EXPANDING THE AGENDA-SETTING AGENDA:

Issue Dynamics in Canada, 1985-1995

by

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Abstract

Agenda-setting hypotheses inform political communications studies of media influence (*public agenda-setting*), as well as examinations of the policymaking process (*policy agenda-setting*). In both cases, studies concentrate on the salience of *issues* on actors' *agendas*, and the dynamic process through which these agendas change and effect each other. The results, narrowly conceived, offer a means of observing media effects or the policy process. Broadly conceived, agenda-setting analyses speak to the nature of relationships between major actors in a political system.

This study differs from most past agenda-setting research in several ways. First, this project draws together public and policy agenda-setting work to build a more comprehensive model of the *expanded* agenda-setting process. Secondly, the modeling makes no assumptions about the directions of causal influence – econometric methods are used to establish causality, allowing for a more nuanced and accurate model of issue dynamics.

Quantitative evidence is derived from a longitudinal dataset (1985-1995) including the following: a content analysis of Canadian newspapers (media agenda), 'most important problem' results from all available commercial polls (public agenda), and measures of attention to issues in Question Period, committees, Throne Speeches, government spending, and legislative initiatives (policy agenda). Data is collected for eight issues: AIDS, crime, debt/deficit, environment, inflation, national unity, taxation, and unemployment. The present study, then, is well situated to add unique information to several ongoing debates in agenda-setting studies, and provide a bird's eye view of the media-public-policy dynamics in Canadian politics.

Many hypotheses are introduced and tested. Major findings include: (1) there is a Canadian national media agenda; (2) the salience of issues tends to rise and fall simultaneously across Canada, although regional variation exists based on audience attributes and issue obtrusiveness; (3) there is no adequate single measure of the policy agenda – government attention to issues must be measured at several points, and these tend to be only loosely related; (4) the agenda-setting dynamics of individual issues are directly and systematically related to attributes such as prominence and duration; (5) Canadian media and public agendas can be affected by the US media agenda.

Table of Contents

<i>Abstract</i>	ii
<i>List of Tables</i>	vi
<i>List of Figures</i>	viii
<i>Acknowledgements</i>	ix

Chapter 1 Introduction	1
A Definition & History of Agenda-Setting Research	4
New Levels of Agenda-Setting Analysis	11
Directions of Causality – Toward an Expanded Model of Agenda-Setting	14
Research Strategy	20
Synopsis & Prognosis	27
Chapter 2 Issues and Issue Types	30
Past Work on Issue Attributes	32
Towards a New Typology	36
The Issue Themselves	41
Summary	57

AGENDAS

Chapter 3 The Media Agenda	60
Which Media Should Be Used?	61
Is there a Canadian Newspaper Agenda?	65
Exploring Inter-Newspaper Relationships	67
Prominence Measures and the Media Agenda	77
Temporal Trends – Issue Salience & Inter-Newspaper Consistency	80
Summary and Conclusions	82

Chapter 4	The Public Agenda.....	84
	Measuring the Public Agenda.....	85
	'Canadian' Public Opinion & Agendas.....	88
	Inter-Provincial Consistency: Exploring Longitudinal Variation.....	89
	Inter-Provincial Differences – Exploring Cross-sectional Variation.....	91
	Summary & Conclusions.....	97
Chapter 5	The Policy Agenda.....	100
	Government Spending.....	102
	Committees.....	106
	Press Releases, Statements, & Speeches.....	111
	Legislation & Legislative Initiatives.....	116
	Parliamentary Debate.....	118
	Conceptual Considerations.....	123
	Summary & Conclusions.....	125

CAUSAL LINKS

Chapter 6	Time Series Methods & Agenda-Setting.....	128
	CCFs, & the Difficulties With Time Series Data.....	130
	The Functions of ARIMA Modeling.....	131
	Why, When & How to Avoid Pre-Whitening.....	134
	ADL Models.....	135
	The Direct Granger Method.....	138
	Estimating Systems of Equations.....	141
	Presenting VAR/SUR Results.....	143
	A Note on Stationarity in Time Series Econometrics.....	148
	A Note on Causality in Time Series Econometrics.....	150
	Summary.....	152

Chapter 7	Modeling Agenda-Setting	154
	The Model	155
	Results	161
	Summary & Conclusions.....	189
Chapter 8	Expanding the Models.....	191
	Temporal Changes in Issue Prominence: Inflation & Unemployment.....	192
	The Duration of Issues: National Unity.....	196
	A Leading Newspaper?	199
	Summary & Conclusions.....	211
Chapter 9	Final Conclusions.....	213
	Summary of Findings	213
	In Closing... ..	218
	<i>Notes</i>	220
	<i>Bibliography</i>	229
Appendix A:	The Media Agenda: Title Search Keywords.....	248
Appendix B:	The Public Agenda: Sources & Comparison of Survey Results	250
Appendix C:	The Policy Agenda: Sources	258
Appendix D:	Real-World Indicators & Sources.....	260
Appendix E:	SUR Estimations	263

List of Tables

Table 3.1	Cronbach's Alpha – Canadian and US Media Series	71
Table 3.2	Factor Analysis – Canadian Newspapers, Unrotated, by Issue	73
Table 3.3	Cronbach's Alpha and Means – Canadian Newspapers, In Three Intervals... 81	
Table 4.1	Provincial Issue Saliency – Cronbach's Alpha	90
Table 4.2	Provincial Issue Saliency – Debt and Deficit.....	92
Table 4.3	Provincial Issue Saliency – National Unity.....	93
Table 4.4	Provincial Issue Saliency – Environment	94
Table 4.5	Provincial Issue Saliency – Inflation	96
Table 4.6	Provincial Issue Saliency – Unemployment	96
Table 5.1	Committee Meetings, by Fiscal Year.....	109
Table 5.2	Committee Reports, by Fiscal Year.....	110
Table 5.3	Issue Emphasis in Throne Speeches	114
Table 5.4	Bills, by Fiscal Year.....	118
Table 5.5	Modeling Question Period	122
Table 7.1	Granger Exogeneity Tests – Inflation.....	163
Table 7.2	Granger Exogeneity Tests – Unemployment.....	166
Table 7.3	Granger Exogeneity Tests – Environment.....	169
Table 7.4	Granger Exogeneity Tests – Debt and Deficit.....	173
Table 7.5	Granger Exogeneity Tests – Taxes	176
Table 7.6	Granger Exogeneity Tests – National Unity.....	179
Table 7.7	Granger Exogeneity Tests – AIDS.....	183
Table 7.8	Granger Exogeneity Tests – Crime.....	185
Table 8.1	Granger Exogeneity Tests – Inflation, 91:10 to 95:12.....	194
Table 8.2	Granger Exogeneity Tests – Unemployment, 86:8 to 89:12.....	194
Table 8.3	Granger Exogeneity Tests – National Unity, 85:6 to 92:3.....	198
Table 8.4	ADL Models – The Globe and Mail as a Leading Newspaper.....	202
Table 8.5	ADL Models – The New York Times as a Leading Newspaper	207
Table 8.6	Granger Exogeneity Tests – US Media Influence	208
Table B.1	Comparing Pollsters' Results – All Issues.....	256
Table E.1	SUR Estimation Results – AIDS	263
Table E.2	SUR Estimation Results – Crime.....	264

Table E.3	SUR Estimation Results – Debt and Deficit.....	266
Table E.4	SUR Estimation Results – Environment.....	267
Table E.5	SUR Estimation Results – Inflation.....	268
Table E.6	SUR Estimation Results – National Unity.....	269
Table E.7	SUR Estimation Results – Taxes.....	270
Table E.8	SUR Estimation Results – Unemployment.....	272
Table E.9	SUR Estimation Results – Inflation, 91:10 to 95:12.....	273
Table E.10	SUR Estimation Results – Unemployment, 86:8 to 89:12	274
Table E.11	SUR Estimation Results – National Unity, 85:6 to 92:3	275
Table E.12	SUR Estimation Results – AIDS, with New York Times	276
Table E.13	SUR Estimation Results – Environment, with New York Times.....	277
Table E.14	SUR Estimation Results – Inflation, with New York Times.....	278
Table E.15	SUR Estimation Results – Unemployment, with New York Times.....	280

List of Figures

Figure 1.A	An Expanded Model of the Agenda-Setting Process.....	18
Figure 1.B	A Methodological Typology of Agenda-Setting	21
Figure 2.A	Issue Types.....	39
Figure 4A	Provincial Issue Salience – Unemployment	98
Figure 5.A	Federal Government Issue Spending	104
Figure 7.A	Time Series – Inflation	162
Figure 7.B	Impulse Response Functions – Inflation.....	164
Figure 7.C	Time Series – Unemployment	166
Figure 7.D	Impulse Response Functions – Unemployment.....	167
Figure 7.E	Time Series – Environment	169
Figure 7.F	Impulse Response Analysis – Environment	170
Figure 7.G	Time Series – Debt and Deficit.....	172
Figure 7.H	Impulse Response Analysis – Debt and Deficit.....	173
Figure 7.I	Time Series – Taxes.....	175
Figure 7.J	Impulse Response Analysis – Taxes.....	177
Figure 7.K	Time Series – National Unity	178
Figure 7.L	Impulse Response Functions – National Unity.....	180
Figure 7.M	Time Series – AIDS	182
Figure 7.N	Impulse Response Functions – AIDS	183
Figure 7.O	Time Series – Crime	185
Figure 7.P	Impulse Response Functions – Crime	187
Figure 8.A	US and Canadian Media Time Series	206
Figure B.A	Comparing Pollsters’ Results – Debt/Deficit.....	255

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Chapter 1

Introduction

This work is first and foremost a study into the value of an *agenda-setting* framework in investigating media-public-policy relationships. Using *issues* as the unit of analysis, this work argues, allows us to both merge disparate fields of political science, and empirically map the structure of politics in Canada. The bulk of the following pages are spent demonstrating that this is true, and the exposition involves a considerable amount of data gathering, model building, and empirical analysis along the way. Canadian media, public, and policy agendas are analyzed, as are the relationships between them. As a result, this work offers both a theoretical discussion of the agenda-setting framework, and a demonstration of its use in modeling Canadian political communications:

Results in forthcoming chapters, however, are intended to address more than simply the agenda-setting literature. For example, in its examination of the link between public opinion and public policy, this work makes empirical observations about the nature of democracy in Canada. Discovering when the public-policy link exists, and testing its strength, is significant not only to those interested in political communications but also to those more precisely interested in the degree to which the Canadian government responds to public concerns.

Furthermore, this work makes an explicit effort to address both political science and everyday politics. This is perhaps the greatest advantage to examining *issues* – not only does

this emphasis allow us to bring together political communications and public policy analysis, it highlights the link between academe and the real world. Certainly, the academic world and the real world are not always so closely related, but a concentration on issues and interactions between real world actors makes this research particularly valuable in pointing to the links between the two. In short, the academic hypotheses and conclusions investigated below have readily observable real-world consequences.

These are the grander objectives of the current work, of course. Practically speaking, this investigation has two primary goals. The first is to empirically map relationships between the media, the public, and policy institutions in Canada using the *agenda-setting* framework – an issue-centered scheme that has informed well over 200 inquiries into interactions among the media, public or policymakers.¹ In spite of the considerable volume of agenda-setting research, however, this project still covers uncharted territory. Only a select few agenda-setting studies have allowed for multi-directional links between multiple agendas, for example, few have done so with more than one issue, and few have dealt with Canada. Accordingly, the present study is uniquely situated to observe inter-relationships between the three major agendas in Canada, and adds new information to several ongoing debates in agenda-setting research.

This project's second goal is in large part a product of the first. Considering its use of an agenda-setting framework, this study has a vested interest in confirming agenda-setting's role as a coherent and useful model of communications. That agenda-setting is either coherent or useful, however, is still under debate. Although Rogers et al. (1997) imply that the agenda-setting 'paradigm' was established with the first empirical study in 1972, a number of

researchers have since questioned the clarity of agenda-setting in general, and the usefulness of 'agendas' in particular (e.g., Swanson 1988). It is certainly true that agenda-setting literature reflects an unfortunate combination of diversity and division. The flexibility of the agenda-setting framework is likely an indication of its potential, but reviews have seldom made coherent the varied agenda-setting literatures and hypotheses. The second goal of the present work, then, is to describe agenda-setting in a way that both accommodates the vast agenda-setting literature, and indicates the potential for this line of analysis in political science and political communications.

The present chapter tries to fulfil this second goal by reviewing and synthesizing agenda-setting literatures. There have been a number of recent attempts to describe the ever-expanding bodies of agenda-setting research (i.e., Dearing and Rogers 1996; McCombs and Shaw 1993; McCombs et al. 1995; Rogers and Dearing 1988; Rogers et al. 1993; Rogers et al. 1997). The following history of agenda-setting literature draws in large part on these reviews, but makes an effort both to clarify important definitions and to develop an 'expanded' model of the agenda-setting process. This expanded model serves as a guide for later empirical analysis, but currently provides an integrative framework within which the different bodies of agenda-setting literature are combined and contrasted. Several authors remark on the divide that exists between media, public, and policy agenda-setting theory and research – this review, along with the empirical work that follows, is one effort at bridging this gap.

A Definition & History of Agenda-Setting Research

Agenda-setting is the study of issue salience – the relative importance of an issue on an actor's agenda. Moreover, it is the study of the rise and fall of issue salience over time, and of the relationships between actors' agendas. At a basic level, agenda-setting analysis simply seeks to draw empirical links between two actors' agendas. As a literature, its more ambitious purpose is to track public issues and trace processes of political communication. Dearing and Rogers (1996) write that,

Agenda-setting offers an explanation of why information about certain issues, and not other issues, is available to the public in a democracy; how public opinion is shaped; and why certain issues are addressed through policy actions and why other issues are not. The study of agenda-setting is the study of social change and stability. (2)

Agenda-setting is broadly defined, but deliberately so, since it can be applied to a wide spectrum of processes, topics, and themes. Unfortunately, the literature is so diverse that it has been difficult for readers to assimilate even a small portion of what exists in the various types of agenda-setting research. Even simple categories have been difficult for the reader to recognize – one author's 'media agenda-setting' has been another's 'public agenda-setting', and so on. To a certain extent, the diversity in agenda-setting work is testament to its value as a framework. It is certainly the only exploratory structure incorporating mass media studies, public opinion research, and public policy analysis into a single framework. Swanson's criticism that agenda-setting has suffered from "inconsistency of conceptualization, method, and result" (1988: 604), however, points to the difficulties of such

a integrative framework. The agenda-setting literatures and their basic components continue to require definition and clarification.

Agenda-setting research is based on two key terms: issues, and agendas. *Issues* should not be confused with events – Shaw (1977) notes the difference, suggesting that an event, “is defined as discrete happenings that are limited by space and time, and an issue is defined as involving cumulative news coverage of a series of related events that fit together in a broad category.” (7). Events, then, are components of issues. A single robbery is part of the longer-term crime issue, or a particular policy debate on gun licensing is part of the larger gun control issue. An issue often comprises a large number of events; it might also exist over time almost regardless of the number of recent and relevant events.

Issues have been variously defined, as a “a conflict between two or more identifiable groups over procedural or substantive matters relating to the distribution of positions or resources,” (Cobb and Elder 1972:82) for instance, or as “a social problem, often conflictual, that has received mass media coverage” (Dearing and Rogers 1996:4). Issues need not be conflictual, however – there is no opposing side for issues such as child abuse, but child abuse is certainly an issue. Nor should issues be defined by the existence of media coverage. A media-based definition is only logical if one assumes the mass media are always the first link in the agenda-setting process. When one does not want to make assumptions about the causal ordering of agendas, however, this becomes problematic. If a contentious subject exists on the public or policy agenda without appearing on the media agenda, for instance, is it an issue?

The answer is probably yes. Perhaps the best definition of an issue thus far, then, is one of the simplest: “whatever is in contention among a relevant public” (Lang and Lang, 1981, 451). ‘Contention’ should be taken to mean that conflict may, but need not, exist. Rather, all that is required is an observable degree of discussion or concern. ‘A relevant public’ is taken to mean not the ‘public’, *per se*, but rather a defined group relevant to the agenda-setting process. The relevant public, then, might be the public at large, as measured through opinion polls, but it might also be journalists as indicated by measurements of the media agenda, or politicians and bureaucrats as indicated by measurements of the policy agenda. Additionally, the ‘relevant public’ is not restricted to the ‘big three’ agendas – in Dearing’s (1989) description of the polling agenda, for instance, the ‘relevant public’ is pollsters. Thus, an issue – *valence* or two-sided – can exist or originate from any actor in the agenda-setting process.

Agendas, on the other hand, are “a ranking of the relative importance of various public issues” (Dearing 1989: 310). Issues vary in importance or salience relative to other issues – the order of issues, based on salience, is an agenda. An agenda, therefore, can be measured by making a list of issues in order of salience. Because issues vary in salience *relative to each other*, however, an agenda can also be measured by looking at the relative importance of a single issue. A measure of the public agenda – usually based on responses to the ‘Most Important Problem’ question – could include a list of issues in order of importance (i.e., McCombs and Shaw 1972), or simply the percentage of respondents citing a single issue (i.e., Iyengar and Kinder 1987; Winter et al. 1982).

In terms of agenda-setting analysis in general, Rogers and Dearing (1988) provide the most clearly annunciated typology of agenda-setting research. The authors first note the three agendas that have been most common to agenda-setting analyses – the media, public, and policy agendas. Agenda-setting research is categorized based on which of these three primary agendas is the dependent variable. Accordingly, the three bodies of literature are labeled (1) media agenda-setting, (2) public agenda-setting, and (3) policy agenda-setting.

