank and a journal. This happens regularly, but it is more complicated than simply doubling up. While academics may send a think tank work from a larger ongoing project — this is almost always how collaborative partnerships work — they don't send things that would do well in an academic journal because they want the professional credit for those innovations, and because most think tanks *do not want that work*. Instead, think tanks are much more likely to "double up" on things like book chapters or cases for text books. In short, many academics involved in think tanks *do* see the relationship as mutually beneficial, but almost always in terms of this separation of their work into things that academics want to see, and things that think tanks want to see.

[12] As in recent work on top-down and bottom-up political reasoning (e.g. Martin and Desmond, 2010)

> A fellow joined the board of a big Canadian foundation which I won't name, that had solemnly refused to support the work of The Fraser Institute for 15 years — we would make applications for grants year and year and get turned down. Then this chap joined the board of the foundation and there was a discussion — now this would be maybe fifteen or twenty years after we had been in business. (...) One of the board members said "well, you know I think that The Fraser Institute's work is much more mainstream than it used to be, and I think we could probably fund it now." And this fellow who was new to the board said "well, has the work of The Fraser Institute changed? Or has people's views changed about those issues?" Of course the truth is that The Fraser Institute's work has not changed – not in an iota. There *isn't anything* about our work after being in existence for almost 40 years... We haven't changed our view on *any* subject, because before we published our view we made sure that it would stand the test of time, that our measurements would stand the test of scrutiny of the most critical kind. So we have never had to reverse ourselves on any policy question. We *never* had anyone successfully challenge, on a scientific basis, our research on any subject. Now even though at the end of the day they might decide to disagree with us, you know, it's not because they might have some different perspective on the issue or whatever, but you know.

The broader context of this quote is a discussion about The Fraser Institutes's work on markets and economic freedom. Walker's claims to universally true knowledge about markets hinges on his belief that everything can and should be measured. This illustrates the common overlap of political beliefs and beliefs about research. He continues:

The first thing is to overcome the natural inclination to think that there is something esoteric about measurement. Most people are not empirical in their own approach to life. Statistics is the most difficult branch of mathematics, I think, because it has so many counter intuitive implications for understanding. People have an inclination to say "you can't measure that!" Fortunately I've been a very wide reader of science and other things, and so I've encountered people like Enrico Fermi, the great Italian physicist who remarked that measurement is the making of distinctions, and *fine* measurement is the making of *fine* distinctions. And so when you start from that perspective, rather than starting from the perspective that measurement is about weighing... Measurement is *not* about directly making measurements, measurement is about, as Fermi says, the making of distinctions between things.

Once you realize that, you realize that we are *always* making measurements. We are making measurements in almost every, like I just said, almost all of the time. (laughs) If someone says "I like that restaurant, I don't like that restaurant," that's a measurement. If someone says "I like my food hot, not cold," that's a measurement. The whole of human existence is about making distinctions. It's one of the characteristics of humans, in fact, that we make such distinctions. If we say "that woman is beautiful, that [woman] is not, (...)" that's a measurement. (...) As one of my friends at the University of Chicago used to say, "if you can't measure it, measure it anyway!" You know what I mean?

There is a clear belief shaping his responses that stability, consistency, and more generally *universality* is something characterizing truth. If The Fraser Institute is bringing economic truth to the table — as he believes they are — than their work should be similarly consistent and stable. His views can't be reduced to political motivations and economic relationships, though they are certainty a component of his universalism. It's clear he also has deeply held convictions about markets, measurement, and human nature specifically, and true knowledge generally, that shape his understanding of the world. The view is not limited to him as an individual either; it spreads across the organization.

Contextualist Tendencies

Although the multi-institutional environment think tanks operate in encourages universalist positions, there are occasionally contextualist responses. For some think tanks, publicly changing your position on a policy issue signals credibility. While inconsistencies are generally seen as fatal flaws in the universalist style, they are an indicator of integrity in the more contextualist style. For example, many of my interviewees from the Institute for Research on Public Policy (IRPP) proudly described a leaders debate where the conservative and liberal leaders argued their opposing positions on healthcare policy with research from two different IRPP studies on healthcare in Canada (Interviews with Leonard, Shingler, Cappe). The event has become an organizational myth that nobody at IRPP clearly remembers the particulars of, but everyone thinks is very important.

Disciplinary differences between economics and political science — by far the two most dominant disciplines in Canadian think tanks — can be particularly divisive. For example, Barry Cooper (one of Canada's most famous conservative political scientists) was

trying to convince executive members and researchers at The Fraser Institute that sometimes politics and the state are more important than markets. He described an intense dispute over recommendations to the government on purchasing military planes. The Fraser Institute was promoting a market solution that Cooper thought was unreasonable and ideological. He described this mutual incomprehension at length, relating it in part to an obsession with quantification and "measurement."

> There's a plaque on the wall of the [The Fraser Institute's] main board room that says "if it matters, measure it." It was given to the institute by one of the major contributors [in Calgary]. And it's an attitude that many economists share – and many political scientists for that matter – but it's one that I think is you know, Aristotle in Book One of *Politics* talks about people who want to measure everything and how everything has to be quantitative. It's just bullshit. So I said "OK, you can measure things that are measurable" I did have one discussion very early on about the meaning of measurement and I said "You know, very often when you make up these indices, you're treating ordinal data as if it was interval data." That's just a simple methodological mistake, I learned it back in third year and you don't do it! But *"OH NO, you can do this! You just do transformations."* And I said "No, what you're doing is you're *misusing your data!* It doesn't mean it's completely meaningless, but it does mean that it's not anywhere as meaningful as you think it is." And you know, they just didn't get it. (Interview with Cooper)

Glen Hodgson, an executive member of The Conference Board of Canada, describes how he had to take one of his researchers aside and consider revising their models in light of the 2008 recession, during which The Conference Board of Canada had been forecasting

continued growth.

> The model is great at sort of behavioral equations — so consumption is a function of this, this, and this including consumer confidence, which in turn is a function of other things and it's a massive simultaneous equation model. What the model doesn't have is behavioral things around the financial sector in great detail. So when credit dried up in the fall of 2008, and it began to affect expectations, which began to pull down consumption and investment behavior, the model could *not* pick that up very well. The model does not do a great job of dealing with shocks to the financial system. It has the link between investment and interest rates, and confidence all modelled. But it doesn't deal with the situation where banks don't trust each other anymore. So we were still forecasting growth into Q4, when it was obvious that the bottom was falling out of the world economy. And so we had a little sit-down and sort of, as economists, had to use our brain power to think through what the consequences would be for the global economy, and for Canada, and make adjustments to the model. But also we believed that if central banks and governments stepped in with extraordinary monetary and fiscal stimulus, there would be a restoration of confidence, and there would be a recovery. So that was going back to sort of good old applied Keynesian theory. And I'm sort of very much a Washington consensus economist.

Encountering messy situations that complicate parsimonious models was a dominant theme among academic economists with positions as policy fellows for think tanks. Many of their descriptions called to mind the classic distinction between "clean models" and "dirty hands" in the social sciences (Hirsch, 1987). One senior economist who also runs

a university based economic think tank describes how going back and forth between the messy empirical research for the policy world and mathematical formalization for other professional economists satisfies different aspects of his intellectual self-concept.

> There is nothing like the satisfaction of solving a tightly written mathematical problem and getting a clean crisp answer to it. On the other hand, when you do that, often the problem that you solved – while satisfying and even mathematically beautiful – may be totally irrelevant to the real world. And I find myself after working on that sort of thing for a little while, sort of frustrated that, well you know, there are better things that I could spend my time on. So I go off and do applied work. And then after a while doing applied work, maybe writing a few papers, I become somewhat dissatisfied because it's so messy, there are so many things you have to sort of, deal with, getting data access from StatsCan, new revisions, this, that, and the other thing. (Interview with a Senior Economist)

Although some economists differentiate between their policy and academic work, others use their policy experiences to identify theoretical assumptions that are untenable outside of professional economics.

> Inevitably they would say OK your little model gives these answers — these are the right answers for that little model economy — but you're of course suggesting these are things that actual policy makers should do in the Canadian economy. So you obviously think your model is a pretty good reflection of the essence of Canada. But we find that that assumption that you are making really just simplifies things too much. So then I walk away from it, and I say

> "what was the assumption that drew the most lightning? What was the one that seemed to bug the 'real world guy [sic.]'?" And when we do these things we are all used to making the same assumptions and some things don't seem very objectionable at all and it's so handy! So I just pick the one that's the most upsetting to them and say "OK, that's my idea for my next academic paper." Let's try to relax that assumption somewhat and see how things turn out. (Interview with a senior economist)

Interestingly, some academic policy fellows tempered their universalist tendencies (which they attributed to their professional training) when they encountered the messy worlds of politics and policy. On the other hand, non-academic think tank executives and researchers who have spent their careers in these environments seem curiously immune to the messiness, often committing to universalist ideas about markets and human nature very intensely. Although the more contextual utilitarians tend to be less politically radical than their universalist peers, there is no simple political contrast that adequately accounts for these epistemic differences. Both epistemological styles are promoted by some of Canada's most well-known right wing economists and political scientists, as well as some on the centre right, centre left, and left.

3.4.2 Integration of Research and Communication Strategies

In addition to diverging tendencies towards universalism and contextualism in a broadly utilitarian epistemic culture, there are a wide range of beliefs about what one might reasonably be able to convince somebody else of. This is particularly important for think tanks, who are all mandated to communicate their work to external audiences of one type or another. However, they target different audiences, assess their information processing

realities differently, and adopt different communication strategies. As institutional theory would suggest, they must pay lip service to the wide range of activities that think tanks are increasingly understood to do, but environmental pressures force them to prioritize some over others.[13]

The communication strategies think tanks prioritize are closely related to their position on how knowledge can and should be produced. While some see expertise as cumulative, time and labour intensive, and as having an independent reality outside of communication,[14] others see it as ephemeral and produced conversationally. In brief, there are those who take a long view of research, and those with shorter views of research. Cross-cutting these views are communication strategies that are either tightly integrated, or loosely integrated.

Loose Integration of Strategies

The idea that expert knowledge has a material and intellectual existence in journals, books, scholarly traditions, and mentor-student relationships is familiar to academics. Although there are debates about the linear and non-linear ways knowledge develops over time (in some fields more than others, of course), there is no doubt that it it has a meaningful existence independent of exchanges with outsiders, and that high quality research should have a reasonably long shelf life beyond the news and policy cycles that circulate it among non-academic publics.

[13] See the discussion on who owns what later in the paper.

[14] For some think tanks, these beliefs are fused with anti-academic sentiment, for example in aggressive claims that universities have failed in their public mission by becoming too ivory tower. Along these lines, several of my participants tried to talk me out of an academic career. In other cases, think tanks attempt to balance long term projects and a preference for staying small and nimble by negotiating collaborative relationships with academics. This gives them access to work based on long term projects without investing in the projects themselves.