While the three bodies of literature are both methodologically and theoretically related, they have developed largely separately from each other. *Public agenda-setting* has been developed for the most part by political communications researchers. Two sources are widely regarded as the theoretical roots of public agenda-setting analysis. The first is Lippmann's (1922) *Public Opinion*, in which the author describes mass media's role in the relationship between "the world outside and the pictures in our heads"(3). The second is Cohen's (1963) *The Press and Foreign Policy*. Cohen was the first to state what became the central public agenda-setting hypothesis: the press "may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about" (13).

Following directly from Cohen's hypothesis, public agenda-setting research has sought to establish links between the relative salience of issues on the media agenda and the relative salience of those issues on the public agenda. The concentration on issue *salience*, rather than issue *opinions*, both distinguished public agenda-setting research from the work that preceded it, and led to much more successful results. Previous tests of media influence, most thoroughly described in Klapper's (1960) *Effects of Mass Communication*, found little

evidence of media influence on public opinion.² Changes in issue salience, on the other hand, were more easily detected.

McCombs and Shaw's (1972) study in Chapel Hill, North Carolina is widely regarded as the first empirical public agenda-setting analysis. These authors sought to demonstrate a relationship between what survey respondents felt were the most important issues, and the coverage these issues were given in primary news sources (print, radio, and television). The proposed relationship was found, although the authors remained cautious in their conclusions:

The existence of an agenda-setting function of the mass media is not *proved* by the correlations reported here, of course, but the evidence is in line with the conditions that must exist if agenda-setting by the mass media does occur. (184)

McCombs and Shaw were appropriately conservative in interpreting their results. Nevertheless, their evidence was convincing enough to generate decades of public agenda-setting analyses, the cumulative product of which provides strong evidence of the original Chapel Hill hypothesis. The link between the mass media and public agendas has been shown to exist in studies that have been diverse both in their empirical methods – experimental and non-experimental, cross-sectional and longitudinal – and in the subjects they address. Issues addressed include, for instance, the environment (Parlour and Schatzow 1978), pollution, inflation, and defense (Iyengar, Peters, and Kinder 1983), home health care programs (Cook et al. 1983), energy and inflation (Behr and Iyengar 1985), civil rights (Winter and Eyal 1981), and the Gulf War (Iyengar and Simon 1993).

While McCombs and Shaw's work led to an agenda-setting tradition based around a media-public link, Cobb and Elder used a similar agenda-setting framework to look at public policy formation. In their initial *policy agenda-setting* article (1971), these authors describe the potential for this type of analysis to describe the means by which "an issue or a demand becomes or fails to become the focus of concern and interest within a polity" (903-904). Cobb and Elder subsequently use a number of policy changes to highlight the process of "agenda-building". Their (1972) description of the California grape growers' strike in the late 1960s, for instance, highlights the impact of the media and public opinion on the state and national policy agendas.

Cobb and Elder's work played an important role in establishing agenda-setting as a means of analyzing policy processes. Subsequent research has used the agenda-setting framework to look at the relationship between both the mass media and policy agendas (i.e., Gilberg et al. 1980; Pritchard 1986, 1992; Wanta et al. 1989) as well as the public and policy agendas (i.e., Flickinger 1983; Mayer 1991; Page and Shapiro 1983). A further variant of policy agenda-setting research looks at issue dynamics *within* the policy agenda. This work – perhaps better termed *inter-policy agenda-setting* – has examined relationships between, for instance, the US presidential and congressional agendas (Andrade and Young 1996), or British political parties and policy-makers (Kaye 1994). Recent studies by Kingdon (1984) and Baumgartner and Jones (1993) represent the current state of this line of research, combining policy and inter-policy agenda-setting hypotheses in their descriptions of the US policy process. Kingdon's discussion of matching problems and solutions and Baumgartner and Jones' punctuated equilibrium model both deal with interactions between bureaucracies, officials, committees, and – to a lesser extent – the public and media agendas.

Public and policy agenda-setting are the most popular lines of agenda-setting research. There exist, however, a small number of *media agenda-setting* or *inter-media agenda-setting* analyses. In truth, most media agenda-setting observations have taken place as byproducts of public- or policy-oriented agenda-setting studies. Gonzenbach's (1996) suggestion that the presidential agenda has a significant impact on the media agenda, for instance, takes place as part of a larger, public agenda-setting analysis of the drug issue.³

Research by Reese and Danielian (1989) and Danielian and Reese (1989), on the other hand, stands as an explicit example of inter-media agenda-setting analysis. The authors' research explores the relationship between the press and television, finding that television takes its cues on the salience of the drug issue from the press, and that the various media tend to converge over time regarding their relative coverage of that issue. Protesse et al. (1985) note a similar inter-media agenda-setting phenomenon – the strongest agenda-setting effects of a newspaper's investigative series on rape, they find, are on the newspaper itself. Soroka (2000) also examines inter-media agenda-setting, suggesting a link between entertainment and news media agendas.

In spite of Carragee et al.'s assertion over a decade ago that, "A significant shortcoming of agenda-setting research has been its failure to examine the institutional framework within which the media form their agenda" (43), the use of the media as a dependent variable in agenda-setting studies remains relatively infrequent. Those few studies that do exist, however, demonstrate the potential for and importance of media or inter-media agenda-setting analysis. These studies are the final link in the agenda-setting chain, connecting media, public, and policy agendas.

New Levels of Agenda-Setting Analysis

Recent research has sought to push agenda-setting in new directions. By and large, these new efforts can be divided in two. The first has tried to push public agenda-setting beyond its original, relatively narrow parameters, moving from a concentration on simple issue salience to analyses of issue opinions and political behavior. The second has remained focused on the idea of issue salience, but sought to link the previously separate public and policy agenda-setting literatures.

New efforts to expand the agenda-setting hypothesis are best exemplified by recent comments by McCombs and Shaw themselves: "Agenda setting is considerably more than the classical assertion that the news tells us *what to think about*. The news also tells us *how to think about it*" (1993: 62). This is clearly a movement away from these authors' original public agenda-setting hypothesis, and signals a fundamental change in public agenda-setting's theoretical foundation. This recent amendment can be seen in part as a reaction to criticisms of public agenda-setting, lodged by those who believe that – while it may be more difficult to prove – the impact of the media is much greater than simple agenda-setting hypotheses suggest. According to Carragee et al. (1987), for instance, the Chapel Hill hypothesis takes too narrow a view of media effects. The media do more than simply set the public agenda, these authors suggest: "The news media not only transmit certain norms, values, and beliefs, but additionally define and amplify legitimate alternatives" (47).

A number of authors agree with this hypothesis, and seek evidence of more extensive media effects without abandoning the agenda-setting framework. Several authors, for instance, identify connections between salience-based agenda-setting effects and political behavior.

Weaver's (1991) analysis of the deficit issue demonstrates that agenda-setting can be connected with political activism – his cross-sectional research design reveals a “significant positive correlation between salience of the deficit issue and political behavior related to it” (61). Similarly, Brosius and Kepplinger (1992) offer evidence that German party preference can be affected by agenda-setting. Their regressions show that support for political parties is affected differently by opinions on certain issues – different issues are important for different parties' support. A change in the salience of issues on television newscasts, therefore, can be connected with a change in voting behavior.

Brosius and Kepplinger's findings are in line with other investigations linking agenda-setting with priming and framing. While Iyengar was instrumental in proving the initial relationship between the media and public agendas, for instance, Iyengar and Simon's (1993) analysis of Gulf War coverage combines the traditional agenda-setting hypothesis with discussions of priming and framing. And while Iyengar and Simon choose to maintain a conceptual difference between the three effects, other authors suggest that the different theories can be combined. In a recent research volume (McCombs et al. 1997), authors examine the “second level of agenda-setting” (McCombs and Evatt 1995). This second level of analysis recognizes that issues have certain attributes, and that the salience of these attributes is also subject to agenda-setting dynamics and effects (Ghanem 1997). Changes in the salience of attributes is tantamount to the kind of framing effects that Iyengar and Simon describe – the way in which an issue is portrayed in the media, for instance, affects not only that issue's salience for the public, but also the way in which the public thinks about that issue.

This recent expansion in public agenda-setting hypotheses has been paralleled by developments in policy and inter-policy agenda-setting. Kaye's (1994) discussion of British 'political parties' effects on the policy agenda, for instance, is based on the notion that, "The distinct importance of parties is... in relation to the articulation and definition of issues" (145). Volumes edited by Rochfort and Cobb (1994) and Cobb and Ross (1997) also describe the significance of 'problem definition' to policy-making. According to these authors, changes in issue attributes such as causality, severity, proximity, or interconnections with other issues can have a significant effect on the policy-making process. Similarly, Baumgartner and Jones' (1993) discussion of policy images is tantamount to what public agenda-setting theorists call framing – a term used by Jones (1994) in his subsequent analysis of policy decision-making.

The idea that agenda-setting can be linked to studies of both more direct and context-sensitive media impact and policy development may again be a sign of its value as an empirical framework. For the purposes of the present study, however, agenda-setting will be used in its more traditional sense – it is about issue salience. Certainly agenda-setting is linked with priming, framing, and issue definition. Indeed, evidence of these effects lends support to the idea that salience-related changes are significant. These are allied, but notionally separate effects, however, and the current work concentrates on changes in salience.

The advance sought by the present work, rather, is to integrate the various strands of agenda-setting research. This new direction in agenda-setting studies is not exclusive to the present study – several authors have recently aimed towards building a more complete model of

political communications by drawing together the policy, public, and media agenda-setting fields. Rogers et al.'s (1997) most recent study of the AIDS issue, for example, explores agenda dynamics across a number of agendas. These authors track the AIDS issue between the media and public agendas, but also to and from the policy, polling, and science agendas. Similarly, Gonzenbach's (1996) analysis of the drug issue examines a number of relationships between the presidential, media, and public agendas. This broadened agenda-setting perspective demonstrates the primary advantage of the agenda-setting framework – its potential in linking media research and public policy analysis through a common vernacular and empirically comparable measures. The current study aims to contribute along these lines.

Directions of Causality – Toward an Expanded Model of Agenda-Setting

Like recent analyses by Gonzenbach (1996) and Rogers et al. (1997), the present research takes an expanded view of the agenda-setting process. This investigation draws impartially from media, public, and policy agenda-setting sources – it is suggested here that a combination of the different schools of agenda-setting research is both desirable and necessary. In order to both accommodate and take advantage of information in each body of agenda-setting research, however, the model of the agenda-setting process as it is presently understood must be updated and enlarged.

Models of the agenda-setting process have been explicitly described only intermittently. In most cases, authors imply relatively simple models – the media affect the public, the media affect policymakers, the public affect policymakers, and so on. In some cases, larger models

have been described. Rogers and Dearing (1988), for instance, illustrate and explain a model of the agenda-setting process based on past work in the public and policy agenda-setting literatures. In all these cases, however, models – illustrated or implied – tend not to adequately accommodate the vast agenda-setting literature. And perhaps more importantly, most models are based on a view of causal links between the various agendas that is too restrictive.

A short review of causality in agenda-setting analysis illustrates the difficulty with restrictive views of causal relations. To begin, there exist six possible directions of causality between the three major agendas. These directions vary both in their power and plausibility, of course, so analysts have tended to concentrate on certain links and ignore others. Nevertheless, all of these links have been examined in one study or another, and the cumulative results point to the importance of taking each into account in models of the agenda-setting process.

The multi-directionality of the media-policy link has been well documented. While Mayer's (1991) analysis of consumer issues reveals a rise in salience on the policy agenda preceding the rise in salience for the media, for example, both Cook et al. (1983) and Protess et al. (1987) find that media reports – on home health care fraud and toxic waste, respectively – affected those issues' salience for policymakers. Wanta et al. (1989) find similar examples of causal relationships running in both directions between the State of the Union Address and the media agenda. Agenda-setting findings such as these are in line with studies of both the policy and news-gathering processes. The latter studies indicate the significant role policymakers play as media sources. This is alluded to in Taras' (1990) discussion of the

relationship between Canadian prime ministers and the media, and is examined more directly in Ericson et al.'s (1987, 1989) studies of media sources in Canada. These authors suggest that,

...although there is an enormous array of knowledge sources potentially available – official documents, academic texts, survey and trend statistics, and direct observation – journalists tend to limit themselves to the ‘performatives’ of news releases and interview quotations from sources. Moreover, the reliance on selected people as knowledge resources is itself limited mainly to key spokespersons for particular bureaucratic organizations. (1989:1)

Ericson et al.'s judgements point to the potential for policymakers to directly affect media content. Taras' (1990:88) discussion of the *Globe and Mail's* role in selecting the issues for the next day's Question Period in the House, on the other hand, reflects the opposite dynamic. Policy process analyses also suggest this causal relationship. Kingdon's interviews with US policymakers suggest that the media play a role in setting policy agendas, albeit a minor one (1995:57-60). Other studies reveal stronger effects, however. Sullivan et al. (1993) emphasize that the sources of cue-taking by members of the US House of Representatives vary across issues, and results of their survey indicate a significant role for the media in a variety of policy areas. In a similar vein, Miller (1978) presents a case study in which a Congressman seeks the interest of an investigative reporter as a means of attracting congressional attention to a problem, and Cook (1988) presents more recent evidence of the same phenomenon.⁴ Accumulated evidence, then, suggests that there is no single direction of influence between the media and policy agendas.

Evidence of multi-directional influence in the media-public link has been less clear. Certainly, the possibility of media influence on the public received considerable attention before the opposite relationship was hypothesized and examined. Nevertheless, the possibility of public influence on the media was first investigated in 1985 by two sets of authors. Behr and Iyengar (1985) note the possibility of a 'feedback effect' – the potential "that public concern itself spawns news coverage" (40). The authors' data for inflation demonstrates a very slight feedback effect; their analyses of energy and unemployment, however, suggest no such dynamic. Accordingly, Behr and Iyengar conclude that news coverage is unaffected by public opinion. Writing in the same year, Neuman and Fryling (1985) suggest that there are four possible relationships between the media and public agendas – the media leads, the public leads, there is an interaction between the two, or there is no relationship at all. Contrary to Behr and Iyengar's findings, Neuman and Fryling's survey of ten issues "found evidence of every pattern except consistent media agenda-setting. By far," the authors state, "the most dominant pattern was Interactive Feedback." (231-2)

Other public agenda-setting research provides further evidence that media-public effects may be multi-directional. In their analysis of a variety of issues in Germany, for instance, Brosius and Kepplinger (1990) find that the direction of influence between the media and the public agendas varies depending on the issue. The authors suggest that the media tend to influence the public when television coverage is very intense; when there is a slow increase in issue salience, however, public opinion seems to precede issue salience for the media. In Gonzenbach's (1992) survey of the drug issue, the author also finds a single direction of causality difficult to decipher – he suggests that the media can lead or be lead at different times for the same issue. In sum, and contrary to Behr and Iyengar's (1985) findings, there is

considerable evidence that the direction of causality in the media-public relationship cannot be assumed.

Figure 1.A
An Expanded Model of the Agenda-Setting Process

These issues of causality are taken into account in the expanded model of agenda-setting process illustrated in Figure 1.A (above). The three primary agendas are illustrated, and causal arrows run in both directions between most of these agendas. There is no direct link from the policy to the public agenda, under the assumption that policymakers can affect the public through the media or real-world indicators, but not directly. Real-world factors are located at the center, affected by policymakers, and affecting each of the three agendas. The intra-/ inter-agenda distinction is relatively clear – a number of sub-agendas are illustrated within each of the primary agendas. In this way, the model accommodates analyses of how the *New York Times* might affect the media agenda (inter-media) in the same way in which it

accommodates analyses of effects of the Cabinet on the House agenda (inter-policy). Moreover, it clearly links both these types of analysis with the study of intra-agenda dynamics. The model, then, accomplishes two tasks: (1) it provides a framework with which to compare, contrast, and combine a wide variety of agenda-setting analyses, and (2) it makes few assumptions about directions of causality, emphasizing the possibility of multi-directional agenda-setting and suggesting a structure for empirical investigation.

Rogers et al. (1997) write that

Agenda-setting models of public issue development have typically only considered one or, at most, two, of the aforementioned agenda-setting relationships. More holistic conceptualizations of the entire agenda-setting process whereby a social problem may become a public issue and then evolve through the agenda process have not been proposed, nor investigated in empirical research. (7)

These authors' own study is one attempt to fill this gap; the present study is another.

Figure 1.A illustrates the agenda-setting model upon which the subsequent research is based. In the following work, assumptions are not made about the direction of causality; rather, statistical modeling is used to measure the significance of each of the causal links. All possible directions of causality are thereby measured and controlled for, with an aim at adding to current discussions surrounding agenda-setting causality and the wider agenda-setting process. In this way, the present study seeks to demonstrate the potential of the 'expanded' model, using it not only as a means of reviewing of past work, but also as a working guide for empirical analysis.

Research Strategy

Selecting an Agenda-Setting Research Strategy

McCombs et al. (1995) suggest a typology of agenda-setting research, classifying studies based on the number of issues analyzed and the kind of data used.⁵ The resulting four-fold division of public agenda-setting research is depicted in Figure 1.B (below). *Mass persuasion* studies, according to this typology, use aggregate data to explore media influence on the salience of a set of issues. The original McCombs and Shaw (1972) analysis falls into this category, as does Funkhouser's (1973) over-time examination of changes in issue ranking. *Automation* studies, on the other hand, look at the relative salience of a number of issues using individual data. There are very few examples of these studies – the expectation that an individual should mirror the media's entire agenda is likely too stringent a measure of agenda-setting. *Cognitive portrait* studies also use individual data, but concentrate on the relative salience of one issue. Iyengar and Kinder's (1987) experimental design, in which the authors look at the impact of the media on the salience of individual issues such as energy and defense, falls into this category. Finally, *natural history* studies survey the salience of one issue using aggregate data. MacKuen and Coombs' (1981) survey of a number of individual issues and Winter and Eyal's (1981) time series analysis of the civil rights issue stand out as two of the earlier natural history analyses. More recent examples of natural history studies are numerous – Page and Shapiro's (1983) long-term policy agenda-setting study and Gonzenbach's (1996) survey of the drug issue stand as two examples.

Figure 1.B
A Methodological Typology of Agenda-Setting

		<i>Measurement of the Agenda</i>	
		<i>Aggregate Data</i>	<i>Individual Data</i>
<i>Focus of Attention</i>	<i>Set of Issues</i>	Mass Persuasion <i>McCombs and Shaw, 1972; Funkhouser, 1973</i>	Automaton <i>McLeod et al., 1974</i>
	<i>Single Issue</i>	Natural History <i>MacKuen and Coombs, 1981; Gonzenbach, 1992, 1996</i>	Cognitive Portrait <i>Iyengar and Kinder, 1987; Weaver, 1991; Wanta and Hu, 1994; Wanta, 1997</i>

(Adapted from McCombs et al., 1995)

Natural history studies have tended to be the most successful at demonstrating agenda-setting effects, and this success is largely a function of two qualities. First, studies analyzing individual issues are more likely to pick up agenda-setting effects than are studies looking at sets of issues. Erbring et al. (1980) suggest that a wide variety of intervening variables in the agenda-setting process – including real-world indicators and personal experiences – make a comparison of the distribution of salience across a set of issues problematic. Winter et al. (1982) also note the difficulties with looking at issues in the aggregate, based on a belief that the varying nature of issues can lead to vastly different agenda-setting effects and dynamics. Not only can the identification of agenda-setting effects be lessened through aggregate issue measures, these authors suggest, but the effects can be masked entirely if various issues have opposing dynamics.

The other advantage to a natural history design is that using aggregate- rather than individual-level data facilitates a longitudinal analysis. The first empirical agenda-setting study was cross-sectional – a one-time analysis aimed at matching an audience agenda with a press agenda (McCombs and Shaw 1972). While this study is successful to a certain degree, it is widely recognized that the authors assume a direction of causality that they cannot prove – since both agendas are measured simultaneously, there can be no discussion of what comes first and what follows. Kosicki (1993) describes analyses such as this as exercises in ‘agenda-matching’, rather than agenda-setting, and it is for this reason that the present study uses a longitudinal rather than a cross-sectional design.

The fundamental problem with the cross-sectional design is that it is, by definition, static, while the agenda-setting *process* is, by definition, dynamic. Behr and Iyengar (1985) note that, “The cross-sectional sample survey favored by most researchers is hardly a powerful means of testing a dynamic process such as agenda-setting” (39). This lack of congruence between the dynamic agenda-setting process and cross-sectional designs is also noted by a number of other authors (i.e., Brosius and Kepplinger 1990; Cook et al. 1983; Hill 1985; Iyengar and Simon 1993; MacKuen and Coombs 1981; Watt and van den Berg 1981), aware of the possibility that cross-sectional methods may fail to identify the significance of an over-time relationship between two agendas. Several authors, for instance, suggest that cross-sectional research designs have hampered their analyses. In his study of viewer characteristics that might enhance the agenda-setting process, Hill (1985) notes that mediocre statistical results might be partly due to his cross-sectional design. Similar research by Weaver (1991) leads to the same conclusions: “Not only are the relationships weak in absolute terms, although statistically significant, but the one-time survey is not a strong

design for testing effects” (66). Perhaps most telling is Brosius and Kepplinger’s (1990) comparison of dynamic and static analyses of the same data. These authors find a significant relationship using dynamic analysis where none was found in their static analysis, lending proof to Zucker’s suggestion that,

The best way to make claims about the media and public opinion is to look at changes in both over time, and to use small enough intervals so that it is possible to determine if changes in one preceded changes in the other. (1978:226-7)

A longitudinal agenda-setting design was first used by Funkhouser (1973) in his survey of issue dynamics in the 1960s. With an eye on public agenda-setting by the media, Funkhouser compares a media content analysis with answers to Gallup’s ‘most important problem’ question on a yearly basis from 1964 to 1970. While Funkhouser’s conclusions (finding evidence of public agenda-setting) are drawn based on simply ‘eyeballing’ the data, longitudinal analysis has since become much more refined. Recent studies use statistical procedures such as ARIMA time series modeling (i.e., Gonzenbach 1992, 1996; Zhu et al. 1993) and Granger causality (i.e., Brosius and Kepplinger 1990, 1992) to quantify movements and trends in the data. The development of advanced time series procedures in political science makes a longitudinal analysis of agenda-setting dynamics especially attractive.

The use of individual-level data does not preclude the possibility of a longitudinal analysis, of course, but it does make it considerably more difficult, since individual-level variables are rarely available over an extended period. Winter’s (1981) distinction between two types of contingent conditions – (1) stimulus attributes and (2) audience attributes – is useful in

describing this situation. Stimulus attributes, Winter suggests, are those pertaining to the agenda-setter, such as variations in the nature of different issues. Longitudinal analysis is well equipped to study this kind of attribute. Audience attributes, however, such as individuals' exposure to the media, are much more difficult to deal with longitudinally. Panel studies have attempted to overcome the difficulty of tracing audience attributes over time (i.e., Roberts 1992), but the amount of time and number of observations necessary for a thorough analysis of stimulus attributes makes the study of both sets of attributes very difficult to combine. Zhu and Boronson (1997) recently try to combine some basic cross-sectional data with a longitudinal analysis, although their results do not show any significant individual differences. Typically, then, productive discussions of audience attributes are restricted to cross-sectional analyses.

These cross-sectional studies have made significant contributions to our understanding of the psychological workings of agenda-setting. Ball-Rokeach and DeFleur's (1976) model of media dependency informs a number of cross sectional analyses dealing with how reliance on the media might affect public agenda-setting (i.e., Weaver et al. 1975; Weaver 1977). Recent work also deals with how variations in audience attributes – including political interest, interpersonal communication, and demographics – might affect the agenda-setting process (i.e., Erbring et al. 1980; Hill 1985; Shaw and Martin 1992; Wanta and Wu 1992; Wanta and Hu 1994; Wanta 1997). Like longitudinal designs, however, cross-sectional studies have their shortcomings. The most significant of these is that cross-sectional studies cannot provide adequate tests of causality.

The nature of the available data is most often such that an investigator must decide which to examine – audience or stimulus attributes. Moreover, it is often the case that a researcher must decide whether to test or assume causality. Since the main objective of the present work is to examine an expanded agenda-setting model as previously described, along with issue types outlined in the following chapter, measures of causality are fundamental. This necessitates a longitudinal dataset, with an extended time frame, and data availability forces the amalgamation of a wide variety of poll results. As a result, the dataset is not equipped to examine audience attributes, and analysis concentrates almost exclusively on causality and variations in stimulus attributes. Work in following chapters fits squarely into a *natural history* framework, examining issues (a) individually, and (b) over time.

The Importance of Real-World Indicators

Zucker (1978) notes that the significance of a relationship between media and public agendas exists only if it can be demonstrated that the relationship functions independently of real-world circumstances. The importance of including real-world indicators in agenda-setting models has been further highlighted by both Rogers and Dearing (1988) and Behr and Iyengar (1985). The latter state that,

Real-world indicators serve two purposes: first, to assess the sensitivity of... news coverage to current conditions and events; second, to distinguish between the effects of news coverage and real-world conditions on public concern for issues. (40)

The second reason is the most important methodologically speaking. In many cases, a statistical model examining media influence on the public agenda that ignores real-world

indicators is mis-specified, and coefficients will be biased.⁶ The influence of real-world factors on all agendas must be accounted for before inter-agenda dynamics can be estimated.

This can be done in two ways. Preferably, longitudinal measures of real-world indicators can be designed. MacKuen and Coombs (1981), for instance, use the unemployment rate, inflation rate, and heating fuel price changes for their agenda-setting analyses of unemployment, inflation, and energy. Behr and Iyengar (1985) use similar measures for their analysis of the same topics. In both cases, real-world indicators are found to have a statistically significant impact on the public agenda, illustrating the importance of including these variables in any assessment of the links between the media and the public.⁷

Sometimes, however, building longitudinal measures of real-world indicators is either impossible or unnecessary. It is difficult, for example, to imagine a real-world indicator for national unity issues. Nevertheless, it is important in all cases to note significant topic-related real-world events. These events can be used simply to qualitatively account for trends in the data; they might also be included in a time series analysis as pulse functions.

Real-world indicators are included for all issues in the following analyses. The means by which they are quantified varies, depending on both necessity and availability. In most cases, a monthly or yearly time series is included. In all cases, issue histories in Chapter 2 provide information on individual events that proves valuable in later chapters. More detailed information on all of the measures is offered as they are used, and their sources are noted in Appendix E.

Synopsis & Prognosis

Agenda-setting has developed out of work by Cohen (1963), McCombs and Shaw (1972), and Cobb and Elder (1972) into a large and varied body of literature, documenting relationships between and within the media, public, and policy agendas. While most studies have concentrated on a single relationship between two agendas, some have recently sought to provide a more expanded framework, demonstrating the usefulness of an agenda-setting framework in drawing together the many players and dynamics in political communications.

Although widely varied in emphasis and methodology, the literature uses *issues* and *agendas* as the common conceptual threads linking studies of the main components in political communications – the media, the public and policymakers. Actors within these groups have agendas, and the processes through which these agendas are established and interact are the main concern of agenda-setting analysis.

The present study, through an extended longitudinal survey of a number of issues, examines the links between the media, public, and policy agendas. The expanded research frame used here provides missing links that exist in agenda-setting research, and contributes to several ongoing debates in the literature. The main objective of the analyses is to map the causal arrows between the agendas over a number of issues, including AIDS, crime, debt/deficit, environment, inflation, national unity, taxes/GST, and unemployment. This is the goal of Chapter 7.

Chapter 7, then, represents the primary focus of the current work, while surrounding chapters offer theoretical, methodological, and empirical support. First, Chapter 2 offers historical

backgrounds for each issue examined in subsequent chapters, and introduces a threefold issue typology. While directions of causality should be tested rather than assumed, there are certain trends which past research leads us to expect. Chapter 2 reviews these trends, and suggests hypotheses that inform subsequent analyses.

The *Agendas* section examines each of the three major agendas – media, public, and policy – individually. These chapters provide the methodological background to each agenda measure, but also capitalize on the data collected to test a variety of additional hypotheses. Chapter 3, for instance, investigates the extent to which there is a ‘Canadian media agenda’, and explores the relationship between individual Canadian newspapers. Chapter 4 looks at inter-provincial consistencies and differences in the public agenda. Chapter 5 takes a look at various measures of the policy agenda. Little effort has been made to measure the policy agenda outside the US, and the Canadian policy process makes this an especially daunting task.

The *Causal Links* section is the empirical core of the project. First, Chapter 6 critiques statistical methods used in past agenda-setting work, and suggests methods that are more closely allied with the ‘expanded’ model on which this research is premised. Using the modeling techniques described in Chapter 6, then, Chapter 7 estimates issue-specific models of the agenda-setting process. Chapter 8 then builds on these results. It divides the study period into shorter intervals, for instance, looking for changes over time. Hypotheses about the ‘age’ of issues, mentioned in briefly in Chapter 2, are dealt with here. Chapter 8 also examines the US media as an additional exogenous variable. Finally, Chapter 9 concludes

with a review of the results, some further hypotheses regarding an expanded model of the agenda-setting process, and suggestions for future work.

The end result is an agenda-setting analysis that attempts to cover considerable ground. Methodological questions and problems have been a dominant theme in the literature, and the current project is no different. The way in which media, public, and policy agendas are specified has a significant impact on the results; accordingly, a substantial effort is made below to review past work, clarify expectations, and build measures that are both theoretically justified and empirically sound. Having described and tested the individual agendas, the work then goes on to test causal links between them. When are there agenda-setting effects? Which agendas are leading, and which are following? How do the dynamics change from issue to issue? How do they change over time? These are questions answered in forthcoming chapters. The answers – this author hopes – provide valuable information about issue dynamics, agenda-setting hypotheses, and the nature of Canadian political communications.

Chapter 2

Issues and Issue Types

Results of past agenda-setting studies are dependent to a large extent on the issues analyzed. Inflation results tend not to show public or policy agenda-setting, for example. Public agenda-setting work on the environment, on the other hand, has consistently found evidence of media effects. Some past work has recognized that differences in results are linked to different issues; a central goal of Chapters 7 and 8, however, is to demonstrate just how strong the link is between issue attributes and agenda-setting dynamics. Consequently, special consideration was given to selecting a sample of issues for the work that follows – a sample that will demonstrate a variety of agenda-setting effects, and take full advantage of this project's multi-issue design.

Issue selection was based on a number of initial considerations. First, past agenda-setting studies tend to use particular issues, and, since replication is a concern, these issues are especially attractive. As suggested by Eaton (1989), issues that present very low salience or little variation in salience over the survey period should be avoided. Coding limitations also have to be considered. Issues have to be coded relatively consistently throughout the survey period in public opinion polls, and have to be easily search-able with a limited number of keywords in periodical indices and Hansard, as well as government reports, bills, and accounts.

With these limitations in mind, the most important consideration in selecting issues was maximizing variation in issue attributes. As the preceding chapter describes, a natural history design allows a comparison of the behavior of different issues over time. This study design not only offers a more nuanced issue-by-issue analysis, but – more generally speaking – it provides a far more complete picture of political communications. Surprisingly, however, and in spite of the recent prevalence of natural history agenda-setting studies, only a select few have taken advantage of this multi-issue design. Most past research concentrates on a single issue, and methodological variation considerably hampers cross-study comparison. The results have been a frequent lack of recognition of issue attributes, and the sometime implicit (and incorrect) assumption that all issues should act similarly.

The current research asserts that many past inter-study differences in agenda-setting dynamics are products of differences in the issues themselves, and goes some way towards testing this hypothesis. The hypothesis is examined in forthcoming chapters through the testing of a new issue typology for agenda-setting. The typology is based in large part on past issue attribute hypotheses, but includes significant changes, additions, and clarifications to what have typically been ad hoc approaches to issue attribute theory.

This chapter begins with a review of past issue attribute hypotheses. It then describes the new three-fold issue typology. Each issue type – prominent, sensational, and governmental – is described in turn. The chapter concludes with case histories for each of the eight issues selected for analysis in forthcoming chapters. These case histories draw the necessary links between the issue typology and the issue themselves, and clarify our expectations for upcoming chapters, particularly for the ‘expanded’ estimations in Chapters 7 and 8.

Past Work on Issue Attributes

Winter et al. (1982) are among the first to note that issue differences might mitigate the public agenda-setting process. Rooted in work by Zucker (1978), Winter et al. suggest that, “the variable nature of individual issues precludes treating them in the aggregate... Logically, issues vary in the amount of time necessary to bring them to a position of importance in public opinion” (1-2).

The timing of the media-public impact, however, is only one of the dimensions across which issues may vary. Indeed, public agenda-setting literature contains four issue-centered hypotheses about variations in media influence. Each theory deals with different issue qualities; some have received considerable attention, while others have remained virtually untested.

Obtrusiveness

Zucker suggests that, “the less direct experience individuals have with a given issue area, the more they will rely on the news media for information and interpretation in that area” (1978:227). It follows that the less *obtrusive* an issue is, the stronger media effects can be. As has been noted elsewhere (e.g., Watt et al. 1993), the obtrusiveness hypothesis is closely allied with Ball-Rokeach and DeFleur’s (1976) well-known theory of media dependency. According to Ball-Rokeach and DeFleur, individuals will be more dependent on the media for issues for which they do not have their own sources of information. It follows that the potential for media impact increases for issues for which the public is media dependent.

Zucker's data bear some proof of his hypothesis, although the evidence is only mildly convincing and not especially rigorous.⁸ Newer studies provide more solid evidence. Huegel et al.'s (1989) analysis of individual-level data, for example, shows significant media effects for an unobtrusive issue (foreign affairs), and no effects for an obtrusive issue (social security). Similarly, Zhu et al. (1993) find that the media's agenda-setting role is stronger for international issues, while social interaction is a more powerful predictor for domestic issues. Several other authors suggest that their evidence of agenda-setting on a single issue provide evidence of Zucker's obtrusiveness theory. Both Ader (1995) and Atwater et al. (1985), for instance, suggest this of their evidence of public agenda-setting for (unobtrusive) environmental issues, as do Weaver et al. (1992) of their lack of evidence for public agenda-setting for the (obtrusive) drug issue.

A few studies, however, find evidence contrary to the obtrusiveness hypothesis. Behr and Iyengar (1985), for instance, find agenda-setting effects for obtrusive issues (inflation and energy). The lack of an unobtrusive issue in their study limits their ability to test Zucker's theory; nevertheless, Behr and Iyengar's evidence demonstrates that an issue's obtrusiveness does not necessarily negate the media's agenda-setting potential. Demers et al. (1989) present the most compelling evidence against the obtrusiveness hypothesis. Using a variety of issues, these authors investigate the effects of issue obtrusiveness on agenda-setting. No evidence is found for Zucker's hypothesis. Rather, these authors find mild evidence for the "cognitive priming contingency", which posits exactly the opposite effects of issue obtrusiveness – "personal experience with an issue enhances rather than assuages media effects" (794). While the body of accumulated research tends to favor the obtrusiveness hypothesis, then, Zucker's hypothesis has not been unchallenged.