Think tanks that share this view also tend to share the academic discourse of "knowledge translation and exchange." This is certainly the most common epistemic style for university-based think tanks whose contributors are often faculty members with their own research agendas and teaching commitments to departments. Their communication strategies rarely stray far from conventional methods of academic communication. They hold conferences on policy issues, publish edited volumes, occasionally do media interviews, and coordinate research for community groups and government ministries. Many (but not all) of the contributing academics also publish in professional journals. An executive member of a university based research institute explained tensions between keeping the quality of the research high while still being timely, responsive, and good at the *translation* aspect of the business.[15]

> There are issues there about how to position yourself to be valued and seen as responsive by the public sector organizations that might be funding you. A day is just a huge amount of time for them and often, you know, they need stuff done pronto, they don't have good research capacity, you have to be seen as responsive and yet your faculty are in positions, and their responsibilities are aligned with the university mandate, they have research programs, and research itself, I mean, good studies take years sometimes to produce, and so, living with that tension between wanting to be responsive, also doing work that is the kind of stuff that not just any contract organizations could kick out. There is a difference between research that advances theory, research, or concepts vs. just doing another study that produces a data point and doesn't do anything particularly innovative — you know, it might be challenging to do,

[15] In fact, members of his centre have pioneered work in knowledge translation and exchange in Canada (e.g. Lavis et al., 2003).

> but there is nothing particularly innovative and any good consulting firm can do it. (Interview with Hurley)

Non-university think tanks sharing this epistemic style develop more extensive communication strategies, but still emphasize research as a starting point for discussion. The Institute for Research on Public Policy (IRPP) illustrates this style well. A former president was particularly adamant about this:[16]

> *Don't* bastardize the research paper. Come up with a *different* instrument to represent it in a way that is going to be comprehensible. And I would be a big fan, I am a *big* fan, of keeping the quality of the research high. Most academics are incapable of distilling their high quality research into 800 words. So the test we gave to the two hires we had in communications — we did them at different times — what we did was give them an esoteric, abstract scholarly work and said "write an oped." So they had to get into it, understand it, comprehend it, translate it, and then write it. That's how we picked the person. It's a talent, and frankly it's way beyond me! (Interview with Cappe)

Others at IRPP emphasize the importance of "multi-pronged communication strategies" tailored to different audiences (Interview with St-Hilaire).[17] The idea is to strategically put research papers and ideas into broader circulation, not weighing in on every change in news cycles. As with many of their academic peers, they see research as a starting point and believe in it's enduring relevance. Interviews with the two primary communications

[16] With the exception of the long form census controversy in Canada, he regularly turned down media opportunities to comment on current issues that we not related to IRPP's research (Interview with Cappe).

[17] The Social Research and Demonstration Corporation and The Centre for International Governance Innovation are also thoroughly committed to conducting research and using it as the starting point for audience-specific knowledge translation strategies. (Interviews with Voyer, Myers, and a confidential participant.)

officers at IRPP identified tools for communicating older projects that speak to current issues.

> Our research tends to have a really long shelf life, because we don't really do commentary. We are a bit different than some other research institutes. Even if a study has less of an impact than what we would have anticipated initially, what we have often found is that given enough time and, you know, the changes in the news cycle or in policy priorities that people have identified, there is often time to revisit. We often try to do that. We have a tool that we use called "In the Spotlight" which highlights past studies that are still really relevant and tie them into something that's being debated. I'm thinking of last summer when a piece of the Ville-Marie Tunnel fell, we had a project that we had done — that James Brox had done at Waterloo — that was so relevant and on point. It had been written one or perhaps two years prior, but it was something that we could really highlight because this was all of a sudden this was really in the forefront of everybody's consciousness. (Interview with Shingler)

This epistemic style and closely related approach to communication is concerned with avoiding critique when a study goes public as opposed to saying something impulsive in a public commentary or in interactions with elites. This nervousness is about the *reception* of research rather than the possibility of situational gaffes. As research director St-Hilaire puts it, "the worst nightmare is to open the paper one morning and see an article on something you've published and it says that the methodology was all wrong, or that false conclusions were drawn."

In much rarer cases, think tanks may loosely integrate research and communication strategies in short term projects. For example, very small think tanks with few resources

may not have the capacity to conduct long term projects and pursue research and communication strategies simultaneously.

Tight Integration of Strategies

To maximize their impact on public opinion and policy debate, a number of think tanks integrate communication and research very tightly from beginning to end, and use systematic environmental scans to help them tailor their work to where their audiences already are. The Canadian Centre for Policy Alternatives (CCPA) is an example of one think tank that makes a considerable effort to do this.

> Very often when it comes to organizations whose primary function is research, you have the researchers determining the focus, doing the research, doing the data scraping, the analysis, writing it up in the form of a report, then sending it to someone in communications for generally — usually — a light edit. Then the communications person writes a news release and seeks media attention for it. (...) We felt like that was kind of on it's head, and we wanted to put it on it's feet. That communications and research would collaborate together at the *start* of a project, and consider what our goal was in terms of communicating public policy issues to a broad public audience, and from there the researcher would do the data scraping, the analysis, etc. It might be a reflexive process when they come back after the initial data scrape and say OK this is what the data is telling us,' and then we have a further discussion about it before the report gets written. And sometimes I'm extremely active in what I would call a heavy edit. Reshaping and *embedding narrative*; that narrative discussion happens from the very beginning and throughout. What's the story we want to tell? So

> we are trying to do a little more than hard facts and figures, and we're trying to do that with the goal of reaching a broader audience and making a research report more accessible. (Interview with Hennessy)

Hennessy and her colleagues at CCPA explain how media and attitudinal analyses help the CCPA strategize how to address problems most effectively.[18] When they were developing their current project on inequality, they used focus groups to get a sense of how Canadians talked about income inequality. Based in part on that research, they prioritized describing the problem to those who didn't understand it or didn't realize it was an issue in Canada. Along the same lines, when they realized that many people were searching for older reports on income inequality ("Rags and Riches" from 2002), they focused on how to make that work more available and current. They used web analytics to develop a social media strategy when they realized that Facebook and Twitter were responsible for a considerable amount of their web traffic. Examining these and other trends over time, they are currently figuring out how to tell "inequality stories" more effectively though videos, data visualizations, and infographics.

> You know, [communication from beginning to end is] only an advantage if it is actually a tactic in service of strategy. So if it's a tactic in and of itself, it's interesting, but what does it accomplish? For us, we put the strategic goal first and foremost, and the tactics support that strategic goal. So for us, the media monitoring, the focus group research, the being closely attuned to Canadian perspectives on emerging social, economic, and political issues, *helps us* do more responsive, relevant research on the issues of the day. Because *that's our*

[18] As with other think tanks, these strategies are carefully matched with the intended audiences and communication goals of different projects.

> *goal*, we want to impact the public discourse on the emerging and big issues of our time. For another think tank that strategic goal might be totally different. It may not matter to them. If you're a think tank and your goal is to influence the specific policies that policymakers write and submit internally to a government of the day, if you want to actuate the specific policy of what employment insurance changes might look like, then that is your strategic goal. Mainstream media covering may or may not be as relevant or important a tactic. Now I would say at the end of the day that any organization that does research without considering public attitudes and what mainstream media is covering or not covering is missing an opportunity, but... (Interview with Hennessy)

Tightly integrating research and communication strategies is not limited to long term projects. In fact, the more radical strategies tend to involve short term projects, where the production and communication of policy ideas sometimes happen in the same event.

There are short term projects with communication strategies bound up tightly, sometimes occurring in the same contexts. For example, working lunches both produce and communicate knowledge at the same time. This can be related to the epistemic belief that expert knowledge can and should be more ephemeral. It's *not* that they believe important knowledge can only exist outside of academic channels,[19] but that they rarely attribute worth (Lamont, 2012) to academics who produce knowledge intended for other academics in journals and books. Some of the most well known conservative think tanks are openly anti-academic, and publicly deride academics for being too focused on their peers.

[19]The broader systems of ideas they draw on, such as classical liberalism, mathematical formalism, and econometric techniques, obviously have a substantial existence outside of news and policy cycles and beyond the substantive interests of general publics.

This combination of short term projects and tightly integrated strategies prioritizes advisory roles and working within elite networks out of the public eye. Other than reports on meetings, knowledge is not what gets written up for other people to consume later. It is both produced *and* shared in conversations, luncheons, and conferences. It doesn't always leave a record, and it can't be built upon by other researchers.[20] Consider this example from the CD Howe Institute (which also conducts long term studies):

> We have events very regularly. I mean one of the CD Howe Institute's signature events are these usually at lunch roundtables that are off the record, where you will get policy makers and business people and experts and academics in the room just to hash over whatever topic is under discussion. And those events are also very helpful for just learning what people are interested in, what gets people worked up. (Interview with Robson)

Roundtables and luncheons are standard parts of the communicative repertoire for most think tanks, but some see them as *producing* expert knowledge rather than simply communicating it. For example, the whole idea behind Public Policy Forum (PPF) is to convene discussions with elites from different sectors. Knowledge is produced in encounters — it is *transactional*. An executive member of PPF explained how these roundtable conversations work, and the expectations they have of elite participants.

> Some of our events are quite small, with 20, or 25 people, where we get a leadership level coming together across those different sectors, and we're grappling

[20] Of course organizations that do a lot of research integrate this into their broader collection of activities as well. This is consistent with the idea that organizations can work with multiple epistemic cultures in tension, and the idea that they pay lip service to a wide range of activities increasingly considered to be "what think tanks do." This is one reason why types of epistemic cultures is a much more useful way of understanding think tanks than typologies of organizations.

> with a particular issue. Some of our events are larger than that, like conferences of 100-200 people where we are trying to get a *mix* of perspective and expertise. In those cases, we will try to draw on the best balance that we can to get a wide range of perspectives. Not just a balance, but in some respects it's good to see a collision of ideas, because I think that that's important as well. We know that there are in some of the spaces we are working in where there are opposed ideas, and we don't want to gloss over those. I think what we want to do is provide an environment where those ideas can be brought out and challenge one another.
>
> We don't ask for significant commitments from individual participants in our projects. We ask them to come, contribute their ideas, be engaged in the issue, and to help us through thinking and resolving problems. Or develop better questions or directions in a meeting around those issues. So we don't ask them to go out and carry the ideas back to their constituencies and say "here are the ideas!" (...) Our forte is in *convening* — in getting a mix of different perspectives around a table on a critical issue and trying to, hopefully, look at the issue through some new and creative means. (Interview with Ledwell)

As reported to me, the main intellectual challenges facing PPF *all* concern engineering productive conversations. Common problems include getting people interested in mid to long term issues, getting enough of the right people "around the table," identifying and developing relationships with emerging leaders, setting the "tone" of debates, and finding a way to continue conversations outside of roundtables. The idea of having an impact by

"continuing the conversation" is fundamentally different than translating a research product. An executive member even described their role as similar to "a midwife birthing ideas."

It is clear that PPF sees these conversations as generating new knowledge. Consistent with the epistemic style, they are reluctant to push that knowledge far beyond the situations in which it is produced. This creates unique difficulties in terms of the broader problem of establishing influence. While other think tanks develop proxies like media mentions, web analytics, downloads, and copyright requests, PPF and others using a conversational strategy have to rely more on narratives of how they engineered the context that ultimately planted an idea in someone's head, or that they fundamentally changed the relationships structuring the flow of information across institutional boundaries. Beyond these narratives, the only way to judge influence is whether or not people show up to talk.

Sometimes the combination of short term projects and tightly integrated strategies is politically charged. Such an approach speaks to the impatience that some think tank researchers have with the temporal organization of academic life. For them, knowledge is something produced through action and "doing" rather than sustained discussion. This is exemplified by an interviewee employed in a university hospital and with international experience in health policy think tanks.

> [I have] experience in very austere conditions that none of my colleagues have, and I have an ability to take pragmatic experience and translate it to learners. I'm exceptionally good at that. I also bring, sometimes, a *too decisive* approach. Academia is one step forward two steps back, one step forward six steps back. I tend to be more *damn the torpedoes* forward. And that causes friction. At times I am accused of not being "scholarly" enough. And my answer to that is "it depends what scholarly' is." If 'scholarly' is sitting around

> navel gazing in a kumbayah ceremony, OK fine I'm not scholarly. But if scholarly is getting the job done and achieving better outcomes, then I think I *am* scholarly. But it's not always in a way that some of my colleagues, *appreciate* (drawn out). (Interview with a confidential participant.)

A significant portion of the work think tank communications specialists, executive directors, and research directors do is cultivate and maintain relationships with people in different fields (e.g. policy, journalism, academia etc.). Many think tanks achieve this through small conferences or working lunches with people from the private sector, academia, and government. But when knowledge is viewed as transactional and ephemeral, these activities are a central way in which knowledge is created, not just disseminated.

Figure 3.2 summarizes the variations in think tank epistemic cultures that I have just illustrated. It shows how communication and research strategies can be tightly or loosely integrated in long and short term projects, and how this intersects with diverging tendencies towards universalism and contextualism in a broadly utilitarian culture.

3.4.3 Understandings of the "Space of Opinion"

The most important sources of variation in how think tanks produce and promote policy ideas are the diverging tendencies towards universalism and contextualism in epistemic cultures, and the integration of research and communication strategies in short and long term research projects. These differences impact the work that *all* think tanks do. Among the subset of think tanks who are active participants in what Jacobs and Townsley (2011) call "the space of opinion" — which is a particularly influential part of the public sphere — there are differences among those who understand the space (*i.*) as a tool for increasing their

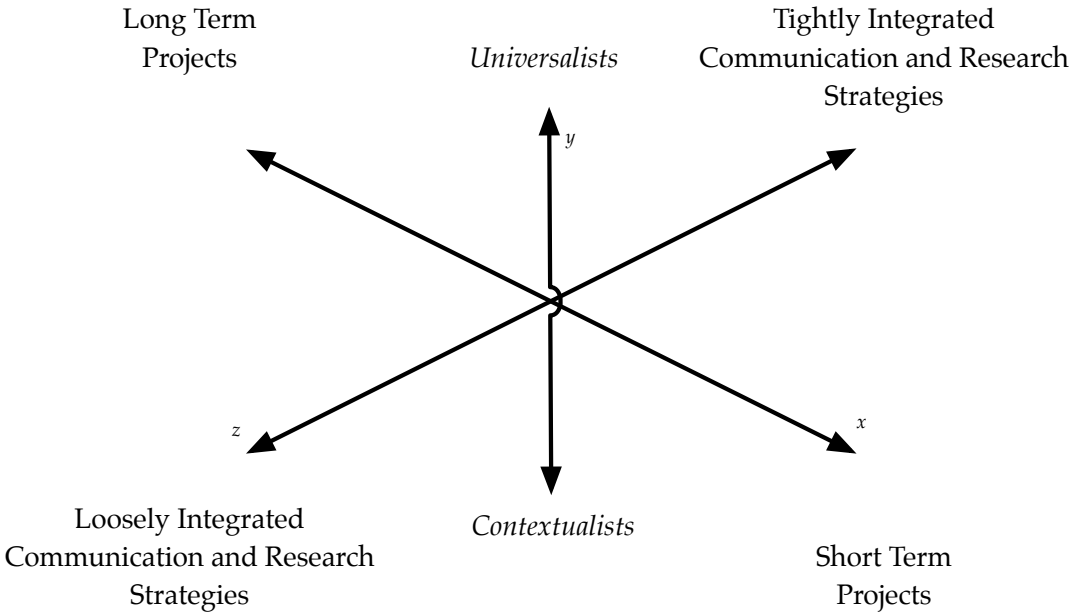

Figure 3.2: Research and Communication Strategies

standing in exchanges with elites or for shaping public opinion, and (*ii.*) those who treat it as an attention space that they can rise to the top of as authoritative public intellectuals.

As a Resource

When think tanks want to weigh in on public debates, they have a repertoire of strategies to attract attention (Abelson, 2009; Medvetz, 2012). But not everyone in the "space of opinion" is there for the same reason. Some treat it as a tool to reach elites or change public opinion in a specific way, while others see it as an important attention space in it's own right. A former think tank executive member explains the value of the public sphere as a resource that can be used to rise to the top of a restricted and elite attention space: policymakers.

> I am not interested in the public. I'm interested in the elites, and I make no apologies for that. Now, partly I need the elites to know that the public cares.

> So an op-ed with an IRPP tagline is very powerful not because my mother reads the newspaper and the public is being effected, it's because the MPs in Ottawa read the newspaper and that adds to the credibility of IRPP. (Interview with Cappe)

Beyond political and business elites, the public sphere can also be a resource to change *public opinion* in a specific way. This is the understanding of the public sphere informing the common think tank emphasis on "changing the terms of the debate" (almost all of my interviewees invoked this in one way or another).[21] In the same way that some think tanks don't do "peer reviewed" research for the sake of the research (but rather to give credibility to a political idea or to reduce the chance of embarrassing public criticisms of their work), some think tanks don't write op-eds, appear on talk shows, write blogs, or publish their own books for publics because they care about the public sphere as an intellectual space. Instead, they see it as a venue for launching coordinated intellectual interventions with the goal of changing public opinion (Eyal and Buchholz, 2010). This could be about making them more sympathetic to classical liberalism, making "school choice" a more palatable movement, or raising awareness about income inequality, to cite just a few current examples.

One way that think tanks try and change public opinion is by having a "signature" event, analysis, or promotional tactic that is *high profile* and *recurring*. For example, The Canadian Centre for Policy Alternatives publishes annual reports on income inequality and the incomes of Canada's wealthiest (Interviews with Hennessy and Yalnizyan), and The Fraser Institute has "Tax Freedom Day" to mark when Canadians "stop working for the

[21] The common idea that a think tanks role in a democratic society is to change the minds of people in the broader public is ironic, given conservative accusations that academics are liberal "social engineers" (e.g. Ezra Levant).

government and start working for themselves" (Interviews with Flanagan and a confidential participant).

Most think tanks use a common set of methods to get a sense of where they stand and how influential they are, but a number of them take this much further in an elaborate system of environmental scans, media reports, web analytics, and strategy sessions that inform what they pick up, put down, and course correct on. On the right, The Fraser Institute has the most elaborate system.

As an Intellectual Attention Space

If some think tanks envision the public sphere as a resource for targeting elites or changing public opinion, others see it as a valuable intellectual space with it's own status hierarchies (see Jacobs and Townsley, 2011; Kowalchuck and McLaughlin, 2009). This is often based on notions of "public intellectuals" or technocratic experts weighing in on timely social, political, and economic problems. Many of the most well known think tanks do extensive media monitoring and tailor their work closely to emerging opportunities in the media — "keeping a finger on the pulse of national debates." Non-advocacy think tanks like IRPP, The Centre for International Governance Innovation (CIGI), and The Conference Board of Canada use systematic analyses to inform regular strategy sessions.

Almost all of the academics I interviewed claimed that publishing with think tanks can be very exciting; it allows them to reach wider audiences, feel important, and fulfill a public mission. One political scientist submitted an essay to IRPP's magazine *Policy Options* because they are "famous for their influence and because they offer significant political commentary on ongoing issues of interest in a much more timely fashion than academic journals." In this case, the turnaround time took some 5-6 months, but the eventual response

was enthusiastic, his article was well received, and it attracted considerable media attention, including from *Maclean's* (Interview with Dunn).

Afterwards, he was contacted regularly by *Policy Options* on related matters, but they declined to publish a more controversial paper that he wrote on the prerogative powers and the political power to declare war. *Policy Options* considered the piece too polemical, and *The Globe and Mail* rejected it as well. While continuing to contribute occasionally to IRPP, he shopped his piece on the prerogative powers around.[22] When *The Globe* later published a similar op-ed by a constitutional lawyer, he was upset. In a tone conveying disbelief, he said "I just about flipped! I was so pissed! I spent years trying to get this message out and then comes along some constitutional lawyer" *The Globe* and *Policy Options* are part of a wider sphere of public debate in which outlets are more or less desirable to publish in. To write in these venues is both "a feather in one's cap," but also a place where one can make a public argument (Interview with Dunn).

There is an almost Habermassian (1989) ethical and political imagery when some think tanks describe the public sphere as a democratic space where a diversity of experts and advocates talk through the issues of the day. This perspective is usually offered by think tanks and researchers who do not have an advocacy orientation, but they see the public sphere as a place where advocacy think tanks can and should have a place as part of a robust and healthy democracy. Interestingly, think tanks with well known advocacy orientations are much more dismissive of other think tanks, rarely invoking democratic arguments.

[22] It was later published by *Canadian Parliamentary Review*.

3.4.4 The Organizational Context

As think tanks become more common and more visible in political and intellectual fields, there are weak institutional pressures for them to perform the range of activities that are commonly assumed to be "what think tanks do."[23] The variations in how think tanks produce and promote policy ideas that I have discussed can technically be mixed and matched in unique ways within and across organizations. Despite this, some think tanks favor specific ways of working over others in the same way that an athlete might prioritize a dominant hand.

The reasons why a think tank might prefer some ways of working over others are partly organizational: they have to create coherent identities or "brands" that allow them to attract funding from sponsors, secure contracts, or win grants. For this reason, Public Policy Forum will continue to prioritize relatively short term projects with tightly integrated research and communication strategies, and the Social Research and Demonstration Corporation will continue to do long term projects with very little communication outside of their exchanges with clients and stakeholders.

Becoming a major player in a cultural field or attention space generally requires a deep level of mastery.[24] Although think tanks do not attempt to dominate the academic, media, business, or political fields, they have to understand those fields well enough to take advantage of conflicting institutional logics rather than fight against them. This can be difficult for individual researchers (Medvetz, 2010). Unsurprisingly, think tanks tend to favor the strategies that their employees are actually skilled at, and that their social networks can

[23] I say "weak pressures" because think tanks are *not* subject to the full range of mechanisms promoting conformity specified, for example, in new institutional theory (Powell and DiMaggio, 1991; Boxenbaum and Jonsson, 2008). Because think tanks work in hybrid contexts, their survival doesn't depend on conforming to specific scripts in highly institutionalized environments. However there are *some* pressures to conform to cultural understandings of what a think tank is.

[24] Whether in the form of cultural capital or a cultivated habitus (**?**Collins, 1998; Lizardo and Strand, 2010).

enhance. As a result, think tanks have more freedom to pursue certain types of communication strategies when they employ former journalists as well as researchers.

3.5 Conclusion

Research on commercial science and similar hybrids is developing rapidly, but contemporary social research hybrids such as think tanks have received much less attention. Current explanations of how think tanks produce and promote policy ideas tend to rely on political depictions of think tanks as organizations that either can or can not be trusted, or on shallow typologies with little explanatory value. With the steady stream of opinion pieces, talk show appearances, working lunches, conferences, studies, appearances before parliamentary and senate committees, and daily eBriefs, we need an analysis of how think tanks work that goes beyond superficial typologies, and that extends recent work on think tank strategies in specific contexts (e.g. Abelson, 2009; Medvetz, 2012).