Duration

In addition to his obtrusiveness thesis, Zucker suggests that the longer an issue is on the agenda, the less chance there is for media effects. This is due to two factors: (1) the longer the issue is on the agenda, the more people have made up their minds, and (2) the public has a limited attention span. This thesis is similar to Downs' (1972) "issue attention cycle." Downs asserts that, "Public perception of most 'crises' in American domestic life does not reflect real conditions as much as it reflects the operation of a systematic cycle of heightening public interest and then increasing boredom with major issues." (39)

As with obtrusiveness, Watt et al. (1993) provide some recent evidence of this hypothesis, finding that effects of issue obtrusiveness are mediated somewhat by the effects of *duration*. As a result, an unobtrusive issue that had been on the agenda for a very long time (Soviet Union) shows the weakest agenda-setting effects.

Abstractness

Yagade and Dozier's (1990) abstractness hypothesis suggests that effects should be larger for *concrete* issues than for *abstract* issues. Since abstract issues are more difficult for the audience to visualize, these authors assert, the potential for media effects is diminished. The effects of abstractness are distinctly different from the effects of obtrusiveness:

Media coverage of an obtrusive issue exerts little effect on issue salience because the issue is already directly experienced by individuals. Direct experiences overwhelm the influence of media coverage. Media coverage of an abstract issue likewise exerts

little effect on issue salience, because individuals find it difficult to attach salience to something they don't comprehend. (4-5)

Yagade and Dozier determine the abstractness of an issue using specialized public opinion questions, finding that nuclear arms and budget deficit are more abstract than drug abuse and energy issues. Subsequent public agenda-setting analysis confirms their theory – nuclear arms shows no agenda-setting effects, while energy does.

The abstractness hypothesis has not received as much attention as has obtrusiveness. Nevertheless, Wanta and Hu's (1993) analysis of agenda-setting for international issues offers some further evidence. These authors find that public agenda-setting effects are stronger for concrete international issues (such as conflicts or terrorism involving US citizens) than for abstract international issues (such as trade or news not involving the US).

Dramatism

MacKuen and Coombs (1981) are among the first to note that dramatic events play a significant role in the agenda-setting process. These authors build models that attempt to predict public salience for seven individual issues using media content analyses and real-world indicators. In doing so, MacKuen and Coombs find that including pulse functions representing dramatic political events significantly improves their models' predictive abilities (103-124).

The potential role of *dramatism* in agenda-setting has been clarified more recently by Wanta and Hu (1993). In their study of international issues, these authors suggest that,

“International conflict stories or stories dealing with terrorism, then, should demonstrate the strongest agenda-setting effects... Stories with little conflict, such as a story involving a trade agreement, should produce weaker agenda-setting effects” (253). These authors’ results – surveying fifteen categories of international news – bear evidence of this hypothesis.

Towards a New Typology

Each of the above hypotheses divides issues in different ways, and has different predictions for the public agenda-setting process. The hypotheses are not necessarily opposed, however. In fact, the possibility for predicting the magnitude of public agenda-setting by the media may improve if the obtrusiveness, duration, abstractness, and dramatic events hypotheses are considered together.

This has generally not been the case in past work. In fact, there have been only two efforts at investigating more than one issue attribute hypothesis simultaneously. In the first, Zucker introduces and tests both obtrusiveness and duration together. His tests lack rigor, however, and only the former hypothesis has received attention since. More recently, Wanta and Hu investigate both the abstractness and dramatic events hypotheses. Unfortunately, their use of only unobtrusive issues precludes an analysis of Zucker’s major thesis.

If combining the preceding hypotheses stands as one way to improve issue attribute theory, a consideration of the policy agenda is certainly a second. Each of the preceding theses, after all, deals with only two of the three major agendas. And just as public agenda-setting theories have ignored the policy agenda, so too has policy agenda-setting literature ignored the possibility that differences in policy agenda-setting may be a product of issue attributes.

This is certainly not a justifiable omission – government agenda-setting by the media or the public should not for any foreseeable reason be immune to variation due to issue characteristics.

Further work on these issue attributes hypotheses, then, is motivated by three facts: (1) evidence varies for the obtrusiveness hypothesis and is scant for the remaining hypotheses, (2) there is a strong possibility that using the various hypotheses in tandem will improve predictions of agenda-setting effects, and (3) no effort has been made to establish a theory of issue attributes that encompasses the entire agenda-setting process.

A combination of the obtrusiveness, abstractness, and dramatic events hypotheses might proceed as follows. An issue is either obtrusive or unobtrusive. If it is obtrusive, the possibility for public agenda-setting effects is considerably diminished – the public will simply respond to real-world indicators. If an issue is unobtrusive, however, the possibility for and direction of agenda-setting effects is largely dependent on whether the issue is abstract or concrete. An unobtrusive/concrete issue is prone to agenda-setting effects by the media, especially if this issue has dramatic qualities. An unobtrusive/abstract issue, on the other hand, is much less likely to show any agenda-setting effects.

This is not to say that an unobtrusive/abstract issue will never show agenda-setting effects. In fact, there are two scenarios through which this may be possible. First, as with an unobtrusive/concrete issue, dramatic events might cause an unobtrusive/abstract issue to show agenda-setting effects. Secondly, an unobtrusive/abstract issue might rise in salience on the policy agenda. The effects of abstractness on the potential for issue salience are likely less powerful for the policy agenda than for the media and public agendas. An

unobtrusive/abstract issue might, then, show agenda-setting effects if it first becomes salient to policymakers.

This description illustrates the potential improvements that a combination of past hypotheses might make to the description or prediction of agenda-setting dynamics. The last scenario further demonstrates the potential importance of considering the policy agenda alongside the media and public. A main objective of the new typology, then, is to take these perceptions into account.

The combination of past issue attribute hypotheses suggests three most likely scenarios. These scenarios are not necessarily mutually exclusive, nor are they exhaustive. An issue might demonstrate features of two issue types over time, and issues that show changes in salience on a single agenda without any changes on other agendas are not addressed here. Nevertheless, most issues will usually fit into a single scenario at any given time, and the scenarios likely provide a complete picture of the issue types for which there is any kind of agenda-setting effect. Each scenario is illustrated in Figure 2.A (next page), and described below.

Prominent Issues

Prominent issues affect a significant number of people directly. They are both obtrusive and concrete. Real-world effects on individuals leave little room for either media or policy impact on public opinion. Rather, issue salience is purely a product of real-world conditions. This applies primarily to the public agenda, but the situation is likely similar for the media and policy agendas. Prominent issues are real-world led, and – while interactions between

the public, media, and policy agendas may exist – the predominant dynamic exists between real-world phenomena and the three agendas.

Figure 2.A
Issue Types

Sensational Issues

Sensational issues are those for which there is little observable impact on the vast majority of individuals. They are unobtrusive and concrete, creating the greatest potential for public agenda-setting by the media. This is the most significant feature of sensational issues – they are media driven. For these issues, the media tends to lead the public and policy agendas.

There may be a link between the public or policy and real-world indicators, but this is largely incidental to the primary effect – the impact of the media. If there is any impact of real-world indicators (and there need not be), it is on the media agenda. Often, this real-world impact is the product of a dramatic event – a particular incident that attracts the media's attention.

Governmental Issues

Governmental issues, like sensational issues, do not directly and observably affect the majority of individuals – they are unobtrusive. Governmental issues, however, are not usually chosen by the media as significant. This is a result of the issues either not presenting exciting or dramatic elements, or being too abstract. A governmental issue can be concrete, but – unlike a sensational issue – it can also be abstract, even while it is at the height of public salience.

Governmental issues become important to policymakers (including both elected officials and bureaucrats) before they spark the interests of the public or media. A governmental issue may show an impact of the media on the public agenda. This effect, however, is secondary – the media is acting primarily as a conduit for government-lead issue cues. The policy agenda leads both public and media in this case. As with sensational issues, any relation between the three agendas and real-world indicators is secondary to the effects of the policy agenda on the other two.

The Issue Themselves

The individual issues are described below. Each of the issues selected for the current study shows some change in salience over time, as well as relatively consistent coding in relevant indices throughout the study period. As discussed above, they also provide examples of the prominent, sensational, and governmental issue types.

Issue descriptions include each of the following: (1) a brief history of the issue itself, (2) an outline of government policy from 1985 to 1995, and (3) a review of past agenda-setting work on that issue. This information is introduced here in part to justify the selection of issues. Moreover, it is included to provide issue-specific details useful in upcoming chapters, as well as examples of the three issue types and hypotheses regarding agenda-setting dynamics investigated in later chapters. Graphs of the various issues are not presented here, since the media, public, and policy time series are not yet fully described. Graphs do appear throughout Chapters 7 and 8, however; readers wishing to compare the following case histories with time series graphs should consult these chapters.

Prominent Issues

Inflation

Looking from 1985 to 1995, inflation in Canada falls into two periods. The first can be traced back to 1982, when the Bank of Canada abandoned inflation targets. "From 1982 to 1991," Theissen writes, "monetary policy in Canada was carried out with price stability as the longer-term goal and inflation containment as the shorter-term goal, but without intermediate targets or a specified path to the longer-term objective" (1998:417). This

method proved unsatisfactory, leading to a peak in inflation in 1989-1991. 1991 marks the beginning of the second period – new inflation targets were introduced as part of the 1991 budget, and inflation began to decline dramatically. In fact, actual inflation declined much more quickly than expected inflation during this period (Johnson 1997), reaching a low point in 1994 and then balancing out for the rest of the period.

Inflation has received a reasonable amount of attention in public agenda-setting literature. Studies vary widely in methodology, making a direct comparison of results difficult. Nevertheless, evidence tends to point in the same direction – inflation is real-world driven, leaving little room for effects between the media and public agendas. Winter et al. (1982) present the only public agenda-setting study of inflation in Canada, providing evidence indicating that inflation has a minimal potential for media influence. Behr and Iyengar (1985) find that (television) media attention is affected by changes in the CPI, and that public attention to inflation is affected by both real-world conditions and media attention. Demers et al. (1989) suggest that Behr and Iyengar's evidence of media effects is a product of using statistical methods poorly suited for longitudinal research. In their own investigation, they find no evidence of media effects on the public agenda for inflation above and beyond the strong effects of inflation itself. Finally, MacKuen and Coombs (1981) have a slightly more nuanced argument – real-world factors clearly drive public concern over inflation when inflation is high, but the media has a slightly increased role when inflation is low.

The bulk of past work, then, suggests that inflation is a prominent issue. The cost of living is experienced by everyone, every day; accordingly, it is most likely that there will be strong causal links between the CPI and public opinion, as well as the other series. Other effects

may exist, but these will be overshadowed by the effects of the CPI on the media, public and policy agendas.

Unemployment

The period 1985-1995 includes a fall and rise in unemployment in Canada, with its low point in 1989-90. This is also the high point for inflation, and the story for unemployment can in part be seen as a product of the same economic dynamics.

Unemployment Insurance (UI, now Employment Insurance) is intimately linked to regionalism in Canada, and provincial involvement at various levels restricts the potential for major federally initiated changes to UI (Hale, 1998). Changes are nevertheless necessary, however, so 1985 to 1995 sees a series of incremental amendments to various UI policies. The two most significant reforms during this period are in 1990 (Bill C-21) and 1995-6 (Bills C111 and C-12).

Unemployment is analyzed in most of the same agenda-setting studies examining inflation, and results for the two issues are similar. Behr and Iyengar (1985), for instance, find that media and public attention to unemployment are functions of changes in the unemployment rate. These authors find no media effects on the public, suggesting that "Given the severe personal consequences of unemployment, individuals may seek out information about unemployment in their own communities or occupations, information that is more apt to be conveyed interpersonally or by local media rather than network newscasts." (51) Behr and Iyengar's results are supported by Demers et al.'s (1989) more sophisticated statistical

methods, and Winter et al. (1982) – albeit with rather crude methods – present similar evidence for Canada.

MacKuen and Coombs (1981) provide further evidence of unemployment's prominent issue dynamics. These authors' initial model predicting public concern for unemployment with the unemployment rate in the US performs poorly. A modified model using an unemployment rate series adjusted to include only those increases above an approximated 'full employment' rate (3.8%) performs well, however, and any media effects disappear under the considerable effects of the new real-world series. Past evidence, then, overwhelmingly supports the idea that the unemployment issue is real-world driven. This is certainly the case for the public, although the policy and media agendas may follow their own paths, responding in part to the constant adjustments in UI policies.

Sensational Issues

AIDS

Acquired immunodeficiency syndrome (AIDS), the life threatening stage of infection with the human immunodeficiency virus (HIV), was first diagnosed in the early 1980s. Concern rose as AIDS spread rapidly, and by the mid-1980s there was growing recognition that – contrary to initial public belief – the disease was not restricted to the gay community. A series of public figures were either diagnosed with or passed away from AIDS. Rock Hudson died in 1985; Freddie Mercury died in 1991; Magic Johnson's diagnosis was made public in 1992; Arthur Ashe passed away in 1993. These cases helped make AIDS an increasingly important and public issue, along with alarming increases in the number of AIDS cases in many communities. There were also a number of Canadian AIDS-related

events generating considerable press coverage during the period – specifically, the opening of the first AIDS clinic in Montreal in late 1985, and an international AIDS conference in the same city in 1989.

AIDS was clearly one of the most important new issues of the late 20th century. That said, response to AIDS in Canada was relatively muted. There was no policy response before 1986, for instance. Both Lindquist and Rayside (1992) and Desveaux et al. (1994) suggest the late federal government response to AIDS, in spite of increasing diagnoses, was partly the product of an ill-equipped bureaucratic structure. Federal funding of AIDS-specific programming announced in 1986 and 1988, in fact, continued to lack coordination and commitment. The Federal AIDS Strategy was finally announced in 1990, marking the beginning of a clearer commitment. This policy commitment clearly lagged behind the spread of AIDS, however, which slowed around that time and began to decline in Canada a few years later. It is not clear how strong public sentiment was about AIDS, nor is it clear to what degree government policy was in sync with public sentiment.

AIDS seems to have been a larger public issue in the US than in Canada, and its significance there has led to a number of studies examining AIDS on US media and policy agendas. Hertog et al. (1989), for instance, look at the relationship between AIDS, cancer, and STDs in the media agenda; Dearing (1989) examines the relationship between media and polling agendas. Rogers et al.'s (1991) study represents the most thorough agenda-setting analysis of this topic. Spurred on by the obvious and increasing significance of AIDS in the 1980s, Rogers et al. look at the inter-relationships between the media, policy, science, and polling agendas during this period. Various links are identified between agendas, changing as the

issue develops through the 1980s. Real-world indicators are shown to play a minor role – there is a weak connection between AIDS cases and the media agenda, but no real-world effect on any other agenda. This is likely a product of political recognition lagging far behind the spread of AIDS. The public agenda is not included in the analysis, although Rogers et al. suggest that a sharp increase in public concern in the mid-1980s is an indication of media effects.

AIDS, then, is an issue deserving further agenda-setting analysis. The issue has received attention in media and policy agenda-setting work, but no test has included public opinion. Furthermore, while the issue has been examined from various perspectives in the US, it has not been studied in Canada. The study period used here (1985-1995) covers a time during which AIDS should rise from relative obscurity to significance on all agendas. A relatively small proportion of the population will have direct experience with AIDS, and a combination of rising numbers of cases (almost of epidemic-like proportions) and celebrity diagnoses make this issue one that is likely to draw media attention. Accordingly, AIDS will likely be media-driven and unrelated to real world indicators – it appears to be a good example of a sensational issue.

Crime

Public concern over rising crime has existed for decades, but it took on increased importance in the 1990s. This may have followed from concern about hard drugs such as cocaine and heroin, or from rising crime rates. Most types of crime – including violent crimes – have been declining steadily in Canada since 1991, however, while media, public, and policy

concern over crime has continued to rise. It is doubtful, then, that concern over crime is linked to actual crime rates.

Public concern might be connected to the prevalence of crime in the media. A number of authors, for instance, emphasize the mass media's predilection for crime stories, especially those that are sex- and violence-related. The US media are perhaps those most often portrayed this way (i.e., Davie and Lee 1995; Graber 1979; Sheley and Ashkins 1981), but the trend is also evident in other countries, including the UK (Ditton and Duffy 1983; Smith 1984). A 1970 comparison of CBS and the CBC news programs showed the US network to be considerably more oriented toward stories involving violence (Singer 1970). It is not clear, however, that this difference still applies. As early as 1979, Normandeau found that the volume and type of crime reporting in Canada encourages irrational fear and an inflated view of the frequency of crime, in line with US findings (i.e., Altheide 1997; Altheide and Michalowski 1999).

These hypotheses are in line with evidence of public agenda-setting for the crime issue. Einsiedel et al. (1984), for instance, find that the effects of media coverage are stronger than those of personal experience in predicting concern over crime, suggesting the possibility of public agenda-setting. MacKuen and Coombs' (1981) evidence also suggests that public salience for crime is affected by media content, and not by real-world factors. More recently, Smith (1987) ignores real-world measures but finds a reciprocal relationship between media content and public concern for crime. Whether the connection between the media and public agendas will show through with newspaper rather than television data is not clear. The content of each medium has been found to be different, with television giving a stronger

emphasis to crime- and violence-related material (Sheley and Ashkins 1981). Chiricos et al. (1997), for example, find that television viewing leads to increased fear of crime, but that newspaper readership does not. The forthcoming analysis can be seen as a further test of this hypothesis.

Policy-centered work has also dealt with crime issues. A number of authors, for instance, suggest that crime and violence in the news media – and especially on television – has influenced policymakers. This has been addressed from a media-centered standpoint, drawing links between effects on the public and effects on policymakers (i.e., Altheide 1991; Gilliam et al. 1996; Randall et al. 1988). It has also been identified in analyses aimed primarily at the policy process. A number of authors, for example, relate media coverage of crime to crime legislation (Berk et al. 1977; Heinz 1985). Using an agenda-setting framework, Pritchard (1986) suggests a further link between media coverage and the enforcement of legislation, finding that media coverage of criminal cases affects prosecutors' choices about which cases to take to trial. Investigating another media-policy connection, both Scheingold and Gresset (1987) and Pritchard and Berkowitz (1992) look at the relationship between media content and government spending on crime, although they find no evidence of media impact.

There are no specific crime-related events that stand out during the survey period. In terms of government policy and attention, however, crime has been a recurring and consistent policy issue. Furthermore, in the 1980s, while the Conservative government did not push forward the kind of crime policies common to US and UK neo-conservative governments of the period, political language on crime issues was clearly influenced by neo-conservative

themes. Hatt et al. (1992) note that language turned from “justice and security” to “law and order” themes such as harsher penalties, individual responsibility, and morality. In the 1990s, crime saw increasing interest in Parliament, occupying a progressively larger number of both Government and Private Member’s Bills. The change in tone and increased emphasis on crime may be connected with trends in media and public agendas.

There is a considerable rise in crime salience from 1985 to 1995, then, and the directions of influence are not clear. Past work, however, suggests that crime is most likely a sensational issue. Real-world indicators should play no role in the salience of crime, while the media should lead public sentiment. Policymakers might also lead media and public agendas, however, if the change in policy approach occurred previous to changes in media emphasis. If crime rates do not drive the salience of crime, what does? The expectation here is that the media are responsible, but forthcoming tests should go some way towards answering this question.

Environment

Environmental issues have gone through two periods of increased salience. The first was in the early 1970s, marked by the first Earth Day in 1970. Environmental issues then virtually disappeared from view until the late 1980s/ early 1990s. This period is marked by the crash of the Exxon Valdez oil tanker in March 1989, the 20th anniversary of Earth Day in April 1990, and the much-touted June 1992 United Nations Conference on Environment and Development in Rio de Janeiro.

Environmental issues have received considerable attention in agenda-setting literature, partly due to their playing the role of guinea pig in Downs’ (1972) seminal “issue attention cycle”

article. Environmental issues do not visibly affect a majority of the population, and are not intrinsically exciting. For Downs, these factors imply that environmental issues are prone to rise and fall in importance over time, rather than remain continuously salient. For agenda-setting researchers, these features suggest a strong potential for agenda-setting effects.

Accordingly, a large number of public agenda-setting studies have analyzed environmental issues, and evidence has predictably supported agenda-setting hypotheses. Parlour and Schatzow (1978) present the first evidence of public agenda-setting by the media in Canada on this topic, although their results are based on a largely qualitative comparison of time series. Using more sophisticated methods, Brosius and Kepplinger (1990) find evidence of public agenda-setting by the media in Germany on environmental issues. This is in line with many similar US studies (i.e., Ader 1995; Atwater et al. 1985; Hester and Gonzenbach 1995; Iyengar and Kinder 1987; MacKuen and Coombs 1981; Smith 1987).

The relationship between the salience of environmental issues and environmental indicators is not clear. The vast majority of studies have found no relationship, since most indicators of environmental problems have moved very gradually over time and attention to the environment has experienced two brief periods of drastically increased salience. Ader (1995), for instance, finds media-public effects for environmental issues, but no effects on either agenda by indicators of air pollution, oil spills, and solid waste. Hester and Gonzenbach (1995) use yearly toxics release inventory (TRI) data as their measure of real-world indicators, and find similar results – there is no link between real-world indicators and the salience of environmental issues for the media or public (see also Hansen 1991). Blake (1999), on the other hand, demonstrates a relationship between environmental concern and

local environmental conditions. Blake's different results are likely a product of using smaller regions and a more nuanced measure of opinion on particular environmental concerns rather than the 'environment' en masse. His results demonstrate, however, that the role of real-world factors in environmental salience requires additional analysis.

At a national level, dramatic events are the most likely means by which to link actual environment indicators and their salience for the media, public, and policymakers. The crash of the Exxon Valdez, for example, undoubtedly influenced media salience. The actions of interest groups might provide a further link, albeit a less direct one, between reality and environmental concern. Environmental interest groups constitute the audience most attentive to environmental conditions, and action by groups such as Greenpeace is aimed and is often successful at attracting media attention.⁹ While these events may be able to account for intermittent jumps in the time series, however, they cannot account for a rise in salience spanning several years (1988-1991) and a comparative lack of salience at other times.

In terms of the policy agenda, discussion of environmental policy in the federal government also reached a high point from 1988 to 1991. This is the period of the Canadian Environmental Protection Act (1988) and the formulation and introduction of the Green Plan (1990). The Plan detailed federal environmental initiatives and objectives, and served as a guide for Federal behavior until 1995. Hoberg and Harrison (1994) have criticized the Plan as being long on information dissemination and short on actual policy; regardless of its policy shortcomings, however, it should be regarded as the most significant environmental policy initiative to date, both in terms of scope and fanfare. And the timing of this and other major initiatives suggests a relationship between policy, media, and public agendas.

The extended rise in salience for environmental issues from 1988 to 1992 remains unexplained. Harrison (1996) notes that environmental issues may not be able to surface when there are pressing economic issues, so the relatively stable economic situation at the time might be the best explanation thus far. This is more an account of why environmental issues were not salient at other times than it is an explanation for why they were salient from 1988 to 1991, however. The time period studied neatly brackets the rise and fall of environmental issues, and work below examines what initiated this period of heightened salience. Most past work suggests that the environment will be the quintessential, media-driven sensational issue, but the role of real-world indicators and government attention requires further testing.

Governmental Issues

Debt and Deficit

After declining gradually since the Second World War, federal government debt (as a percentage of GDP) began to climb again in the mid-1970s. This was in part a product of expansionary fiscal policy used to fight effects of the first oil shock in the early 1970s, as well as the recession in the early 1980s. The federal government was extremely lax in controlling its debt throughout the 1980s (Kneebone 1994) – the debt was a significant economic problem by the mid-1980s, but politicians and the public recognized it as such only passingly in 1989, and not for an extended period until 1992.

Efforts at eliminating deficits and reducing the debt began in earnest with the rise of the Reform Party and the new Liberal government in 1993. Dodge (1998) suggests that political and public attention to the debt was restricted in the late 1980s by the focus on free trade and

tax reform – “Governments and the public,” Dogde writes, “can really only focus on one or two economic issues at a time” (282). As a result, public attention and political will did not grow until the debt problem has worsened considerably. The height of concern over federal debt and deficits occurred after the period surveyed here, likely around the time of the 1998 election.

Debt and deficit issues have received moderate attention from agenda-setting analysts. Yagade and Dozier (1990) examine the abstractness of the deficit issue, although they do not look at the agenda-setting dynamics surrounding this issue. Weaver (1991), on the other hand, looks at public agenda-setting by the media, and finds mild evidence of media influence for public debt. More recently, Jasperson et al. (1998) find agenda-setting and framing-related evidence of media influence on public opinion about the US federal budget in the 1990s. Brosius and Kepplinger (1990) look at public debt in Germany, and find different evidence from Weaver and Jasperson et al. – in Germany, public attention precedes media coverage for this issue. These authors suggest this reverse effect is “likely to occur when problem awareness showed a long-term steady increase or decrease with little variation.” (205)

The nature of the debt and deficit issue in Canada, however, might create more dramatic agenda-setting effects. A gradually growing recognition of the debt problem does not seem to be an accurate account of the Canadian experience. Rather, public and political concern over the debt exploded, first briefly in April 1989 – the month of the first budget discussion in which deficit and deficit slashing were identified as pressing concerns. The next stage of the debt/deficit problem began in 1993, with the budget of that year, the following election,

and the new Liberal government's action to eliminate deficits. This period of heightened debt/deficit salience, like 1989, seems to have been brought on by government actors identifying the problem and staking a political claim. The debt/deficit issue, then, appears to be a governmental issue. Media salience most likely affected the public agenda, but the media appears to have been led by policymakers – specifically, the Conservative Government's 1989 budget speech, the 1993 election campaign¹⁰, and the Liberal Government from 1993 onwards.

National Unity

National unity is the single greatest recurring issue in Canadian politics. A *brief* history of the issue since its beginning is next to impossible. For the current project, a synopsis of the issue from 1985 to 1995 will have to suffice – even this ten-year period provides considerable material.

There are several periods of heightened salience for national unity during the study period. The first falls in 1987, with the conception of the Meech Lake Accord. The Accord, designed primarily to bring Quebec back into the fold after the patriation of the Constitution in 1982, had to be ratified by each provincial legislature before 1990. In the interim period, the salience of national unity issues waned somewhat for the public and media, although they presumably remained important on federal and provincial government agendas. These issues were back in force on all agendas in 1990, however, when it became increasingly clear that the Accord was in danger. It did not pass, leading to Charlottetown Accord negotiations soon thereafter. Unlike the Meech Lake Accord, Charlottetown was the product of a considerable amount of public discussion and input, and had to be approved in a

national referendum in 1992. These factors likely resulted in a prolonged period of heightened salience for national unity issues, ending abruptly with the failure of the Accord in October 1992. National unity issues appeared again with the (failed) Quebec separation referendum in October 1995.

Winter et al. (1982) offer the only public agenda-setting study of national unity in Canada, finding what appears to be a significant over-time relationship between the media and public agendas. Their evidence is weak, however, and while the media may contribute to prolonging a debate, they are not likely to have been the *source* of national unity salience. This salience might have come from the public – it might be the federal government's response to changing opinion within Quebec on the Quebec-Canada relationship, for example. Alternatively, national unity might simply be a governmental issue – one that is drawn to the forefront by government and then subsides when government's attention lies elsewhere. This is the thesis implicit to Johnston et al.'s (1996) discussion of the 1992 referendum. These authors discuss government officials as the 'agenda-setters' – it was government, after all, which initiated both the Charlottetown Accord and the subsequent referendum.

Like debt/deficit, national unity is likely to show governmental issue dynamics – the policy agenda should lead the others. Nevertheless, there remains the possibility of effects elsewhere. The media may contribute to the discussion, and public opinion could lead as well as follow. Of the issues examined, then, the agenda-setting dynamics for national unity are the most difficult to predict.

Taxes

Actual tax rates changed very little from 1985 to 1995. In fact, the average tax rates for Canadian families changed only 3% from 1969 to 1988 (from 34 to 37%; Vermaeten et al., 1995). Examining tax burdens – taxes collected as a proportion of GDP – reveals some change over time, although the magnitude of change is still both small and gradual. Drastic changes in the importance of tax issues during the survey period cannot, then, be attributed to changes in tax rates.

The salience of taxes did increase dramatically in 1989, however, with the discussion surrounding the Goods and Services Tax (GST), implemented in 1991. The tax created a considerable amount of political controversy throughout this period. It represented a major change in tax policy, putting the burden of the tax directly on consumers, rather than producers, and – perhaps more importantly – making what was previously a hidden tax much more visible. The result was sizeable public opposition to a policy that received considerable support from within the Conservative Government.

The Government's tactic was to stage a publicity campaign of immense proportions. Roberts and Rose (1995) describe the broad scope of this campaign, although they present only very mild evidence of the campaign's success in changing public opinion. The authors suggest, however, that the government's GST campaign may have played an agenda-setting role, persuading the public that taxes should be higher on the public and policy agendas.

Tax issues have not been dealt with in past agenda-setting analyses. Nevertheless, Roberts and Rose's work suggests the potential for considerable government impact on the media and

public agendas – tax issues during this period should demonstrate governmental issue dynamics.

Summary

In spite of the potential for longitudinal studies to compare dynamics across issues, the vast majority of agenda-setting studies deal with only one issue at a time. Differences – in methodology, country, and time period, for instance – then conspire to make cross-study comparisons difficult, if not impossible. As a result, the insights unique to multi-issue agenda-setting studies have hardly been examined. The current work attempts to avoid this problem by analyzing eight issues together, with a special emphasis on the potential effects that issue attributes might have on the agenda-setting process.

Accordingly, a central goal of the current project is to examine and explain how causal links between the media, public, and policymakers vary with issue attributes such as obtrusiveness, duration, abstractness, and dramatism. Previous issue attribute theories have been combined above to create a three-fold issue typology: prominent, sensational, and governmental. These issue types are not mutually exclusive or exhaustive, but they do provide a means with which to explain – and possibly predict – agenda-setting causality.

Theoretically speaking, forthcoming analyses depend on this threefold issue typology. Empirically speaking, they rely on eight issues: AIDS, crime, debt and deficit, environment, inflation, national unity, taxes, and unemployment. Past work inside and outside the agenda-setting field suggests that each issue will fall clearly into one of the three groups. Inflation and unemployment should be prominent issues; AIDS, crime, and environment should be

sensational issues; debt/deficit, national unity, and taxes should be governmental issues. The degree to which these classifications hold true is the subject of Chapter 7. Before we test models of the expanded agenda-setting process, however, the next chapters examine each of the media, public, and policy agendas.

Agendas

Agendas

Chapter 3

The Media Agenda

The five regions of Canada – British Columbia, the Prairie Provinces, Ontario, Quebec, and the Atlantic Provinces – all exhibit distinctive characteristics as far as their daily news profile is concerned. It is not too much to suggest that the differences of selection and stress involved [in press coverage] make it unlikely that persons in any of these regions can readily secure information in balance and context about the nation as a whole. (Gordon 1966:158)

While preceding discussions, and forthcoming analyses, rely on there being a ‘Canadian’ media agenda, it is not intuitively obvious that a pan-Canadian media agenda exists. Gordon’s statement above, for instance, suggests that Canadian media content varies widely from province to province. And Gordon is not alone – a review of past research reveals that a majority either assumes or seeks evidence that media content varies across Canada. The difficulties this suggests for the current study are obvious. If there is no pan-Canadian media agenda, questions about agenda-setting by the media at a national level are moot.

Accordingly, the current chapter combines the necessary methodological discussion of media agenda measures with an investigation into whether there is in fact a Canadian media agenda. The chapter begins by addressing the way in which the Canadian media agenda is operationalized. Using weekly or monthly counts of newspaper titles is certainly not the only

way the media agenda can be operationalized, so past work is reviewed in an effort to justify this decision. Data is then used to test a variety of hypotheses regarding Canadian agendas. Searching for evidence of a Canadian media agenda is the primary function of this analysis and, in contrast with past work emphasizing differences in newspaper content, evidence below suggests that one does indeed exist. This finding is aided by the fact that agendas here are measured using a relatively 'thin' content analysis – we are concerned only with issue mentions, and the more detailed content of articles is completely ignored. Nevertheless, both a review of past work and new evidence suggest that Gordon's charges are a little overstated. Finally, the investigation provides an opportunity to address a number of related questions including the potential effects of chain ownership and issue salience on consistency in coverage. The former appears to have no impact, while tests suggest the latter is plainly connected with the veracity of a national media agenda.

Which Media Should Be Used?

So long as one is measuring impact on the 'national' public or policy agenda, it seems logical to use major national media outlets. Which national medium, however, remains debatable. In the 1970s and early 1980s, many theorists agreed,

...that because of various characteristics television is not the best teacher of the relative salience of issues. The television viewer is time-bound and is forced to follow a series of reports presented in rapid succession. The newspaper reader, on the other hand, may attend to the newspaper fare in his own time, at his own pace, and can reread and reexamine the information made available by the newspaper. In

addition, newspapers have the ability to repeat items more often over time. (Eyal 1981: 229)

Newspapers, accordingly, have been used to represent the media agenda in a large number of public agenda-setting analyses (i.e., Benton and Frazier 1976; Erbring et al. 1980; Protess et al. 1985; Shaw and Martin 1992; Sohn 1978). Similarly, policy agenda-setting theorists have also relied on newspapers as a measure of the media agenda (i.e., Pritchard 1986).

That a number of theorists have settled on newspapers as their media agenda measure has not, of course, prevented others from testing alternate measures. MacKuen and Coombs (1981), for instance, use newsmagazines as their media agenda measure, suggesting magazines provide a better measure of weekly national issues and avoid the local news appearing in most newspapers. Similarly, Yagade and Dozier (1990) as well as Stone and McCombs (1981) use newsmagazines to measure the media agenda.

There are several difficulties with using newsmagazines as a measure of the media agenda in Canada. Their comparatively small readership, for example, would seem to restrict their agenda-setting potential. This does not preclude the possibility that newsmagazines might accurately reflect the larger media agenda, however. The more fundamental problem with using newsmagazines is measurement-oriented – there is only one national news magazine in Canada, *Maclean's*,¹¹ and it is almost always preferable, where possible, to build a measure out of several media than to rely on simply one. Reliance on a single media outlet creates a measure especially susceptible to weekly editorial decisions based on reporters' schedules, for instance, or advertising space. A measure built from several media outlets, on the other hand, likely provides a more accurate measure of what is important to the 'mass media' at

large. This is assuming, of course, that several media outlets can be combined into a single measure – a subject addressed later in this chapter.

Television network news programs have also been used as a measure of the media agenda. Spurred on partly by McCombs' (1977) finding that television – unlike newspapers – displays no agenda-setting effects, those who believe firmly that television is a significant medium have sought to prove its agenda-setting significance. Zucker (1978), for instance, uses television data due to a strong belief in that medium's significance; Behr and Iyengar (1985) use television specifically to refute McCombs and demonstrate its agenda-setting potential. Brosius and Kepplinger (1990) also look towards adding to the ongoing debate about television's public agenda-setting role.¹²

The use of television network news as a media measure in Canada, however, is extremely difficult for the time period in question. Previous to 1992, there is no index of television news programs in Canada, and certainly nothing comparable to the Vanderbilt Television Archives upon which so many American agenda-setting analysts have relied.¹³ Television content, then, cannot be used as the media measure for the present study.