This article uses research on think tanks in Canada to unpack the epistemic cultures involved in the production and promotion of policy ideas. In a qualitative analysis, I argued that the key sources of variation are in (*i.*) diverging tendencies towards universalism and contextualism in a broadly utilitarian epistemic style, (*ii.*) the extent to which research and communication strategies are integrated in long and short term projects, and (*iii.*) how some think tanks approach the "space of opinion."

Further research could examine the effects of hybridization with the non-profit, public, and private sectors more generally, as well as with political movements and journalism. Focusing on variation in "review" processes would be especially important. On think tanks specifically, research could examine when and how aspects of these epistemic cultures are combined. Finally, in a more organizational version of Gross' (2008) work on intellectual

self-concepts, it may be useful to examine how ways of working in think tanks are shaped by narratives about what kind of organization they are, or are not.

Chapter 4

Think Tanks in the Space of Opinion: Tactics for Creating Uncertainty about the Scientific Consensus on Climate Change

4.1 Introduction

One of the key conclusions Medvetz (2012) draws in *Think Tanks in America* is that think tanks have transformed the connections between the intellectual and the political fields in the United States, marginalizing academic social scientists in important policy debates. In a case study of welfare reform, he shows how think tanks successfully shifted the policy debate from a concern for deprivation to an emphasis on dependency, despite heavy criticism from academic social scientists. In this case — and others of more mixed outcomes,

including terrorism expertise (Stampnitzky, 2010), marriage promotion policies (Heath, 2012), and educational reform (Henig, 2008) — think tanks publicly define themselves as having expertise relevant to social problems.

Cases such as these illustrate a commonly expressed concern that think tanks produce influential research of dubious quality that is in direct competition with academic research. In Abbott's (1988) language, a jurisdiction has been publicly challenged. Yet there are *also* cases where think tanks are involved in public discussions of complex policy issues where they *can't* make a public claim of expertise. For example, American think tanks have played a key role in shaping public debate on the causes and consequences of climate change despite the fact that they do not conduct scientific research on climate change (e.g. McCright and Dunlap, 2003; Jacques et al., 2008).[1]

This article addresses the case of climate change in opinion pieces written by intellectuals affiliated with, or meaningfully engaged with, Canadian think tanks. Neither climate scientists nor "lay experts" (Epstein, 1995), the op-ed writers in this analysis play the role of general intellectuals or, less commonly, "expert professionals." Importantly, when they publicly challenge the scientific consensus on climate change, their claims are not based on an alternative body of vetted ideas and evidence about climate change. Nor are they based on populist anti-science rhetoric, or appeals to non-scientific forms of authority such as religious belief systems. Finally, their objective is not to convince scientists that they are wrong about the causes of climate change, but to strategically convince policy makers and the broader public that climate science is uncertain and unreliable. In short, their objectives are oriented towards politics and policy, not science.

In the big picture, think tanks are a small voice in a massive debate with many interested

[1]The notable exception being The Marshall Institute in the US, examined in detail by Lahsen (2008) and Oreskes and Conway (2010). There are no equivalent organizations in Canada.

parties, including climate scientists themselves, industry, activists, politicians, columnists, journalists, and others. However, examining such a case allows for a fuller understanding of how think tanks and the networks of intellectuals around them are involved in negotiating the boundaries between the political and intellectual fields. With further research, it also has the potential to contribute to our understanding of a broader phenomenon: how non-scientists seek to publicly de-legitimate scientific claims in face of scientific consensus.[2] Using an inductive and mostly qualitative approach, I analyzed the content of 417 opinion pieces in Canadian newspapers from 1997-2012 written by think tanks, or mentioning think tanks in a non-trivial ways, to understand (1) the tactics they employ in efforts to create public uncertainty about the scientific consensus on anthropogenic climate change, and (2) the criteria that they use to publicly evaluate scientists and scientific claims.[4]

The paper sets aside broader questions of influence to discuss two key tactics in depth. First, op-ed and editorial writers re-frame the scientific meaning of consensus as "authoritarian," "collectivist," and "bureaucratic." Against this political framing of consensus, they frame their own skepticism as supremely scientific. Secondly, writers "personalize" climate science and draw symbolic boundaries (Lamont, 1992; Lamont and Molnár, 2002) that portray most climate scientists as unfit to advise policy makers, and at the same time portray skeptics as *more scientific*. This involves two related strategies: smearing prominent environmentalists and scientists, and chipping away at the moral and scientific integrity of mainstream scientists.

Below, I briefly review research on representations of climate change in the media and introduce the theoretical context for this analysis. To date, researchers interested in

[2]This exploratory research is intended to lay the framework for a broader examination of how intellectuals (on both the right and the left) attempt to de-legitimate climate science in the "space of opinion" (Jacobs and Townsley, 2011).[3]

[4]In line with research on consensus in the sociology of science, I am not conflating consensus with truth (e.g. Shwed and Bearman, 2010).

marginalization strategies and publicly contested science have paid less attention to epistemic challenges from general intellectuals who do not have an alternative body of vetted knowledge ready to take centre stage, or appeals to a non-scientific form of authority. Following a discussion of the data and methods, I consider each tactic in turn.

There are three things that this paper does not do. First, it does not evaluate how effective or influential these rhetorical tactics have been in terms of state responses or influencing public discourse. Not only is establishing influence extremely challenging in general (Abelson, 2009), but addressing this issue would require a multi-method study much larger than this one, and would require different theoretical tools focused on the state and social movements. Secondly, this article is not about the full range of debate on climate change and climate science in the space of opinion. There are think tanks, such as The Pembina Institute and The David Suzuki Foundation,[5] who have written opinion pieces on climate change but have not challenged the scientific consensus. Rather than examining how a wide range of interested parties have written on climate change in the space of opinion, this analysis focuses on the rhetorical strategies adopted by writers who *have* attempted to create public uncertainty Jacques et al. (see 2008). Third, my analysis is not about disagreements with the science in general — for example among skeptical geologists and engineers in the oil and gas industry (Lefsrud and Meyer, 2012). Within the broad scientific consensus on climate change, there are differences of expert opinion, jurisdictional disputes between

[5] Although those adopting a stricter definition of think tanks based on organizational characteristics might challenge my decision to consider The David Suzuki Foundation alongside organizations more closely resembling think tanks, I have adopted a looser definition that is oriented more towards the type of work that the organization does, and the issues and audiences it is primarily oriented towards. The David Suzuki Foundation has a considerable policy wing and engages in many of the same activities as more traditional think tanks. Although they have a well-defined position (as an openly environmentalist non-profit organization), so do The Pembina Institute, The Fraser Institute, The Canadian Centre for Policy Alternatives, and other organizations.

fields, and a range of views that are discussed within the scientific community. I make no attempt here to adjudicate these scientific issues best left to peer reviewed science, but am concerned instead with the sociological questions raised by the debate about these scientific questions in the space of opinion.

4.2 Climate Change in the Media

Much research examines changes in the content of climate change coverage over time, or demonstrates how the organization and culture of journalism contributes to perceptions that the science on climate change is hotly contested among experts (e.g. Antilla, 2005; Boykoff and Boykoff, 2004; Boykoff, 2011; Anderson, 1993; Ungar, 1992). Based on interviews and a frame analysis of news stories from 1995-2006, Boykoff (2007) examines the mechanisms supporting portrayals of certainty and uncertainty in climate change news coverage. He argues that the Bush administration and the micro-practices of journalism — e.g. balance — promoted understandings of climate science as highly conflicted. Antilla (2005) focuses on uncertainty and controversy, finding that news articles commonly rely on skeptics, something Carvalho (2007) also found in research about ideologies in climate change coverage in the British "quality press."

A number of studies focus specifically on changes in the attention afforded to discussions of science, economics, and policy. For example Trumbo (1996) found that American climate change news coverage shifted from a focus on science to a focus on policy. Young and Dugas (2011) examine climate change coverage in *The National Post* and *The Globe and Mail* in 1988/89, 1998/99, and 2007/08, showing that news stories have become less narratively complex. Although there has been an increase in coverage overall, stories deal

less with the causes and consequences of climate change directly and more with decontextualized discussions of "everyday" politics and business. They conclude that coverage of climate change has increased in Canada but has become increasingly "banal."

This research has tended to focus on news coverage in general, giving journalists and the norm of balanced reporting a central role. I contribute to this literature by looking at the rhetorical tactics of a specific set of skeptical intellectuals in Canada writing in the "the space of opinion," which is a particularly influential part of the public sphere with it's own unique history and intellectual dynamics (Jacobs and Townsley, 2011).

4.3 Theory

4.3.1 De-Legitimation and Marginalization in Science

Sociologists of science and knowledge have long been interested in de-legitimation and marginalization — these processes are central to intellectual life. Decades of theory and research accounts for science as a collection of rival paradigms (Kuhn, 1962) and epistemic cultures (Knorr Cetina, 1999; Abbott, 2001; Lamont, 2009) rather than a singular and unified approach. Science is practiced in "invisible colleges" and networks (Crane, 1972; Mullins, 1973; Collins, 1998) that compete for resources and recognition in specific organizational environments (Whitley, 1984; Fuchs, 1992), or in intellectual fields shaped by the distribution of unique forms of symbolic capital (Bourdieu, 1990; Heilbron, 1995; Kauppi, 1996).

While institutionalist studies of science (e.g. Merton, 1973; Cole, 1992) tend to emphasize the role of macro-level environments in producing inequalities and intellectual disagreements, the sociology of scientific knowledge (SSK) examines the local production of

knowledge(s) through laboratory ethnographies and thick descriptions of scientists at work (e.g. Latour and Woolgar, 1979; Fujimura and Clarke, 1992; Star, 1995). SSK emphasizes uncertainty in scientific work, arguing that science and nature are co-constructed, and that what comes to be accepted as "true" is mostly a cultural and practical accomplishment, not a direct reflection of reality that scientists can easily agree upon (e.g. Latour and Woolgar, 1979). Focusing on patterns of agreement and disagreement in scientific literatures, Shwed and Bearman (2010) develop temporal network models of consensus formation, differentiating between "benign contestation," the result of fragmentation and specialization, and "epistemic rivalries," where there are passionate disputes between rival groups on core issues, actively disputing one another.

Given the tendency for both of these traditions to focus on environments that are conducive to conflicts and disagreements, it is not surprising that our knowledge of de-legitimation is based on studies of scientists interacting with one another. For example Delborne (2008) differentiates between the "agnostic engagement" of normal intellectual disagreements and "dissident science," where scientists engage in struggles over authority and expert advising in relationships with the state. Wazeck (2013) draws on this distinction in her analysis of early efforts by physicists to marginalize relativity theory. She differentiates between epistemic marginalization (of claims) and social marginalization (of proponents), with the dominant processes being systematic criticism, countering evidence, and blocking access to important resources. *Rejection* and responses to rejection among peers are at the core of her analysis of how "deviant knowledge" — knowledge that doesn't conform to mainstream consensuses — is marginalized.

A central assumption in this literature is that struggles to undermine scientific consensuses are driven by *other* scientists who have mobilized to advance marginal claims. The

political language is deliberate, in particular for researchers who draw on social movement theory to explain how scientists — analogously cast as activists — challenge orthodox or dominant positions in their fields (Frickel and Moore, 2006). Research has been guided by familiar concepts: recruitment and resource mobilization, efforts to frame their work in advantageous ways, and efforts to capitalize on shifting opportunity structures (Frickel and Gross, 2005). They also carry with them the assumption that the challengers have an alternative body of knowledge that has been scientifically vetted, mobilized, and is ready to take center stage.