Theoretical reasons to avoid television have also been proposed. Carragee et al. (1987), for instance, suggest that the use of television content analysis to indicate what issues are important to the media is faulty, since television content simply does not concentrate on issues. Furthermore, Eyal (1981) notes that indices of television broadcasts include daily news broadcasts only, and ignore other politically-relevant programming. The program *60 Minutes* in the U.S or *The Magazine* in Canada are obvious examples, but Eyal's criticism is especially interesting in the era of *Murphy Brown*, *Roseanne*, and *Ellen*. Admittedly, both

Eyal's and Carragee et al.'s criticisms are weak. The first is not well-supported by recent literature, and the second is more a reason to include entertainment media than it is a reason to avoid analyzing television news. It is the lack of data, rather than theoretical judgement, then, that prevents the use of television content in the current study.

Having eliminated both television and newsmagazines, newspapers were chosen as the sole source of a Canadian media agenda measure. Title searches, rather than subject searches, were performed individually for each issue in *Canadian Business and Current Affairs (CBCA)* and *Eureka*. Title searches are used because subject searches are susceptible to coding discrepancies in the indices, and preliminary tests showed that a considerable number of unrelated stories turned up when subject searches were used. The disadvantage to title searches is that they assume that the subject of the article is accurately reflected in the title, and this is not always the case. The volume of data necessitated a reliable search method, however, so title searches were used with the assumption that missed articles constitute a minor and random measurement error, and that changes in salience would be accurately reflected in the title search data.

Using title searches, then, series were recorded for each newspaper. These included the seven major newspapers covered by CBCA: the *Globe and Mail*, *Toronto Star*, *Montreal Gazette*, *Halifax Chronicle*, *Calgary Herald*, *Vancouver Sun*, and *Winnipeg Free Press*. *La Presse* – the only French language newspaper for which data was readily available from 1985 onwards (in *Eureka*) – was also included.¹⁴ This selection of newspapers is loosely representative of both regions and owners; accordingly, it should be a reasonably accurate indicator of the Canadian newspaper agenda.

Is there a Canadian Newspaper Agenda?

Before individual newspaper series can be combined, one must answer questions about the existence of a Canadian newspaper agenda. Research into Canadian newspapers has been relatively scarce, but analysis thus far tends to emphasize regional differences. Two content analyses performed for the Royal Commission on Bilingualism and Biculturalism (1966) provide the most commonly cited empirical evidence on inter-regional differences in issue salience for the Canadian media. Bruce (1966), for example, examines inter-provincial variation in news about other provinces, finding that – with the exception of news about Quebec – proximity to a province affects the amount of coverage given to that province.

Gordon (1966) offers a more comprehensive analysis of Canadian newspapers. His content analysis of 29 newspapers surveys a wide variety of national news subjects (15 categories with 49 sub-categories) and compares content across newspapers in each of Canada's five regions for approximately six months in 1965. Gordon emphasizes regional differences, as his statement at the beginning of this chapter demonstrates. More specifically, Gordon suggests the gap between French and English newspapers is especially wide, based on observed differences in the attention given to various topics in Quebec versus English Canadian newspapers. This thesis is based on a comparison of all French versus all English newspapers, however. When results for the five regions are considered separately, it is not clear that Quebec always stands apart from the other four. Quebec clearly gives more attention to provincial politics and slightly more attention to biculturalism; for the majority of issues, however, – including issues such as federal politics, business and economics, agriculture, and foreign affairs – Quebec most often stands somewhere in the middle.

Furthermore, when the rank ordering of the 15 major issue areas for English and French newspapers are compared, the results are remarkably similar (54). Combining the English Canadian newspapers, then, both masks the variance within this group and overstates the divide between Quebec and English Canadian newspapers

Both Gordon and Bruce emphasize inter-regional differences; based largely on these authors' evidence, so to have other commentators. Elkin, for instance, writes that, "The content of the English and French media, although basically following similar styles, often reflect different cultures. Different stories are given headlines in the English and French language press and sometimes the same events are treated very differently" (1975:235). More recently, Soderlund et al. (1980a, 1980b) compare the coverage of national unity issues in Canadian newspapers. These authors write that, "It is rather widely held in Canada that there is no 'national agenda'; and that the rank ordering of salient events by the press differs by region and/ or language." (1980a:349) While these authors interpret their own evidence as supporting this thesis, however, their data is no more convincing than is Gordon's. Their content analysis shows that bilingualism, the Quebec election, and Quebec language policy were more salient in Quebec than elsewhere. For a variety of other issues, however, such as Quebec separatism, air traffic control, and BNA patriation, inter-regional differences are insignificant.

While past studies have emphasized inter-regional differences, then, it is not clear that these differences necessarily outweigh the similarities, and certainly not clear that these differences preclude the possibility of a Canadian media agenda across a wide variety of issues. Furthermore, there is some evidence supporting the idea of a Canadian agenda. There have

been several analyses of newspaper content during Canadian elections, for instance, that find evidence of a Canadian media agenda. Wagenberg and Soderlund (1975, 1976) find very few significant differences in newspaper content during the 1972 and 1974 election periods; Wilson's (1981) evidence from the 1979 campaign reveals a similar trend; Johnston et al. (1992:116) find that French and English television networks' issue coverage during the 1988 election was relatively similar. Surlin et al.'s (1988) study of Canadian and US television network news also finds no clear differences between English and French Canadian networks.

It is not clear that media coherency either during an election period or between television networks can be generalized to newspapers on a regular basis, of course. Elections may prove to be "focusing events" (Birkland 1997), creating more inter-media coherency than exists during non-election periods. Television networks may be more restricted in their news coverage due to, for example, medium-related limitations. Nevertheless, these findings do shed some light on the potential for a coherent, Canadian, non-election period newspaper agenda.

Exploring Inter-Newspaper Relationships

Media time series for each of the eight individual newspapers are used here to test the existence of a Canadian media agenda. While subsequent chapters use monthly data, the analyses below use weekly series, in an effort both to increase the number of cases and provide a more nuanced analysis.¹⁵

Bivariate correlations represent the simplest way in which to measure relationships between individual newspaper series. With 8 Canadian and 8 US newspapers for each issue, however, bivariate correlations do not provide a particularly space-efficient nor illustrative means of presenting evidence below. Moreover, the overall relationship between the newspapers is more germane to the following arguments than are correlations between each pair. While correlations were used in preliminary analysis, then, the explication below relies on a combination of Cronbach's alpha (α) and factor analysis.

Cronbach's alpha (α) is a summary measure of scale reliability – the degree to which separate measures in a scale are related. Originally used as a test measure in designing psychological scales from cross-sectional variables (Cronbach, 1951), it is used here as a indicator of the degree to which issue salience in different newspapers rises and falls concurrently.¹⁶ It is essentially a summary measure of the relationship between item variances:

$$\alpha = N/(N-1)[1 - \sum \sigma^2(Y_i)/\sigma_i^2], \quad (3.1)$$

where N is the number of items, $\sum \sigma^2(Y_i)$ is the sum of item variances, and σ_i^2 is the variance of the aggregated measure.¹⁷ Based on the forthcoming discussion of time series data (Chapter 6), it is worth noting here that the non-spherical disturbances in time series data bias confidence intervals, but not the correlation coefficients themselves. As a result, estimates of α should not be biased, in spite of the fact that α is a measure designed for non-time series data.¹⁸

Factor analysis provides another means by which to observe relationships between newspapers. Principal component analysis (PCA) – a variant of the factor analysis approach – is the method used below. Factor analysis and PCA have been well described in statistics and psychology texts (i.e., Harman 1967, Jackson 1991, Jolliffe 1986, Lawley and Maxwell 1971, Rummel 1970), and since an accurate description involves a considerable amount of matrix algebra, PCA will not be described in detail here. Suffice it to say that PCA analyzes a set of variables' ($x_1, x_2, x_3 \dots x_p$) covariance matrix and finds a principal component, y_1 , which accounts for a maximum amount of variance. The process is repeated, finding further (uncorrelated) components, until p components are found. "Often the first few components account for a large proportion of the total variance of the x -variates and may then, for certain purposes, be used to summarize the original data" (Lawley and Maxwell 1971:2).

The advantage of the PCA approach is that, while Cronbach's alpha provides a single indicator of inter-item covariance, PCA offers an indication of whether newspapers might be better represented in several measures. Moreover, by indicating how each variable is related to each 'component', PCA offers a more nuanced picture of the inter-relationships between a collection of variables – in the following case, newspapers.¹⁹ In sum, Cronbach's alpha is used first below as a general indicator of scale reliability – it speaks to the relationship between newspapers as a whole, and consequently the degree of confidence we can have when we discuss a 'Canadian media agenda'. The PCA results, then, are used to further dissect the relationships between individual newspapers.

Inter-Newspaper Differences in Canada

Column 1 of Table 3.1 (below) displays alphas for the eight-newspaper measure, for each of the eight issues surveyed.²⁰ (Only data from 1990 to 1995 is used, to facilitate a forthcoming comparison with US data.) Results show that issue salience is certainly not identical across newspapers in Canada. This is as expected – regional variation in story relevance and editorial decisions, among other factors, should prevent newspapers from following exactly the same paths. Nevertheless, the salience of some issues exhibits a sizeable degree of consistency across newspapers. The alpha for tax issues in Canada is especially high, followed by environment and inflation. Debt and deficit and unemployment, on the other hand, reflect considerably more inter-newspaper variation in salience.

Based on past work, the first question is whether *La Presse* should be included with the other newspapers, or whether there is a strong English-French divide in issue salience. Column 2 of Table 3.1 responds to this question by presenting the alpha value if one of the newspapers is excluded from the eight-newspaper measure. Alpha tends to be higher as N increases, so the results of column 2 are not directly comparable with column 1. A higher or equal value in column 2 indicates a notable increase in inter-item consistency, however, since values in this seven-item measure are prone to be smaller.

Table 3.1
Cronbach's Alpha – Canadian and US Media Series

Issues	Canadian Newspapers ^a		US Newspapers ^b
	(1) Alpha	(2) Alpha if Item Deleted	(3) Alpha
<i>Prominent Issues:</i>			
Inflation	.691	.706 (<i>Globe and Mail</i>)	.652
Unemployment	.377	.340 (<i>Globe and Mail</i>)	.414
<i>Sensational Issues:</i>			
AIDS	.504	.502 (<i>La Presse</i>)	.499
Crime (General)	.547	.546 (<i>La Presse</i>)	--
Environment	.635	.640 (<i>Toronto Star</i>)	.625
<i>Governmental Issues:</i>			
Debt and Deficit	.276	.305 (<i>Winnipeg Free Press</i>)	--
National Unity	.611	.746 (<i>La Presse</i>)	--
Taxes	.868	.868 (<i>Globe and Mail</i>)	--

1990-1995, weekly data

N=572

^a Canadian newspapers include the *Halifax Chronicle Herald*, *Montreal Gazette*, *La Presse*, *Globe and Mail*, *Toronto Star*, *Winnipeg Free Press*, *Calgary Herald*, *Vancouver Sun*.

^b US newspapers include the *New York Times*, *Washington Post*, *LA Times (Home Edition)*, *USA Today (Final Edition)*, *Seattle Times*, *San Francisco Chronicle (Final Edition)*, *St. Louis Post-Dispatch (Five Star Edition)*, and *St. Petersburg Times (City Edition)*.

Column 2 reports results of the adjusted alpha only for the newspaper whose deletion leads to the highest value. For AIDS, for instance, the paper whose deletion leads to the highest seven-item alpha is *La Presse* – excluding this paper leads to an alpha of .502. There are, in fact, three issues for which issue salience in *La Presse* is the least linked with issue salience

in other newspapers – AIDS, crime and national unity. The difference for crime has no obvious explanation. AIDS and national unity, on the other hand, probably reflect regional differences. The first AIDS clinic in Canada was in Montreal, as was an international AIDS conference – these factors likely contributed to a higher salience for AIDS in Quebec newspapers. The fact that there is an English-French division in national unity salience also makes sense, since this issue should be more frequently and more dramatically salient in Quebec. Looking at bivariate correlations (not presented here), *La Presse* is most closely linked with salience in the *Montreal Gazette* for these two issues, providing evidence of these regional explanations. It is telling, however, that the *Montreal Gazette* is more closely linked with other English newspapers on national unity issues than it is with *La Presse*.

Regional Trends

The regional trends among Canadian newspapers are better observed through PCA analysis, the results of which are reported in Table 3.2 (below). Alpha values presented earlier are clearly reflected in factor analysis results. All newspapers load on a single component for taxes – the issue with the highest alpha coefficient. Other issues show varying degrees of inconsistency in coverage, debt/ deficit and unemployment falling into three components.

Table 3.2
Factor Analysis – Canadian Newspapers,
Unrotated, by Issue

Prominent Issues:

newspaper	Inflation		Unemployment		
	component		component		
	1	2	1	2	3
<i>HCH</i>	0.535	-0.373	0.483	0.394	0.217
<i>MG</i>	0.672	0.052	0.600	-0.226	-0.337
<i>GM</i>	0.271	0.778	0.171	-0.595	0.450
<i>TS</i>	0.600	0.154	0.536	-0.186	0.150
<i>WFP</i>	0.534	-0.101	0.329	0.262	0.492
<i>CH</i>	0.573	-0.075	0.297	0.596	0.203
<i>VS</i>	0.509	-0.470	0.370	0.228	-0.621
<i>LP</i>	0.661	0.301	0.644	-0.311	-0.082
<i>Eigenvalue</i>	2.480	1.098	1.658	1.167	1.061
<i>% variance</i>	25.0	13.5	18.3	13.9	12.7

Sensational Issues:

newspaper	AIDS		Crime		Environment	
	component		component		component	
	1	2	1	2	1	2
<i>HCH</i>	0.429	-0.422	0.554	0.050	0.499	-0.424
<i>MG</i>	0.629	-0.398	0.446	-0.342	0.766	-0.069
<i>GM</i>	0.388	-0.040	0.504	-0.094	0.403	0.734
<i>TS</i>	0.589	0.248	0.541	-0.238	0.423	0.079
<i>WFP</i>	0.464	0.405	0.526	0.208	0.393	-0.101
<i>CH</i>	0.439	0.331	0.543	0.362	0.655	-0.116
<i>VS</i>	0.423	0.496	0.613	-0.073	0.576	-0.436
<i>LP</i>	0.637	-0.380	0.045	0.846	0.635	0.477
<i>Eigenvalue</i>	2.071	1.064	2.022	1.080	2.497	1.171
<i>% variance</i>	25.9	13.3	25.0	13.5	25.9	13.3

Governmental Issues:

newspaper	Debt & Deficit			Nat'l Unity		Taxes
	component			component		comp.
	1	2	3	1	2	1
<i>HCH</i>	0.454	0.147	-0.487	0.714	-0.192	0.750
<i>MG</i>	0.539	-0.311	-0.097	0.734	0.001	0.835
<i>GM</i>	0.212	-0.394	0.614	0.722	-0.250	0.567
<i>TS</i>	0.535	0.218	0.092	0.561	0.488	0.752
<i>WFP</i>	0.399	-0.505	-0.427	0.671	0.151	0.791
<i>CH</i>	0.337	0.653	0.187	0.685	-0.246	0.785
<i>VS</i>	0.330	0.400	-0.019	0.519	-0.334	0.742
<i>LP</i>	0.507	-0.164	0.410	0.366	0.774	0.842
<i>Eigenvalue</i>	1.467	1.189	1.018	3.209	1.132	4.650
<i>% variance</i>	18.3	13.9	12.7	27.4	14.0	12.5

1985-1995, weekly data

N=572; Extraction Method: Principal Component Analysis

In no case is there evidence of regional sub-groups. Newspapers from the west, for instance, do not consistently load on the same component, and when they do it is often along with newspapers from elsewhere. It may be that by concentrating only on major papers, and by having only one paper from a given province (with the exception of Ontario and Quebec), these results lack the detail required to pick up on regional trends. It is clear that the present evidence, however, cannot support the idea of regional sub-groups.²¹ *La Presse* loads on a separate component for crime and national unity, suggesting that this newspaper follows a different trend than the English newspapers for these issues. For the majority of issues, however, salience for *La Presse* is not markedly different from that of English newspapers. In sum, these results indicate a French-English divide in issue salience for crime and national unity, but no other obvious regional trends.

Ownership Trends

One might also expect newspapers to group together by ownership. The growing concentration (and often monopolization) of newspaper ownership has drawn a great deal of criticism, especially following the spate of mergers and acquisitions made by Thomson and Southam in the early 1980s (prompting the Royal Commission on Newspapers), and a series of Hollinger (Southam) acquisitions in the mid to late 1990s.²² Opponents of newspaper mergers suggest that concentration of ownership decreases variation in content. There are a wide variety of sources in which this argument has been made in the US (Herman and Chomsky, 1988; Bagdikian, 1987) and Canada (Winter, 1997).

The newspapers covered here could present a useful cross-section for observing trends in this regard – the *Globe and Mail* and *Winnipeg Free Press* are owned by Thomson; the *Montreal*

Gazette, *Calgary Herald*, and *Vancouver Sun* are owned by Hollinger/Southam; the *Toronto Star*, and *La Presse* are owned by other media groups (Torstar, Gesca Inc.); the *Halifax Chronicle Herald* is independent. The clearest ownership trend would be that the Thomson or Southam papers would group together. The factor analyses, however, show this not to be the case. This is in line with the bulk of past research – in spite of authors suggesting that concentration of ownership leads to concentration of content, a variety of studies have found no relationship between newspaper ownership and newspaper content in either the US or Canada. Wagenberg's (1976) study of chain ownership and content during the 1974 Canadian federal election, for instance, finds no relationship between the two variables.²³ Similarly, Coulson (1994) finds no relationship between type of ownership and newspaper quality in the US.