4.3.2 Publicly Contested Science

Of course not all controversies and epistemic rivalries are produced by the organization of intellectual life or the complexities and uncertainties at the heart of research. Researchers have examined challenges and contentious politics at the boundaries between universities, scientific organizations, and social movements (e.g. Moore, 1996; Rojas, 2008), economics and the state (e.g. Fourcade, 2009), and determinants of public distrust in science (e.g. Gauchat, 2012). Jasanoff (1994) examines the cultural boundaries of science and politics in advisory relationships, exploring tensions between the idea that the social construction of science creates space for non-scientists to weigh in on important issues, and the necessity of boundary-work that sharply distinguishes science from politics.

Gieryn (1999) differentiates between three types of boundary work that shape credibility contests in science. The first two — expulsion and expansion — feature rival parties seeking to lay claim to a specific scientific truth. Expulsion focuses on the struggles for legitimacy between mainstream and fringe science (see also Gieryn, 1983). Expansion has

more to do with expanding scientific authority into new areas, and in the process, challenging other professions.[6] Finally, protection of autonomy is about scientific responses to outsiders challenging their resources and cognitive authority. In short, the emphasis is on struggles over the cultural and cognitive authority of science among scientists, and with outside challengers.

In this context, think tanks and the network of intellectuals engaging their work in the space of opinion are a theoretically interesting case. When they write about climate change, they are *not* building a scientific movement (Frickel and Gross, 2005) behind a body of knowledge vetted by peers and seeking to displace a dominant paradigm. Nor do they appear to be interested in the more modest goal of convincing actual scientists that they are right or wrong about something pertaining to climate change. The writers in this analysis are mostly uninterested in what happens among scientists; instead, they care about what happens in the political field, policy circles, and the space of opinion. When they write about climate science and climate change in opinion pieces, they employ very little populist anti-scientific rhetoric[7] and do not attempt to mobilize support based on non-scientific belief systems, such as by appealing to religious authority.[8] This introduces important questions about the tactics that non-scientists use in efforts to de-legitimate science that they don't agree with, or that appears to challenge strong political and economic interests. Given these issues, my analysis addresses two questions:

[6]There are obviously parallels with the sociology of professions and experts here, from social closure theories (Larson, 1977; Witz, 1990) to struggles over "jurisdictions" (Abbott, 1988).

[7]Whether of the right wing strategy of mocking or attacking specific scientific or social scientific fields, or left wing versions such as a generalized postmodern distaste for science and "scientism," broad dismissals of "positivism," or a disinterest in science as it is actually practiced and understood by scientists themselves.

[8]For example religious authority in discussions about genetically modified foods or creationism (Anderson et al., 1984; Binder, 2002).

1. What tactics do op-ed and editorial writers employ in an effort to create public uncertainty about the scientific consensus on anthropogenic climate change?

2. As non- climate scientists, what criteria do they use to evaluate scientists and scientific claims?

4.4 Data and Methods

4.4.1 Selection Criteria, Authors, and Articles

Opinion pieces contain public claims — in this case about climate change, science, and policy — in a space that carries a lot of symbolic capital in the political field and policy circles. They are therefore a useful and important source of data on how a range of authors have attempted to create uncertainty about climate change among political elites. Using a list of 51 organizations, I collected every opinion piece published between 1997 and 2012 that was written by or mentioned a Canadian think tank and contained the phrase "climate change" or "global warming." I used Factiva's[9] subject classifications to narrow my search results from 1,063 articles to 417 that were explicitly about climate change. Unlike studies of climate change coverage broadly, or studies of opinion that are not focused around particular issues, this dataset includes the entire population of relevant articles, and offsets common sampling problems related to distortions caused by elections, controversies, political news, and other events (see Jacobs and Townsley, 2011).[10]

Table 4.1 provides an overview of the occupational background of the authors in the

[9] I searched the Factiva database because it archives a wide range of regional newspapers in addition to *The Globe and Mail* and *The National Post*.

[10] With the exception of small regional newspapers that Factiva does not index.

sample. Beyond occupations, they represent four groups: (*i.*) think tank intellectuals supporting the consensus, (*ii.*) think tank intellectuals challenging the consensus, (*iii.*) writers drawing on think tanks to advance arguments against climate science, or (*iv.*) writers seeking to discredit environmentalist think tanks by portraying them as pure advocacy organizations.

Of the 417 opinion pieces, 106 were written by authors affiliated with think tanks. Almost half of these were written by The David Suzuki Foundation and The Pembina Institute in support of the scientific consensus, and have been published in regional newspapers. These articles consistently promote environmental policies or defend environmentalists and climate scientists from attacks by other writers. Taking a variety of stances on the issue, other think tank authors include The Canada West Foundation (12), The Frontier Centre for Public Policy (10), The Fraser Institute (9), MacDonald-Laurier Institute (8), Canadian Centre for Policy Alternatives (4), Friends of Science (3), The CD Howe Institute (2), The Conference Board of Canada (2), Montreal Economic Institute (1), and Centre for International Governance Innovation (1). In short, roughly half of the opinion pieces by the think tank authors are written by a few people from a few organizations in support of the scientific consensus, and the other half by strong and weak skeptics affiliated with a wider range of organizations.

In many cases, the intellectuals representing these think tanks have broader public profiles, for example David Suzuki (36), Roger Gibbons (9), and Barry Cooper (6) — all of whom play the role of general intellectual beyond specific affiliations. This suggests that the articles are not always the result of coordinated actions by think tanks themselves. Sometimes they are the products of public intellectuals and columnists affiliated with or

Table 4.1: Opinion Authors (n = 417)

Occupation	Count
Columnists	195 (47%)
Think Tanks	106 (25%)
Editorials (unidentified author)	66 (16%)
Academics	16 (4%)
Writers	14 (3%)
Politicians	5 (1%)
Foundations	2 (>1%)
Other	13 (3%)

broadly oriented to think tanks. Although this complicates the question of what can be unambiguously attributed to think tanks as organizations,[11] it is an unsurprising byproduct of the fact that they operate in the "thick boundaries" between academia, politics and policy, media, and business (Medvetz, 2012). Beyond think tanks, loose networks such as these are increasingly of interest to sociologists of expertise (Eyal, 2013).

Columnists and unidentified editorial writers are the dominant group of authors. As with think tanks, there is a split between those in support of the climate science consensus[12] — for example Susan Riley (12), Janet Bagnall (6), and Jeffrey Simpson (9) — and those challenging it, such as Terence Corcoran (5) and Susan Martinuk (3). There is often a strong ideological pattern in the newspapers themselves, likely due to the politics of gatekeepers and editorial staff as well as reputation guided self-selection processes for op-ed writers. The 80 op-eds and editorials appearing in *The Calgary Herald* and 21 in *The National Post* have a strong tendency to challenge the scientific consensus, while the 27 in *The Globe and Mail*, 34 in the *Toronto Star*, and 23 in *The Montreal Gazette* tend to support the consensus.

[11] This would be a problem if the article was about whether and how effective think tanks are in shaping public understandings or state responses to climate change. Since this paper is not about either of those two things, determining what can be attributed to think tanks and what cannot is less important than understanding the tactics advanced by this loose network of intellectuals.

[12] Among supporters, there is little consensus about what should be *done* about climate change.

Table 4.2: Other Subjects of Opinion Pieces

Topics	Count (n = 417)
Related Environmental Issues	341 (82%)
Politics and Government	72 (17%)
Economy/Economics	30 (7%)
International/Global	23 (6%)
Corporations/Industry	21 (5%)

Of course, opinion pieces that broadly support the consensus do not all agree on appropriate policy responses. While many favor state responses, others favor market mechanisms or *not* taking deliberate action.

Separate from authorship, the think tanks mentioned most frequently are The Pembina Institute (171 mentions) and The David Suzuki Foundation (158 mentions). Many of these mentions are driven by attacks on their credibility by columnists and editorial writers seeking to de-legitimate the public roles taken by think tanks supporting the scientific consensus on climate change. Together, conservative think tanks were mentioned 157 times.[13]

To provide some context for the discussion of strategies, Table 4.2 provides a very general overview of the issue categories these articles address. I created the categories by grouping subject classifications for articles in the Factiva database into larger categories.

4.4.2 Analysis

The main analysis involved reading, thematically coding, and writing memos about opinion pieces appearing in *The Globe and Mail*, *The National Post*, and a purposive sample of opinion pieces by think tank authors in other newspapers. Working inductively, I identified recurring themes in these articles, including: attacks on the credibility of climate scientists,

[13]Friends of Science, The Fraser Institute, Canada West Foundation, Frontier Centre, CD Howe Institute, Canadian Council of Chief Executives, and the MacDonald-Laurier Institute.

arguments for and against specific policies, discussions of the economic impact of pro-environmental policies, discussion of political news and events, considerations of political strategies, and ultimately claims about expertise and intellectual ethics broadly. After realizing how important moral and political criticisms of scientists were, and that they cut across opinion pieces addressing many different topics, I focused the analysis on comparing talk about climate change science and scientists. I stopped coding when I reached theoretical saturation.[14]

Unless otherwise noted, in the sections below, I refer to skeptical intellectuals affiliated with think tanks, drawing on think tank work, or smearing pro-environmental think tanks as "writers." This is meant to simplify the discussion, not to characterize the sample as a whole. The quotes provided were selected because they illustrate important aspects of the tactics, not because they are representative of dominant trends.[15]

4.5 Findings

4.5.1 Re-framing consensus and skepticism

As discussed, skeptic writers have not produced a vetted body of knowledge challenging mainstream climate science, and are mostly uninterested in the scientific field. Instead, they are focused on shaping perceptions of climate science in the political field and the space of opinion. The standard theories for explaining the de-legitimation and marginalization of scientific ideas are based around the organization of scientific communities, epistemic

[14] As stated earlier, this research is mostly exploratory. I intend to use the results from this research to inform further content analysis based on a more systematic coding strategy, and using more than one coder.

[15] I approached this in the same way that researchers use qualitative methods to identify and examine mechanisms in a social context, leaving the identification of quantitative patterns for other stages of the research (e.g. Small, 2009b).

rivalries in public, or profession-based boundary work. Rather than engaging in strategies tailored to the academic field, think tanks engage in strategies uniquely tailored to public debate. The first of these strategies is re-framing the meanings of consensus as skepticism.

Rather than denying scientific consensus, most writers attempt to re-frame consensus as fundamentally unscientific, "authoritarian," and "collectivist." They discuss it as a *political* and *bureaucratic* product, and portray their "skepticism" as a supremely scientific virtue. Rather than using the norm of balance the undermine public awareness of scientific consensus (e.g. Boykoff and Boykoff, 2004), writers turn ideas about science back onto itself, attempting to create confusion by portraying themselves as more scientific.[16]

For example, in an editorial for *The Calgary Herald*, a political scientist and (then) director of the Calgary office of The Fraser Institute re-frames consensus science in an explicitly political vein, invoking strong moral boundaries and drawing comparisons with state-backed science in the former Soviet Union:[17]

> Applying the science of genetics has been central to improving agricultural yields. For 35 years between 1930 and 1965, though, a scientific-sounding piece of quackery, called "agrobiology," dominated efforts to raise Soviet grain production. It was invented by T.D. Lysenko and became part of "The Great Stalin Plan for the Transformation of Nature." Genetics, said Lysenko, were bourgeois.
>
> In fact, Lysenkoism was an ideological fantasy. He said, for instance, that if lap dogs were deliberately turned loose in the wild, they would give birth to

[16]This tactic appears to be a direct counter to the strategy of promoting scientific consensus by the scientific community, environmentalists, and governments advocating pro-environmental policies.

[17]Barry Cooper (University of Calgary political scientist and director of the Calgary office of The Fraser Institute), "Bent data, bent hockey stick," published in *The Calgary Herald*.

> coyotes and wolves because of the effects of wilderness. He was skilled at staging media events and treated all criticism with anger rather than argument. Lysenko created the "consensus science" of his day and, with Joseph Stalin's help, enforced it.
>
> (...) One is reminded of all this by the response to criticism of the science surrounding the notion of man-made climate change. It is the Lysenkoism of our times.

This article, like others, makes "consensus science" something fundamentally different from "science." "Consensus science" is allegedly settled by political agreements rather than through disinterested, objective evaluation. As evidence of his point, Cooper discusses research by economists McIntyre and McKitrick (2003) that challenges the validity of the famous "hockey stick" graph published by physicist Michael Mann and his colleagues in *Nature* (Mann and Hughes, 1998). They argue that the *Nature* article included unpublished steps that systematically exclude influential data and produce a hockey stick shape out of almost any data, including random numbers. McIntyre and McKitrick's paper was heavily criticized, which Cooper offers as evidence that Kyoto supporters are willing to disregard any position that doesn't further their agenda. He concludes:

> Scientific due diligence must be skeptical, the very opposite of "consensus science," or the demands of politicians and bureaucrats blindly to begin implementing Kyoto. In fact, as [McIntyre & McKitrick's paper from 2005] shows, the debate is just beginning and the true believers are losing it. Eventually, as with Lysenkoism, we can expect the government quietly to abandon the Kyoto superstition. Let's hope it doesn't take 35 years and a legacy of economic

stagnation beforehand.

In another article for *The Calgary Herald*, Cooper argues for disaggregating scientific opinion — as if the "consensus" was among anyone with a PhD, and not scientists working on climate change issues. Once again, this strategy is based on the idea that scientific consensus on climate change is a political construct, and that many "genuine scientists" of climate change are not part of it.[18]

> Often, critics state that a "scientific consensus" regarding the facts of "global climate change" refutes any assertion that the science is not settled. (...) When trying to make sense of such criticism and the claims upon which it is based, it is important to distinguish scientists in general from climate scientists, especially paleoclimatologists who study the climate of the early Earth. It is also important to distinguish what many people have observed about the effects of climate change from what climatologists, who are likely to be competent judges of the evidence, say about the causes. Biologists, experts on the genetics of fruit flies, and geographers — scientists all — may well contribute to a "scientific consensus" on climate change or on gay marriage, but so what? The real issue is why the climate is changing, not if.

As an alternative, he quotes two paleoclimatologists and an expert on tsumanis saying that anthropogenic climate change is "absurd" and "nonsense." Again, he claims that predictions based on simulations are computer modeling are illegitimate. Suddenly favoring consensus (if somewhat sarcastically), he concludes: "The science of climate change has moved on in the past decade and a half. Clearly, the bureaucrats at Environment Canada advising [Stéphane] Dion haven't kept up with the emerging consensus."

[18] Barry Cooper, "Dueling opinions on climate change," published in *The Calgary Herald*.

In another article, a columnist takes it upon himself to educate the public on the meaning of "consensus." In the process, he cites science studies scholars such as Barry Barnes. Not only does he take advantage of the uncertainty of science, he (mockingly) uses science studies to comment on the degradation of thought about science.[19]

> It is now firmly established, repeated ad nauseam in the media and elsewhere, that the debate over global warming has been settled by scientific consensus. The subject is closed. (...) Back when modern science was born, the battle between consensus and new science worked the other way around. More often than not, the consensus of the time — dictated by religion, prejudice, mysticism and wild speculation, false premises — was wrong. The role of science, from Galileo to Newton and through the centuries, has been to debunk the consensus and move us forward. But now science has been stripped of its basis in experiment, knowledge, reason and the scientific method and made subject to the consensus created by politics and bureaucrats.

The author argues that mass appeals to scientific consensus are new, but that within science they can be traced to Marxists, social scientists, and philosophers "who spent much of the 20th century attempting to subvert the principles of modern, Enlightenment science." Rather than appealing to an authority like religion to challenge the science, the author argues that "climate science" is a lot like the religious belief systems that Enlightenment science struggled to divest itself from. He continues:

> In short, under the new authoritarian science based on consensus, science doesn't matter much any more. If one scientist's 1,000-year chart showing

[19] Terence Corcoran, "Climate consensus and the end of science," published in *The National Post*.

> rising global temperatures is based on bad data, it doesn't matter because we still otherwise have a consensus. If a polar bear expert says polar bears appear to be thriving, thus disproving a popular climate theory, the expert and his numbers are dismissed as being outside the consensus. If studies show solar fluctuations rather than carbon emissions may be causing climate change, these are damned as relics of the old scientific method. If ice caps are not all melting, with some even getting larger, the evidence is ridiculed and condemned. We have a consensus, and this contradictory science is just noise from the skeptical fringe. (...) In the end, though, real science can only win. If real science produces truth that the consensus method cannot, any consensus will inevitably fail to hold. *Until then, however, we will have to live with the likes of David Suzuki.* (Emphasis mine.)

This piece is not only about marshaling the cognitive authority of science in support of those skeptical of anthropogenic climate change, it is about shutting some scientists out of governance conversations by portraying them as part of something so unscientific that they might as well be dogmatic supporters of religious doctrine. Not only does it emphasize disagreements among scientists and imply that they are representative of the scientific community, it draws on an abstract idea of science and claims that climate science comes up short. This implies that skepticism is based on extremely high scientific standards, not politics.

In an article on "climategate," the author takes on consensus directly, taking it out of a scientific context and redefining it as a political concept.[20]

[20]Jon Ferry, "Self-righteous scientists threaten world economy, Incriminating emails reveal flawed data," published in *The Vancouver Province.*

> Indeed, the whole notion that scientists must march in lock-step with the currently fashionable eco-consensus is the construct of politicians, public-relations people and other cause-mongerers, not real researchers, for whom skepticism is second nature. (...) The last thing we want is to monkey-wrench the fragile global economy in the name of an unproven theory that increasingly appears to be under-researched, over-hyped and quite possibly a tissue of lies.

In an editorial for *The Calgary Herald*, a columnist discusses the controversial appointment of two conservatives — one the director of The Fraser Institute — as Natural Sciences and Engineering Research Council of Canada (NSERC) council members.[21]

> While working on my PhD, a professor gave me advice about academics and research that I've kept to this day: "The moment you think you know everything, you're done." It's something that researchers, opposition MPs and the media should keep in mind amid their vocal criticisms of Stephen Harper and his appointment of two well-qualified men to federal science boards that distribute research funds.
>
> Dr. Mark Mullins, an economist who heads the Fraser Institute, and Dr. John Weissenberger, a geologist with Husky Energy in Alberta and former Harper aide, have the academic and professional qualifications. But they've made public statements suggesting that they don't think the global warming science debate is fully settled–and that's a problem.

[21] Susan Martinuk, "Global warming science not settled," published in *The Calgary Herald*.

> The statements, dutifully uncovered by NDP researchers and sent to the media, immediately raised questions about their ability to carry out their duties. Some researchers, who are likely more frustrated by budget cuts than these appointments, joined with politicians to once again vilify the Harper government for declaring a war on modern science. Their message is clear: global warming critics belong to the flat-earth society and have no place on boards that might fund real climate change science.

The author is claiming that these skeptics have been unjustly marginalized in the scientific field, and their academic credentials have not been appropriately recognized. She uses the case to frame skeptics as rational, reasonable, and normal. After arguing that many Canadians believe that climate change science is not settled, she turns to the scientific community. Unlike other articles, she denies consensus among scientists.

> There's no consensus among scientists either. A 2008 survey of 51,000 Canadian scientists revealed 68 per cent disagreed with the claim that global warming science is settled. Some 31,000 American scientists have signed various petitions saying there is "no convincing scientific evidence" of a "catastrophic heating of the Earth's atmosphere." And more than 700 scientists have endorsed a U. S. Senate minority report that directly challenges the claims that human emissions of carbon dioxide are causing unprecedented and dangerous global warming.

Broadly, this editorial makes the case that not only is skepticism and denial aligned with the opinions of many Canadians, but that it is more open-minded and scientific. She argues that the science is too complex and premature for policy initiatives, and that we need

greater certainty before taking action. What kinds of experts and policy makers does she propose that we entrust to provide that knowledge?

> Given the above, it's rather ironic that just as some are raising fears about having global warming skeptics on federal boards, it seems we should be even more concerned that these boards are / have been primarily stacked with global warming proponents. If anything, the frightened reaction to the possibility of having to face contrary opinions reveals the truth underlying the adage that climate science is little more than political science.

4.5.2 Personalization of Climate Science

Stepping back from these larger issues of "consensus" and "skepticism," writers also attempt to create uncertainty about the scientific consensus on climate change by "personalizing" climate science. This involves two types of boundary work that frame climate scientists as unscientific, and skeptics as scientific. Informed by Fine's (2006) work on reputational strategies and the "personalization of policy," I show how authors smear David Suzuki in an effort to discredit proponents of anthropogenic climate change, and — with a comparatively subtle approach — chip away at the integrity of other climate scientists. Just as Fine (2006) argued that attacks on the character and reputations of activists are dominant strategies for discrediting a movement or an organization, so too do authors "personalize" climate science by emphasizing discussions of the moral and scientific integrity of climate scientists.

Smearing Suzuki and High Profile Scientists

All of these opinion pieces start from the position that there is a major problem that needs to be addressed. For some authors, the problem is determining and enforcing policy responses to climate change. For others, it is that policy discussions are being influenced by scientists and environmentalists whom they consider unfit. Writers[22] portray them as ideologues who are considered experts at great risk to the Canadian economy.

The primary target of such attacks is David Suzuki and employees of The David Suzuki Foundation. [23] For example, in an opinion piece published by *The Vancouver Sun*:[24]

> In the future please do not refer to spokespersons for the David Suzuki Foundation as "experts" on climate change. They are ideological zealots pursuing a quasi-religious socialist agenda to command and control western economies. I presume this may be hard for *The Vancouver Sun* to accept after fawning over David Suzuki as an editor for a day.

These articles don't just attack Suzuki's character, they generalize to other proponents of anthropogenic climate change, implying that David Suzuki is simply the most famous ideologue of the group, and therefore other supporters are suspect as well.[25] For example, the same morally charged boundary work can be seen in discussions of "climate-gate," which writers used to attack some of the more well-known scientists and to frame climate

[22]In this case, it tends to be the conservative columnists in the sample. Think tanks taking a stand against climate science (such as The Fraser Institute, The Frontier Centre for Public Policy, or Friends of Science) tend to criticize scientists and avoid criticisms of other think tanks.

[23]In fact, one group of intellectuals in the analysis are primarily interested in defining The David Suzuki Foundation and, to a lesser extent, The Pembina Institute as illegitimate contributers to the debate. They argue that these organizations are advocacy organizations.