Inter-newspaper Consistency in Canada – A Point of Comparison

A central difficulty with interpreting past evidence of inter-newspaper consistency in Canada lies in the problem of assessing just how much difference must exist between media sources before we know there are significant differences. Conversely, how much difference can exist without violating the assumption that there is a single agenda? We cannot expect that different newspapers will have exactly the same content, so a certain amount of difference must be allowed – how much, however?

Evidence from the US might go some way toward solving this problem. It is widely held that there is a coherent US media agenda. The bulk of research in the US deals with the three major television networks – these studies provide overwhelming evidence of the similarity in network news content (i.e., Carroll et al. 1997; Fowler and Showalter 1974; Hester 1978;

Riffe 1986; Stempel 1985). Research using newspapers, however, has come to similar conclusions. Both Stempel (1985) and Danielian and Reese (1989), for example, find what they believe are significant similarities in the content of a variety of US newspapers. Unfortunately, the issues and methods of analysis in US studies are not the same as those found in Canadian studies, so the two groups are not directly comparable.

In an effort to address this problem, data was collected for AIDS, environment, inflation, and unemployment for several US newspapers from 1990 to 1995.²⁴ The US newspapers for which content analyses are conducted are as follows: the *New York Times*, *Washington Post*, *Washington Times (Home Edition)*, *USA Today (Final Edition)*, *Seattle Times*, *San Francisco Chronicle (Final Edition)*, *St. Louis Post-Dispatch (Five Star Edition)*, and *St. Petersburg Times (City Edition)*. The selection of US papers was dictated largely by their availability from 1990 onwards in the Lexis-Nexis search engine.²⁵ Nevertheless, the papers do represent a reasonable sample of major US newspapers. The *New York Times* and *Washington Post* are widely regarded as leading newspapers in the US, and consistently selected as representatives of the US media agenda in agenda-setting and media analyses. *USA Today* is the nation's most read daily, and – of these first three – is the one that aims most exclusively at a national audience; the other two combine national news with varying amounts of local/regional coverage. The *San Francisco Chronicle*, *St. Petersburg Times*, *Washington Times*, *St. Louis Post-Dispatch*, and *Seattle Times*, on the other hand, are large regionally-centered papers, representing various regions across the US.²⁶ All papers were searched using the Lexis-Nexis search engine with the same title search keywords as those used in the Canadian content analyses.

Column 3 of Table 3.1 (above) presents alpha coefficients for the US newspaper series. Since the alphas reported in Columns 1 and 3 are based on the same number of items, they are directly comparable. A comparison indicates that it is incorrect to assume Canadian media show an uncommon amount of inconsistency in coverage. In fact, for the four cases in which there is comparable US data, there are no notable differences between the Canadian and US alpha coefficients. If one is willing to assume that US media are sufficiently consistent in their coverage to theoretically justify a 'US media agenda', then, the same can apply for the Canadian media. Whether there is enough inter-newspaper consistency in either country is, of course, debatable – there is no correlation marking an absolute division between enough consistency, and not enough consistency. The alpha coefficients do seem relatively high, however, especially considering the many variables that intervene between real-world events and published newspaper articles. Those issues that show less consistency (debt and deficit, unemployment) deserve some extra attention in later analyses, perhaps. Overall, however, these tests show that for most issues there is a relatively high degree of inter-newspaper consistency in Canada.

Prominence Measures and the Media Agenda

Several public agenda-setting authors have suggested that story prominence is an important intervening variable in the agenda-setting process, and have used prominence measures in their analyses. Eaton (1989), for instance, suggests that the length of a story provides an indication of prominence in both newspapers and television, and his media analysis includes such a measurement. Watt and van den Berg (1981) and Watt et al. (1993) use a measurement of television and newspaper agendas that includes a far more detailed

prominence measure, taking into account story length, story placement, the use of stills, graphics, or videotape (for television), and the use of column width and graphics (for newspapers). Watt et al. write that,

Because prominence may make a difference in exposure to the coverage and in the amount of information communicated and because it may contain direct cues about the salience of the issue in the eyes of the media, the more conservative course is to include story prominence characteristics in measures of media coverage. (415)

These authors demonstrate ways of including prominence in the operationalization of the media agenda. None clearly demonstrates that prominence improves the measurement of public agenda-setting, however, since results are not compared with those using no prominence measure. Evidence that prominence plays a significant role in public agenda-setting, then, is restricted to two studies. First, Iyengar and Kinder (1987) test the 'lead story hypothesis', and find evidence that a story's placement at the front of a television broadcast improves its agenda-setting ability. Secondly, Wanta's (1988) analysis of the effects of dominant photographs demonstrates similar effects – photographs seem to improve a story's agenda-setting potential

While it seems that prominence plays an important role in the agenda-setting process, then, evidence is limited. A further test of the 'lead story hypothesis' is not included here, however. While *CBCA* includes page numbers in an accessible format, *Eureka* does not. The result is that it is impossible to get page numbers without manually paging through *La Presse*, and the number of issues and time period involved make this a formidable task. Story prominence is likely an important factor in mass media's agenda-setting capabilities,

and further testing is required. Unfortunately, it is above and beyond the capabilities of the present analysis.

That said, there are two ways in which excluding prominence scores might affect tests for agenda-setting dynamics. If prominent stories tend to happen at the same time as less prominent stories, then a measure ignoring prominence will probably only underestimate agenda-setting effects. The variance of a prominence-based measure would be higher than a basic article-counting measure, so using the latter would increase the possibility of finding no effects. If prominent stories tend to happen at slightly different times than other stories, on the other hand, the problem is much more significant. In this case, the timing of effects would change.

In order to check that not taking prominence into account does not bias the timing of effects, front page articles from English language newspapers were compared with articles on other pages. As a preliminary step, CCFs were calculated between the two time series for each issue. In all cases, the highest correlation was at lag 0. Other correlations vary between issues, but in most cases there are significant lags *and* leads. There is no clear indication, then, that either front page or other page articles led the other.²⁷

These results (along with those described in note 27) led to the following conclusion: a prominence-based measure would likely increase the variance of the media measure but would not alter the timing, at least when articles are aggregated weekly. Forthcoming analyses are premised, then, on the assumption that article counts provide an adequate measure of media content, accurate longitudinally, although conservative in variance in comparison with prominence-based measures.

Temporal Trends – Issue Salience & Inter-Newspaper Consistency

Evidence has shown that consistency in newspaper content is unrelated to ownership, and that the links between content and region are weak and inconsistent across issues. Consistency in newspaper content might also be expected to change over time, however, based on issue salience. When an issue is in a period of heightened salience it seems likely that all newspapers will react. When the issue is not especially salient, on the other hand, newspapers may be more likely to react differently to stories on that issue.

Table 3.3 (below) presents more reliability data for Canadian newspaper series, this time divided into three equal intervals. The table presents both the alpha and the mean number of articles for each period. If alphas are highest for each issue during the period with the highest mean number of articles, this may be an indication that consistency and issue salience are related.

Evidence in Table 3.3 supports this proposition. Looking first at the mean number of articles across periods, there are no significantly different means for either debt/deficit or unemployment, based on Tukey's HSD test. It is difficult, then, to glean evidence from either of these issues. For the other six issues, however, the highest mean is significantly different from the other two means. For AIDS, crime, environment, inflation, and taxes – five of these six cases – the greatest alpha value for an issue is during the same period for which that issue shows the highest mean number of articles. National unity is the only issue for which this is not the case.

Table 3.3
Cronbach's Alpha and Means – Canadian Newspapers, In Three Intervals

subject	statistic	period		
		Wk1 1985 - Wk34 1988	Wk35 1988 - Wk17 1992	Wk18 1992 - Wk52 1995
<i>Prominent Issues:</i>				
Inflation	Alpha ^a	0.668	0.678	0.650
	Mean ^b	2.184	3.482*	2.497
Unemployment	Alpha ^a	0.368	0.320	0.374
	Mean ^b	2.689	2.309	3.058
<i>Sensational Issues:</i>				
AIDS	Alpha ^a	0.514	0.392	0.475
	Mean ^b	7.395*	6.052	5.115
Crime (General)	Alpha ^a	0.312	0.323	0.549
	Mean ^b	6.032	6.424	9.539*
Environment	Alpha ^a	0.373	0.551	0.331
	Mean ^b	3.084*	11.335*	6.440*
<i>Governmental Issues:</i>				
Debt and Deficit	Alpha ^a	0.342	0.478	0.194
	Mean ^b	0.689	0.686	0.880
National Unity	Alpha ^a	0.661	0.446	0.735
	Mean ^b	6.058	12.304*	6.215
Taxes	Alpha ^a	0.087	0.849	0.750
	Mean ^b	0.474*	9.937*	2.550*
N		190	191	191

1985-1995, weekly data

^a Cronbach's alpha for all eight Canadian newspapers.

^b Mean number of articles per week.

* Significantly different (at the $p < .05$ level) from *both* the other means, based on Tukey's HSD test.

These results suggest that there is a higher degree of inter-newspaper consistency when issue salience is high. The idea of a single 'newspaper agenda', then, is likely on stronger ground during periods of heightened issue salience.

Summary and Conclusions

Analyses presented above have led to four conclusions about the media agenda. First, evidence based on both Canadian and US media time series suggests that there is a good deal of coherence among Canadian newspapers where issue salience is concerned. This finding stands in stark contrast with previous findings and assumptions. It is likely due in part to the current study's concentration on simple issue salience, rather than the actual content of newspaper articles. Nevertheless, the above findings presented indicate that there is considerably more inter-newspaper coherency than is generally assumed in Canada. Moreover, it indicates that combining the eight newspapers into a single measure will provide a reasonably accurate measure of the Canadian media agenda, putting subsequent analyses on more solid ground.

Secondly, additional analysis shows that ignoring prominence measures may decrease the chance of finding agenda-setting effects, but it most likely does not change the timing of those effects. Perhaps most importantly, this suggests that the vast body of accumulated agenda-setting evidence need not be discarded. Results might be biased towards a Type II error (failing to reject the null hypothesis of no relationship), but evidence here does not suggest the timing or evidence of effects is severely biased. This evidence is also fundamental to the models in Chapters 7 and 8, since media time series used there do not include measures of prominence.

Thirdly, there is little evidence of regional or ownership-based trends among the newspapers surveyed here. This is in accordance with past work – in spite of the widespread belief that

the growth of media magnates has led to more restricted media content, empirical evidence of this trend has been difficult to find.

Finally, there is a relationship between issue salience and media coherency. This is an important finding, suggesting that the idea of a 'Canadian newspaper agenda' is on stronger ground when issue salience is high. Moreover, this finding suggests that the potential for media influence may increase when issue salience is high – not only because of increased salience, but because of more coherent and consistent media coverage. This hypothesis has important consequences for the agenda-setting process, and we will return to it in forthcoming chapters.

Agendas

Chapter 4

The Public Agenda

As with the media agenda, the existence of a 'Canadian' public agenda is not clear. The vast bulk of Canadian political debate, after all, is centered around growing regionalism, Quebec separation, and an increasingly fragile Canadian national identity. Nevertheless, the preceding media tests, along with a body of previous work dealing with Canadian public opinion at a national level, indicate that one can speak logically about a pan-Canadian public agenda. This chapter tests this hypothesis, and – like the preceding chapter – combines this test with others related to the nature of public agendas in Canada.

The chapter begins with a discussion of the methods by which public agendas have been measured, and sources of the 'most important problem' (MIP) question are described. Then the chapter investigates Canadian national and regional public agendas. Past work on Canadian public opinion has identified both similarities and differences. Where issue salience is concerned, however, evidence here demonstrates that changes in issue salience are remarkably similar across Canada. There is, nevertheless, variation in the levels of issue salience across provinces, and explaining these differences is this chapter's final goal. Comparisons of provincial issue saliences include a brief discussion of audience attributes, as well as studies into how variations in real-world factors affect public opinion. In spite of a rather cursory analysis, there is a clear link between issues' perceived salience and real-world significance across provinces.

Measuring the Public Agenda

For the most part, measurement of issue salience for the public in agenda-setting studies has been based on the 'most important problem' (MIP) question. The question has been asked relatively consistently in the United States since the 1930s (Smith 1980, 1985), and reads, with minor variations, as follows: *What do you think is the most important issue facing our country today?*

Funkhouser's (1973) longitudinal public agenda-setting study was the first to use Gallup's MIP question to measure the public agenda. While Funkhouser used rank-ordering of issues to represent agendas, however, the open-ended Gallup MIP question has been used repeatedly by other authors to measure the individual salience of issues on the public agenda (i.e., Iyengar and Simon 1993; MacKuen and Coombs 1981; Neuman 1990; Shoemaker et al. 1989; Winter and Eyal 1981; Zucker 1978). In most cases, the proportion of respondents citing a given issue is used as an indication of that issue's importance on the public agenda.

The MIP question has advantages and disadvantages. Because it is an open-ended question, it does not bias the response. Open-ended questions, however, "reduce the comparability across subjects, and their use invites a certain amount of subjectivity in subsequent coding" (DeGeorge 1981:220). Eaton (1989) notes a number of further difficulties. The use of the word 'most', for instance, likely creates even more volatility in an already rather volatile public opinion. Moreover, Eaton notes that public opinion is too varied and complex to be measured exactly by a single response, even to an open-ended survey question. MacKuen and Coombs (1981) have similar reservations. These authors suggest that the question does not elicit a well-thought-out response, and that the responses are, "unaccountably oriented

toward the most casual, and superficial, aspects of the public's political consciousness." Nevertheless, the authors conclude, when its limitations are taken into account, the MIP question does, "provide us with an indication of a substantively interesting aspect of public consciousness." (61)

Above and beyond its theoretical strengths and weaknesses, the largest single advantage of the MIP question is that it is one of the very few questions that have been asked relatively consistently by a large number of polling firms for an extended period. This is the often unstated but implicit advantage to the MIP question in past agenda-setting work, and the present case is no different. There is no other opinion question that has been asked as frequently as the MIP question. In fact, it is one of the very few questions for which longitudinal analysis of a considerable scale is viable.

Accordingly, the MIP question is used here as the measure of the public agenda. This work is premised, then, on the notion that the MIP question provides a reasonable measure of issue salience – certainly as good a measure as can be expected from one question, and likely the only measure available over a reasonable time period. Unfortunately, Gallup Canada has not been as consistent with the MIP question as its US counterpart. Slight question and coding changes have occurred in both countries, but the frequency of the Gallup MIP question is much lower in Canada. This is perhaps one reason why public agenda-setting research has been so strong in the US while it has lagged in Canada – the availability of public opinion data makes analysis in the former country considerably more convenient. A recent Canadian agenda-setting analysis suggested that a media content analysis could be used in place of a

direct measure of the public agenda (Howlett, 1997) – this conceptual log-jam is presumably partly a function of data availability.²⁸

A major task of the present study, then, is to locate enough MIP questions over time to create a reasonable longitudinal measure of public issue salience. Gallup data is used, but this data is combined with surveys from Environics, Decima, Angus Reid, Pollara, and several CBC/Globe and Mail polls. The particular surveys are listed in Appendix B, along with the variations in question wording. Smith (1980, 1985) has suggested that wording changes in Gallup US data do not adversely affect the results. While the variations in wording between the different Canadian polling firms vary more than would be the case if only one firm's data was used, it is suggested here that the questions elicit comparable responses. An affirmative test of this hypothesis is included in Appendix B.

There are a number of additional methodological complexities. First, some surveys allow for more than one response to the MIP question. This is dealt with in the same way as in past agenda-setting analyses – rather than the percentage of respondents, the percentage of total *responses* for each issue is used (i.e., Behr and Iyengar 1985). Secondly, there are a number of months for which there are more than one survey. When this is the case, the surveys are merged, and the percentage of responses is calculated from the total sample. Again, this is in accordance with past work. Difficulties can also arise when close-ended and open-ended questions are merged – luckily, all survey organizations included here use an open-ended version of the MIP question.

'Canadian' Public Opinion & Agendas

There has been little work on issue salience in Canada, and none comparing issue salience at the provincial level. Past work, then, does not indicate whether there is considerable provincial variation in issue salience, and cannot suggest whether the use of a Canadian national agenda is problematic. Issue opinions have been analyzed more frequently, however. Results are mixed, indicating a combination of difference and similarity across Canada.

The edited volume *Small Worlds* represents one of the more wide-ranging examinations of regional differences in public opinion in Canada. In it, Elkins (1980) examines the importance of regional identities in Canada, while Simeon and Elkins (1980) explore "regional or provincial differences in sense of efficacy, in the degree of citizen's trust in their governments, and in the degree and type of involvement in political matters..." (31). Difference is not the overarching theme, however. Simeon and Blake (1980), for instance, find a combination of difference and similarity, marked by over-time convergence, in regional opinion on public policy issues.

Other research supports the dual findings of similarity and difference. Johnston et al.'s (1996) investigation of public opinion surrounding the 1992 constitutional referendum provides evidence of regional differences in opinion, for instance, while Fletcher and Howe (1999) find few regional differences in support for the Charter and courts across regions. Johnston's (1986) review of Canadian public opinion and public policy suggests that regional public opinion is divided on policies within provincial jurisdiction, but similar on federal powers. The fact that several studies deal with Canadian opinion at a national level only is

itself also an indication that region does not always play a role in Canadian public opinion. Nevitte's (1996) study of value change, for instance, exploring themes such as postmodernism, confidence in government, and moral and economic opinion, makes no mention of regional variation.

In spite of considerable and widely acknowledged differences in public opinion across Canadian regions, then, there is also evidence of substantial similarity. Which will be reflected in issue salience measures? If there are strong links between media and public agendas, work in the preceding chapter suggests that issue salience should vary little across provinces. Media and public agendas can diverge, however, so public opinion hypotheses based on media data are on shaky ground. The following section, accordingly, tests the existence of national trends in issue salience using provincial results for the MIP question.