[24]Patrick Jordon, "Be careful who you call an environmental expert," published in *The Vancouver Sun*.

[25]The exemplifies "creating a notorious supporter," a tactic identified by Fine (2006).

science across the board as based on violations of science and general ethics.[26]

> The David Suzuki Foundation says that "climate change is considered by many scientists to be the most serious threat facing the world today." I believe, though, a far greater threat is posed by climate-change scientists themselves. Their preconceived, green notions about global warming could well wind up doing more damage to the world's economy than all the machinations of greedy Wall Street bankers.
>
> As evidence for their disturbing bias, we need look no further than a set of emails a hacker has lifted from what's arguably the world's most influential climate-change research centre, the Climate Research Unit at England's University of East Anglia. Now burning up the blogosphere, the researchers' revealing emails raise serious questions about the data on which the theory of man-made global warming is based, and the methods and motives of those promoting it so relentlessly and in such partisan fashion. Indeed, the emails suggest the dire predictions of a leading clique of obstructionist climate-change scientists may simply be wishful thinking. Global-warming true believers themselves have expressed concern about what furious bloggers are calling Climategate.

Rather than directly attacking Suzuki or other well known proponents of anthropogenic climate change, some writers claim that "the debate" has been corrupted because of their involvement. For example an editorial published by *The Calgary Herald* calls for "balance"

[26]Jon Ferry, "Self-righteous scientists threaten world economy, Incriminating emails reveal flawed data," published in *The Vancouver Province.*

in climate change debates, achieved primarily by decoupling policy responses from the science, implying that climate research is politically driven and shaped by environmentalist alarmism. Although skeptics are portrayed as too loud ("strident"), the motivations and legitimacy of their position is not challenged.[27]

> We hope this ushers in an era of balance to a polarized debate. Science for too long has been engaged in climate activism. Skeptics, too, have been strident in their protestations. Alarmism has the potential to result in egg on one's face. Witness the return of salmon to the North Pacific. Not long ago, Greenpeace and the David Suzuki Foundation were warning of the collapse of salmon stocks as a result of farming methods. Wild salmon are now so plentiful they are practically jumping into boats.

The Integrity of Climate Scientists and Skeptics

Symbolic boundary work aimed at de-legitimizing mainstream scientists is subtle compared to the smearing of iconic environmentalists like Suzuki and well known scientists. Instead of portraying scientists as morally unfit and dangerous, writers portray them as politically suspect, lacking integrity, and not worth listening to. At the same time, they define themselves as *more scientific*.

For example, a policy fellow from the Frontier Centre for Public Policy challenges the legitimacy of the famous hockey stick graph in the IPCC. In this op-ed, he doesn't attack the political motivations of the scientists, but portrays them as insular and says that they were out of touch with important methodological advancements that would have prevented

[27] Editorial, "The end is not nigh, Finally, common sense on global warming," published in *The Calgary Herald*.

them from making mistakes. Promoting a book by skeptic Edward Wegman that critiques the IPCC, he writes:[28]

> The IPCC claimed the hockey stick "proved" unique 20th century global warming. But it didn't. [Edward] Wegman, who drew on the initial skepticism of two Canadians who questioned Mann's statistical handling, found that Mann's "hockey stick" was the result of a statistical error — the statistical model actually mined data to produce the hockey stick and excluded contrary data. That mistake occurred not because Mann was deceptive or a poor scientist — he's an expert in the paleoclimate community as were those who reviewed his paper. But that was the problem: the paleoclimate scientists were trapped in their own disciplinary ghetto and not up to speed on the latest, most appropriate statistical methods.

The author frames his criticisms around Edward Wegman's scientific credentials, using him to amplify perceptions of disagreement among scientists. Much like smearing Suzuki and the East Anglia scientists was intended to challenge the credibility of proponents of anthropogenic climate change, so too does promoting Wegman's credentials imply that skeptics are not quacks, but serious scholars.

> Is Wegman the scientific equivalent of medical quack? No. His CV includes eight books, over 160 published papers, editorships of prestigious journals and who was a past-president of the International Association of Statistical Computing, among other distinctions.

[28] Mark Milke (of the Frontier Centre for Public Policy), "The end of the fake consensus on global warming," published in *The Calgary Herald*.

The article — like many others — is not just about challenging the competence and legitimacy of mainstream scientists. It is also about portraying skeptics as more scientific. The article presents skeptics as the ones who are willing to consider contrary evidence, and paints the IPCC scientists as unwilling to consider things that don't support anthropogenic climate change.

> The IPCC refuses to even consider the sun's influence on Earth's climate – it conceives of its mission only to investigate possible man-made effects upon climate. But that's akin to a hit-and-run investigation where police rule out all cars except one model, this before they even question witnesses.

> The "deniers" and *The Deniers* matter because the book is about the search for scientific explanations for a complex phenomenon by eminent scientists in a better position than most to judge whether a consensus exists on global warming. Their collective verdict, much varied in the particulars, is "no."

From start to finish, this article contains a number of strategies common in arguments against mainstream science. It superficially critiques the science, bestows moral qualities on skeptics (e.g. one is referred to as "cautious"), denies they are hacks, presents their credentials, claims their positions are valid, and that anyone who is scientifically minded would accept this. Rather than rejecting the idea of climate science altogether and appealing to some other kind of cultural authority, it turns the idea of science back on itself. It's suggests that readers should be skeptical of climate scientists for *scientific* reasons.

4.6 Discussion and Conclusion

This article addresses the case of skeptical intellectuals — some affiliated with think tanks, some drawing on think tanks, and some attacking think tanks — making claims about expertise on climate change with the goal of advancing our understanding of how non-scientists attempt to create public uncertainty around scientific expertise, and in the face of scientific consensus. In this case, the end game is not to advance ideas in the scientific field or for skeptical writers to climb the academic status hierarchy. Disinterested in the world of science itself, they are focused on the perception of science in the political field and policy circles. Unlike the many other cases that our theories of de-legitimation and marginalization are based on, they do not have a professionally vetted alternative body of knowledge ready to take centre stage, nor do they appeal to a cultural authority outside of science itself, such as religion. Instead, I find that writers use two tactics in an effort to create public uncertainty about the causes of climate change:

1. Writers re-define "consensus" as authoritarian, political, bureaucratic, and fundamentally unscientific. At the same time, they tie their public identity as "skeptics" to an unwavering intellectual commitment to the norm of skepticism in science (Merton, 1973), in the process portraying themselves as more scientific than climate scientists.

2. Stepping back from larger issues about the meaning of "consensus" and "skepticism," writers personalize climate science by turning discussions about science into discussions of the moral character and integrity of environmentalists and climate scientists. This tactic includes two different strategies:

    (a) Writers smear high profile figures, in particular David Suzuki, in an effort to discredit proponents of anthropogenic climate change.

(b) Writers chip away at the credibility of climate scientists by advancing direct but comparatively subtle moral criticisms of their scientific integrity, professional ethics, and political commitments.

Think tanks and the intellectuals engaging their work in the space of opinion do not have an alternative body of ideas and evidence that they have produced themselves, nor do they appeal to an alternative kind of authority, such as religious beliefs or populist anti-science political stances. Instead, these two strategies play a political game of using ideas about science in *general* to create uncertainty about climate science *specifically*. Writers amplify disagreements by discussing work by scientists that is critical or dismissive of the scientific consensus. The purpose is to inject uncertainty about the science into public debate, and to shift discussions of environmental governance towards skeptics and away from mainstream climate scientists.

These strategies are not intended to change the minds of scientists. In fact, it is unlikely that they could have any effect at all on debates among practicing scientists within their professional fields. Instead, these strategies are intended to create uncertainty in the political field, and to provide accounts that the government can use to justify policies on the grounds of uncertain scientific evidence regardless of what individual political elites believe about climate change.

Taken together, these tactics position mainstream scientists as unfit to inform policy discussions on environmental governance, frame skeptics as possessing the ideal moral and scientific/intellectual qualities to inform policy, and to a lesser extent, bring public discussions of climate change into policy domains in which they have publicly declared themselves as experts. This is accomplished by making discussions of climate science and policy contingent not on ideas and research but on the integrity of climate scientists,

and by switching between political and scientific meanings of consensus and skepticism (i.e. re-framing "scientific consensus" to mean political and bureaucratic consensus, and skepticism to mean nothing other than disinterested scientific skepticism).

These tactics are shaped by the public role think tanks adopt, most commonly that of the general public intellectual not constrained by technical qualifications (and always on the look out for poor arguments and pseudo-science), and less commonly that of an expert professional. In the latter case, authors publicly claim expertise by discussing climate change alongside economic and political issues — policy domains in which they have already publicly defined themselves as experts in. Because understanding the social scientific aspects of climate change is uncontroversial, this creates an opportunity for think tanks to define themselves as expert commentators on climate science.

Chapter 5

Conclusion

Taken together, these articles speak to broader questions about how think tanks produce and promote policy ideas. They draw on a wide range of original data, and are informed primarily by the sociology of ideas, organizational sociology, and cultural sociology.

Each article addresses a single issue in service of this broader goal. In the first, I drew on 11 years of financial data for 30 think tanks from the Canada Revenue Agency to evaluate predictions about funding environments drawn from pluralist, elite, and field theories. Broadly in support of field theory, I presented evidence that the availability of support from the state *and* private donors creates an environment where think tanks can cater to sponsors with diverging interests. Although there are some exceptions, the broader trend is for conservative think tanks to be funded by private donors, and for centrists to be funded by the state. There are a variety of possible explanations for this pattern, but it seems clear that pluralist and elite theories are too simple to explain the Canadian case. Rather, the evidence suggests that think tanks face problems — for example resource dependencies and the challenges and opportunities associated with conflicting institutional logics — that many other organizations face. They are likely amplified, however, given the hybridity

of the context they work in, and the importance of communicating "independence" to the public to maintain credibility.

There are of course some limitations to this analysis. Due to the constraints of the article format, my analysis centers squarely on the economic data and sets aside issues of the complicated cultural work think tanks do around money and funding relationships. My interviewees talked about this at length. Their perspectives call to mind Zelizer's (2011) work on the relational meanings of money, but building this into the explanation requires either another article or a section of a book.

In the second article (chapter 3), I developed the core theoretical argument. Most explanations of how think tanks produce and promote ideas rely on political depictions of organizations that — depending on your political perspective — can or cannot be trusted. Alternatively, we rely on shallow typologies of organizational types that tell us little about what think tanks actually do. The sociologies of science and ideas have developed an impressive theoretical toolkit for dealing with precisely these issues. Drawing Knorr Cetina (1999) and Lamont (2009), I proposed that think tank "epistemic cultures" vary in three important ways. First, there are diverging tendencies towards universalism and contextualism in a broadly utilitarian culture. Second, think tanks integrate their research and communication strategies in long and short term projects in very different ways. Finally, for think tanks interested in developing public profiles, there are different ways of understanding the "space of opinion." While some think tanks are interested in using the space of opinion to gain leverage with elites or change public opinion, others want to rise to the top of an intellectual attention space as authoritative public intellectuals.

Here, too, there are some limitations. By focusing so much on unpacking the specific

ways in which think tanks vary, I have not been able to fully address the underlying organizational context. There are many aspects of the environment think tanks work in that shape variations in epistemic cultures, but systematically examining them requires an analysis fully devoted to the task.

Finally, the third article examines how some intellectuals — affiliated with, or oriented to think tanks — attempt to create public uncertainty on climate science in what Jacobs and Townsley (2011) have called "the space of opinion." Based on an inductive analysis of the entire population of opinion pieces from 1997-2012,[1] I identified two tactics: (*i.*) intellectuals re-frame the meanings of "consensus" and "skepticism," and (*ii.*) they personalize climate science by smearing iconic environmentalists like David Suzuki and prominent scientists, and they chip away at the character and integrity of rank and file scientists. In part, these strategies portray skeptic intellectuals as more scientific than the scientists they critique.

This exploratory research raises many more questions than it answers. For example, it sets aside *all* questions of influence or effectiveness. This is partly because of the inherent complexity of establishing influence (as discussed by Abelson, 2009), although as this work matures there may be useful theoretical tools from the substantial social movement literature on outcomes.

The bigger issue, however, is the complexity of public discussions of climate science. Tackling this institutional and discursive complexity requires much more space and attention than an article style investigation of one side of the issue can effectively handle. The prominence of columnists and the lack of scientists in the articles I collected has convinced me that future work on this case should include a wider set of actors and perspectives, perhaps developing a new sampling strategy that includes think tanks as one of a few focal

[1] The systematic selection criteria are laid out in the article.

groups.

My decision to take an inductive qualitative approach to identifying tactics is a necessary first step. I strongly believe that developing new ideas should have some basic independence from systematically testing them (see Gross, 2008; Swedberg, 2012). In future research, I will use this analysis to inform a systematic content analysis performed by multiple coders. Given the contentiousness and complexity of public debates about climate change, the analysis would be improved by inter-coder reliability rates alone.

Despite these and other limitations, the articles in this dissertation have the potential to move research on think tanks in interesting new directions. Specifically, I think there is much promise in considering think tanks in terms of the sociology of ideas and recent organizational and field theory (Binder, 2007; Fligstein and McAdam, 2012; Thorton and Lounsbury, 2012). My future research will continue this general approach by developing the ideas proposed in this dissertation in a more comprehensive way, and drawing on the full range of data I collected during this project.

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Appendix A

List of Interviewees

My agreement with the MREB and with my participants is such that some are publicly named and others have opted to keep their identities confidential. In many cases, these people have worked in many positions over their careers, and with many different think tanks. I have listed their *primary* affiliations at the time of the interview.

- Confidential
- Arthur Sweetman: Economics, McMaster University; CD Howe Institute, Institute for Research on Public Policy
- Confidential
- Confidential
- Confidential
- Confidential

- Jean-Pierre Voyer: Social Research and Demonstration Corporation
- Confidential
- Sylvia Ostry: formally worked as an advisor for many think tanks in Canada and the US
- Susana Gurr: Social Research and Demonstration Corporation
- Martin Dooley: Economics, McMaster University; CD Howe Institute
- Karen Myers: Social Research and Demonstration Corporation
- Confidential
- Christopher Dunn: Political Scientist, Memorial University; Institute for Research on Public Policy
- Jerry Hurley: Economics, McMaster University; The Centre for Health Economics and Policy Analysis (McMaster University)
- Reuben Ford: Social Research and Demonstration Corporation
- Wendy Dobson: CD Howe Institute
- Julia Abelson: Epidemiology and Biostatistics, Political Science, McMaster University; The Centre for Health Economics and Policy Analysis
- Andrew Sharpe: The Centre for the Study of Living Standards
- Paul Ledwell: Public Policy Forum
- Confidential

- Bill Watson: Economics, McGill University. CD Howe Institute, Institute for Research on Public Policy
- Kate Shingler: Institute for Research on Public Policy
- Confidential
- Leslie Seidle: Institute for Research on Public Policy
- Francis Abele: School of Public Policy and Administration, Carleton University; Institute for Research on Public Policy, Canadian Centre for Policy Alternatives
- Susan Phillips: School of Public Policy and Administration, Carleton University; Institute for Research on Public Policy, Canadian Centre for Policy Alternatives, and numerous others
- Armine Yalnizyan: Canadian Centre for Policy Alternatives
- Confidential
- France St-Hilaire: Institute for Research on Public Policy
- Glen Hodgson: The Conference Board of Canada
- Confidential
- Trish Hennessy: Canadian Centre for Policy Alternatives
- Jason Clemens: MacDonald-Laurier Institute, The Fraser Institute
- Tom Flanagan: Political Science, University of Calgary; The Fraser Institute, CD Howe Institute, many small conservative organizations

- Confidential
- Confidential
- Tyler Meredith: Institute for Research on Public Policy
- Confidential
- Rob Roach: Institute for Research on Public Policy
- Confidential
- Mel Cappe: Institute for Research on Public Policy, Conference of Defense Associations Institute
- Anne Golden: The Conference Board of Canada
- Confidential
- Peter Holle: Frontier Centre for Public Policy
- Confidential
- Jeremy Leonard: Institute for Research on Public Policy
- Bill Robson: CD Howe Institute
- Michael Walker: The Fraser Institute
- Graham Fox: Institute for Research on Public Policy
- Barry Cooper: Political Science, University of Calgary; The Fraser Institute
- Jack Mintz: CD Howe Institute
- Confidential

Appendix B

Interview Schedule

I weighted this interview schedule differently depending on the position of the person I was talking to (researcher or research coordinator, executive member, communications specialist, academic, or in some rare cases, unique people). Earlier versions of the interview schedule were longer and more branching, as I gradually focused the project around central themes and learned which questions worked and which didn't.

B.0.1 Personal Experiences and Career History

The first set of questions are about your areas of expertise, your personal and professional experiences with policy institutes broadly speaking, and how you came to be doing this work.

- I'm interested in learning about how you came to do work with [institute]. In broad strokes, can you describe the career path that led you here? *For academics:* I've looked over your cv, but maybe a good place for us to begin would just be for you to give me a general overview of what your areas of expertise are and how they relate

to any work you may have done with policy institutes? When did you first become aware of [institute]?

- Why do you think it was that you became involved with [institute] at that particular time and not another?
- Have you ever considered an academic career?
- Before you worked at [institute], did you have any knowledge of colleagues, mentors, or students who had done work for institutes? Did they influence your decision to work here?
- (For academics) Do you see your contributions to policy institutes as being closely related to your academic work or as being somehow different? Does your work with institutes guide your own independent research in any way?
- Have you ever encouraged a colleague to contribute work to an institute? Helped them get a position with an institute? Can you describe your sales pitch to me?

B.0.2 Knowledge Production

The second part of the interview is about how knowledge is produced in policy institutes. I am mostly interested in the organization and practices of research and writing.

- Can you describe to me what you do here? What does a typical work week look like?
- Can you walk me through the life-course of a typical project at [institute]?
- Does [institute] make use of a review process? If so, how are reviewers chosen? How do you make sure reviews are timely? How do reviewers know what to look for?

- *For academics or other:* Do you look for different things when you are reviewing a policy piece than when you are reviewing pieces for an academic journal? What do you look for?
- *For academics:* Can you describe any experiences with editors or reviewers when you worked with [institute]?
- Do you see yourself as contributing to "evidence-based policy?" How would you define "evidence-based policy" to me if I did not know what it was?
- Have you ever felt pressured to write something consistent with [institute] goals and vision?
- How important are academics to the work you do here? How do you maintain ties to academics?
- Has your work with policy institutes required you to develop intellectual skills or styles not normally associated with your professional background? Or that are more often associated with another professional group or discipline (e.g. writing styles)?
- Policy institutes bring together professionals with all kinds of backgrounds. In your experience, how do different backgrounds matter for the work that gets done in policy institutes? For example, how might someone trained as an economist be different than someone from political science, or from law, business, or journalism?

B.0.3 Communication/Promotion

In the third part of the interview, I will be asking about how policy knowledge is communicated to various types of audiences. I want to understand what work is done to move ideas

and research across institutional boundaries.

- What role do the communications people have at [institute]? How important is their work to the value/success of projects at [institute]?
- How and when do you interact with the communications people in your work?
- Broadly, what does it take to be successful and heard in the policy world? *If necessary:* Sometimes good work gets lost in the noise, and sometimes bad work gets heard over good work. Other than "doing good work" itself, what strategies might you use to make sure your voice gets heard?
- What makes a policy expert an *effective* contributor to public debate or policy development? What might make a policy expert an *ineffective* contributor to public or policy debate?
- Can good researchers sometimes be "too academic," "too political," or "too journalistic?"
- How does your organization make sure that the contributions they get from academics are packaged the way they want them – for example, so that the writing is appropriate?
- *For communications specialists:*
- What is the [institute] "brand?"
- What are the most challenging parts of working with researchers on communications products? The easiest?

- What are some of the biggest challenges you face as communications director? What are you most common obstacles? Who do you deal most with in your work?
- Can you think of any mistakes that have been made? How have you learned from them? What would you do differently in the future?

B.0.4 Opportunities and Challenges

In this section, I will ask you about the opportunities and challenges of work in policy institutes. Broadly, I am interested in outcomes, how opportunities are identified and acted on, what unique advantages institutes might have, and what challenges and organizational difficulties they face.

- What are some of ideas and goals behind [institute]? How does your work contribute to them?
- *To the best of your knowledge,* how does [institute] identify opportunities for itself, whether in terms of resources, media opportunities, etc.
- How do you define, gauge, or otherwise know "success" in the context of the research you do at [institute]? How do know if a particular project was/is successful?
- Have you ever felt as if certain projects were not having the desired impact on policy makers? When this happens, what do you do?
- How is what [institute] offers different than what others offer? What makes your institute different from other institutes?
- Do you compete with other policy institutes? Are there ways in which you cooperate with other institutes?

- Do you ever feel the need to respond to claims made by other think tanks in the media or in the policy world? Can you describe an example to me?
- Why do you think policy makers, journalists, business people or academics might be interested in research by [institute]? What expectations do people have of your research?
- Have you ever felt pulled in multiple directions by your job? Do you deal with competing priorities and incentives?
- Where does your money come from? How important is it to have diversity of funders?

B.0.5 Conclusion

- To the best of your knowledge, has the way things are done at [institute] changed much over the years?
- What has changed most about your job since you started doing it?
- During your career, have your views on what it means to be an intellectual or an expert changed in any significant way?
- Finally, is there anything I have forgotten? Is there anything else you think I should know that we have not already talked about?

Appendix C

Think Tank Search Log for Newspaper Data

“friends of science” or “atlantic institute for market studies” or “caledon institute of social policy” or “cardus” or “conference board of canada” or “canadian centre for policy alternatives” or “canadian council on social development” or “howe institute” or “conference of defence associations institute” or “canadian council of chief executives” or “centre for international governance innovation” or “canadian institute of strategic studies” or “canadian policy research network” or “centre for the study of living standards” or “canadian tax foundation” or “canada west foundation” or “david suzuki foundation” or “fraser institute” or “frontier centre” or “institute of marriage and family canada” or “institute of marriage and family” or “institute on governance” or “institute for research on public policy” or “irpp” or “mackenzie institute” or “montreal economic institute” or “institut economique de montreal” or “macdonald laurier institute” or “north-south institute” or “north south institute” or “pembina institute” or “public policy forum” or “social research and demonstration corporation“” of “”institute for work and health” or “mowat centre” or “parkland institute” or “centre for health economics” or “martin prosperity” or “pearson shoyama” or “broadbent institute” or “asia pacific foundation” or “canadian energy research” or “canadian international council” or “john deutsch”