Inter-Provincial Consistency: Exploring Longitudinal Variation

As with the preceding examination of the media agenda, the first step here is to verify the existence of a 'Canadian' agenda by comparing results across provinces. Public opinion data collected for the current study is an amalgam of primary data and aggregated results. As a result, separating the national results into provincial samples is not always possible. The Decima data is the most easily accessible at the provincial level, so only this data is used here to compare provincial agendas. While this leads to a reduced number of both cases and issues, the analysis should nevertheless offer an adequate picture of provincial differences in issue salience.

The Decima data permit a comparison of provincial agendas across five issues: debt/ deficit, environment, inflation, national unity, and unemployment. Table 4.1 (below) presents Cronbach's alpha results for each issue, and illustrates the high degree of inter-provincial similarity in issue salience. All alpha coefficients are very high; in factor analyses (not presented here), all provinces load on a single factor for all issues but inflation. Most striking is the extremely high degree of inter-provincial similarity for the national unity issue. This is an issue in which there are clearly inter-provincial differences in opinion. From 1985 to 1995, however, changes in the salience of this issue are similar across Canada.

Table 4.1
Provincial Issue Salience – Cronbach's Alpha

<i>Issue</i>	<i>Alpha (N)^a</i>
Debt and deficit	0.950 (24)
Environment	0.952 (24)
Inflation	0.858 (41)
National unity	0.981 (40)
Unemployment	0.965 (41)

^a Source: Decima Data only, monthly MIP responses by province. All 10 Provinces are included for each issue. *N* refers to the number of data points.

These results indicate that there is indeed a coherent 'Canadian' agenda. Some might charge that these results are aided by the MIP question wording – asking for the 'most important problem facing Canada today' might predispose respondents towards giving nationally-oriented answers. It is possible that answers might reflect what respondents suspect is the greatest 'national' problem, and not the problem that they themselves see as the most important, thereby creating a greater degree of national consensus than actually exists.

Smith, for example, notes that in the Gallup question, "The frame of reference is the country at large, and responses inevitably deal with national or even global concerns rather than local or personal problems" (1980:165). Question wording varies across polling firms, however, and Decima – on whose data the results presented here are based – adds the caveat, "in other words, the one that concerns you personally the most". The fact that there is no regional variation in results, in spite of this individually-oriented question wording, is likely an indication that the evidence presented here of a Canadian agenda is genuine rather than a product of question design.

In interpreting the results in Table 4.1, we should also keep in mind the difference between opinions and salience. There is no question that English and French Canadians feel differently about national unity. Johnston et al. (1996), for instance, detail the considerable regional differences in opinion surrounding the 1992 referendum. And national unity is probably not the only issue for which opinion changes across regions. Evidence presented here, however, indicates that the *salience* of issues tends to be similar across Canada. While Quebecers and British Columbians may have different opinions, issues are usually salient in both provinces at the same time.

Inter-Provincial Differences – Exploring Cross-sectional Variation

While inter-provincial differences in issue salience are small, they do nevertheless exist. Table 4.2 (next page) is a case in point, presenting the average percentage of provincial respondents citing debt or deficit as the most important problem in Decima polls over the survey period. (Provinces' national rankings are noted in parentheses.) These results should

be regarded only as very loose estimates of inter-provincial difference in issue salience from 1985 to 1995 – they do not, after all, reflect any of the differences that might exist in terms of longitudinal dynamics. Nevertheless, the results are telling. While the alpha coefficient is very high for debt/deficit, for example, Table 4.2 shows a large degree of inter-provincial variation. While issue salience tends to rise and fall simultaneously across provinces, then, the alpha coefficients in Table 4.1 hide inter-provincial differences in the size of public concern. Inter-provincial similarities are stronger longitudinally than they are cross-sectionally.

Table 4.2
Provincial Issue Salience – Debt and Deficit

<i>Province</i>	<i>Average % respondents^a</i>
Newfoundland	3.440 (10)
PEI	6.416 (8)
Nova Scotia	7.704 (6)
New Brunswick	6.263 (9)
Quebec	7.351 (7)
Ontario	7.832 (5)
Manitoba	10.803 (4)
Saskatchewan	14.400 (2)
Alberta	16.766 (1)
British Columbia	14.103 (3)

* $p < .05$, ** $p < .01$, *** $p < .001$

^a Source: Decima Data only, monthly MIP responses by province where available; provincial rankings are in brackets

Is it possible to account for cross-sectional variation in issue salience? One hypothesis is that cross-sectional variation is a product of inter-provincial differences in audience attributes. This certainly seems the best explanation for differences in the salience of national unity

issue, for instance, based on the hypothesis that salience of national unity issues is related to the size of a province's French population.

Table 4.3
Provincial Issue Salience – National Unity

<i>Province</i>	<i>Average % respondents^a</i>	<i>French Population, 1996 Census (%)^b</i>
Newfoundland	4.647 (9)	0.4 (10)
PEI	5.174 (7)	4.2 (5)
Nova Scotia	5.171 (8)	3.9 (6)
New Brunswick	7.722 (2)	32.9 (2)
Quebec	9.276 (1)	80.9 (1)
Ontario	5.794 (6)	4.5 (3)
Manitoba	7.314 (3)	4.3 (4)
Saskatchewan	4.613 (10)	2.0 (7)
Alberta	6.049 (5)	2.0 (7)
British Columbia	6.836 (4)	1.4 (9)
Pearson's r		0.622*
Spearman's rho		0.632*

* $p < .05$, ** $p < .01$, *** $p < .001$

^a Source: Decima Data only, monthly MIP responses by province where available; provincial rankings are in brackets.

^b Source: 1996 Census, *Census Data Analyser* at University of Toronto, (<http://datacentre.epas.utoronto.ca:5680/census/>); provincial rankings are in brackets.

Table 4.3 tests this hypothesis, contrasting inter-provincial differences in salience with the percentage of the population whose mother tongue is French. Two correlation coefficients are noted in the final row – Pearson's r is calculated using the actual values in the first and second columns, and Spearman's ρ is a measure of correlation between provincial rankings, noted in parentheses in each column. Both correlation coefficients are high and statistically significant, illustrating a relationship between aggregate concern about national unity and provincial French population. French population is only one of several variables that may be correlated with national unity concern, of course. The comparatively high

concern in the West, for instance, is attributable to other factors. Nevertheless, the results in Table 4.3 point to the relationship between mother tongue and national unity salience. Moreover, they indicate the relationship between issue salience and audience attributes, and consequently point to the important contributions that more complex individual-level analysis can make to models of agenda-setting.

Another hypothesis is that inter-provincial differences in issue salience are related to differences in real-world factors. Blake (1999), for instance, has shown that environmental concerns in British Columbia are linked to real-world conditions. His evidence demonstrates that respondents' concern about and attribution of environmental degradation is related to the type of industry found in their region. It follows, then, that the salience of environmental issues might be linked to the severity of environmental problems across Canadian provinces.

Table 4.4
Provincial Issue Salience – Environment

<i>Province</i>	<i>Average % respondents^a</i>
Newfoundland	2.982 (7)
PEI	2.083 (10)
Nova Scotia	4.092 (5)
New Brunswick	4.136 (4)
Quebec	7.173 (1)
Ontario	5.249 (3)
Manitoba	2.831 (8)
Saskatchewan	2.397 (9)
Alberta	3.823 (6)
British Columbia	6.764 (2)

* $p < .05$, ** $p < .01$, *** $p < .001$

^a Source: Decima Data only, monthly MIP responses by province where available; provincial rankings are in brackets.

Table 4.4 (above) presents average provincial salience for environmental issues during the study period, and results suggest the possibility of a relationship between concern and real-world indicators. Provincial measures of environmental problems are beyond the scope of the present analysis. Nevertheless, the provinces in which salience is the highest – Ontario, Quebec, and British Columbia – are also those in which population, and the resulting pollution, are highest. If we hypothesize that there is a relationship between urban populations and environmental concern, Table 4.4 reflects the possibility that inter-provincial differences in issue salience are connected to real world indicators.

The evidence presented in Table 4.4 is admittedly weak, based on assumptions for which the current work is not prepared to provide evidence. More substantive proof of a relationship between issue salience and inter-provincial differences in real world conditions might be found, however, by examining inflation and unemployment. In these cases, real-world indicators are easily obtained, and they are contrasted with variation in public opinion in Tables 4.5 and 4.6 (below). Evidence indicates that the salience of inflation and unemployment are related to the CPI and unemployment rate – in both cases, provinces which score high on the real-world measure also score high on average issue salience. These tables echo the predictions made about prominent issues in Chapter 2, and foreshadow the evidence found for real-world effects in Chapter 7.

Table 4.5
Provincial Issue Salience – Inflation

<i>Province</i>	<i>Average % respondents^a</i>	<i>CPI – Change from 1985 to 1995 (yearly data)^b</i>
Newfoundland	2.837 (8)	30.3 (10)
PEI	2.134 (10)	33.1 (8)
Nova Scotia	3.852 (4)	33.3 (7)
New Brunswick	3.091 (6)	32.6 (9)
Quebec	2.983 (7)	35.5 (6)
Ontario	4.101 (2)	38.7 (3)
Manitoba	3.763 (3)	39.7 (2)
Saskatchewan	4.752 (1)	38.5 (4)
Alberta	3.516 (5)	36.0 (5)
British Columbia	2.208 (9)	40.2 (1)
Pearson's r	0.321 / 0.684* ^d	
Spearman's rho	0.321 / 0.700* ^d	

Table 4.6
Provincial Issue Salience – Unemployment

<i>Province</i>	<i>Average % respondents^a</i>	<i>Average Unemployment Rate (1985-1995)^b</i>
Newfoundland	49.917 (1)	18.64 (1)
PEI	33.691 (3)	15.30 (2)
Nova Scotia	34.481 (2)	12.30 (4)
New Brunswick	31.808 (4)	12.87 (3)
Quebec	31.350 (5)	11.24 (5)
Ontario	22.177 (7)	7.91 (9)
Manitoba	22.800 (6)	8.26 (8)
Saskatchewan	20.208(10)	7.52 (10)
Alberta	21.408 (9)	8.74 (7)
British Columbia	21.988 (8)	10.47 (6)
Pearson's r	0.867**	
Spearman's rho	0.867**	

* p < .05, ** p < .01, *** p < .001

^a Source: Decima Data only, monthly MIP responses by province where available; provincial rankings are in brackets.

^b Source: Selected Economic Indicators – Provinces, CANSIM matrices 6968-6977; provincial rankings are in brackets.

Summary & Conclusions

Past work on Canadian public opinion tends to emphasize a combination of similarity and difference, and the current work follows suit. In the first analyses, comparisons of provincial agendas demonstrated considerable similarity in changes in provincial issue salience. In spite of widely acknowledged regional differences in issue opinions, the salience of issues tends to rise and fall at the same time across the country. Accordingly, there is good reason to speak of a 'Canadian public agenda' – when an issue is rising in importance in the west, the east is experiencing a similar trend.

The magnitude of attention across regions is often quite different, however, as this chapter's latter investigations have demonstrated. The longitudinal similarity initially explored above appears to hide a certain degree of cross-sectional difference, and a comparison of average salience scores across provinces reveals patterns to this difference related to regional variation in audience attributes and real-world conditions. National unity provides an example of the relationship between audience attributes and issue salience – while trends in the salience of national unity are similar across provinces, the issue is consistently more salient in regions with larger French populations. Inflation and unemployment, on the other hand, provide the most obvious link between real-world conditions and issue salience – provinces where these issues are worse tend to be more concerned about these issues.

Figure 4.A (below) offers a useful demonstration of the trends described above. The figure illustrates the salience of unemployment over time, using Decima data, for the two provinces with the highest and the two provinces with the lowest average unemployment rates from 1985 to 1995. (PEI is excluded because it has so few cases.) Results for the provinces

clearly follow the same path – declining until 1990, and then rising steadily until 1995. Issue salience for provinces with high unemployment, however, is always higher than for provinces with low unemployment. Longitudinal similarities are strong, as indicated in the Cronbach's alpha score in Table 3.1. There are considerable cross-sectional differences, however, and these are clearly linked with regional differences in real world conditions.

Figure 4A
Provincial Issue Salience – Unemployment

This chapter, then, indicates that while we can use a national longitudinal measure of public opinion, we should not ignore the fact that there are important cross-sectional – or cross-regional – differences. This finding should not adversely affect forthcoming tests that use a national measure, although there is a slight possibility that evidence of causal effects will be

more difficult to find for issues in which provincial public opinion differs in both level and variance. In these cases, province-level agenda-setting analysis might be more likely to discover strong effects. Forthcoming tests indicate, however, that this is not a problem for the cases surveyed here. Rather, the above results serve to remind us that Canadian public opinion does indeed reflect a combination of similarity and difference, and point to the importance of further cross-sectional work in agenda-setting modeling.

Agendas

Chapter 5

The Policy Agenda

The specification of media and public agendas is relatively straightforward. Measurement possibilities are limited, based on the nature of the agendas themselves, data availability, and the relatively consistent choices made in past agenda-setting work. The same cannot be said, however, for the policy agenda. This last agenda has been difficult for agenda-setting researchers to both define and measure, and the current work is no exception.

There is a considerable body of literature dealing with the policy agenda, certainly, but the measures used vary widely. Moreover, the vast majority of past empirical policy agenda-setting work deals with the US, and examples do not always translate well into other political systems. The US system of government, based on a combination of divided jurisdiction and openness, allows for a wide range of reasonably accurate empirical measures of policy attention. Roll calls, legislative initiatives, committee meetings, and press releases are just some of the Congressional activities that are accurately recorded and easily accessible. In the Canadian parliamentary system, on the other hand, the only easily available sources are records of discussions in the House and Senate, where little actual decision-making takes place. Most important policy discussion takes place either in bureaucratic venues or in Cabinet meetings, and records for both are unavailable. This is not to say that policy measures in Canada are impossible, but they are certainly more limited.

The present chapter deals with this difficulty by considering the wide range of policy agenda measures used in US studies. Each measure is introduced in turn, and its applicability to the Canadian system is discussed. Similar to preceding chapters, then, this one compares and contrasts various agenda measures. Unlike the media and public agendas, however, a single policy agenda measure is not the objective here. Rather, the aim of this chapter is to investigate different ways in which the policy agenda can be measured, examine the reliability of and relationships between these measures, and propose methods of including most of them in agenda-setting models used in Chapters 7 and 8.

The chapter begins with a discussion of government spending – the only policy measure discussed here that is not included in forthcoming analyses. It then discusses three policy measures that can be adapted to monthly time series analysis: committee activities, Throne Speech content, and legislation. Each of these measures is introduced, and some preliminary tests are conducted. Evidence shows that each responds in varying degrees to the trends evident in media and public series. Then, each is compared with what is used as the primary monthly measure of the policy agenda – a content analysis of Question Period discussions in Hansard. The degree to which other measures are reflected in the Question Period time series is tested. The chapter then finishes with a conceptual discussion of policy agenda measures, and a proposal as to how the policy agenda might best be represented in upcoming chapters.

Government Spending

Government spending is the most obvious and easily accessible empirical measure of the policy agenda. Issue-specific spending has been used in a number of US agenda-setting studies (i.e., Baumgartner and Jones 1993; Hall and Jones 1997; Rogers et al. 1991). Within Canada, studies of political business cycles and partisanship effects use overall spending as measure of ideological or political agendas (i.e., Cameron 1986; Simeon and Miller 1980; Petry 1995; Petry et al. 1999; Blais et al. 1996).

Government spending presents a number of difficulties, however. The first and foremost is that spending estimates are yearly, making any longitudinal research at a lower frequency difficult. It is possible to obtain some spending figures at monthly intervals, but these probably do not reflect changes in issue salience. It is also possible to extrapolate annual data into monthly data (i.e., Rogers et al. 1991), but this creates a highly autocorrelated series with jumps that reflect budgetary constraints rather than actual changes in issue salience for policymakers. For analyses such as this one, which covers only a decade in monthly intervals, spending data is far from ideal.

Moreover, there is the possibility that incremental changes in yearly spending data are a poor indication of changes in issue salience. Wildavsky (1964) is the best-known work emphasizing 'incrementalism' in budgetary processes – the fact that one year's budget is based almost entirely on the previous year's. If this is true, we should expect to see very little change in spending even if there are dramatic changes in issue salience. Indeed, Savoie's review of spending in Canada partly supports Wildavsky's hypothesis: "As

elsewhere, an important determining factor in the size of the main estimates tabled by the federal government is the previous year's main estimates" (1990:336).

Savoie goes on to write that, "In Canada, however, federal ministers and officials have demonstrated a knack to start new programs quickly" (1990:336). While Canadian federal budgets often change incrementally, then, there is still the possibility that changes in salience will be reflected in government spending. In fact, recent research in the US also points to potential for spending data to reflect agenda change. Jones et al. (1997), for example, provide evidence that appropriate measures of government spending show considerably more variation that incrementalist theories suggest.

Nevertheless, the potential for spending data to reflect issue salience may be restricted to long-term studies. Jones et al. (1997), after all, analyze the entire postwar era. An additional and perhaps more significant caveat is that spending data will likely only be useful when the time period analyzed includes major shifts in the policy agenda. Year-to-year budgetary variations will normally be small, unreflective of comparatively minor changes in policy, and consequently unresponsive to changes in media and public agendas. It follows that, for periods during which an issue experiences only minor changes in salience, spending will not reflect these changes. This is in line with Pritchard and Berkowitz's (1986) proposition that resource agendas are slow and difficult to change. Periods of major agenda change, however, are more likely to be reflected in government spending. Jones et al. (1998) provide convincing evidence, for instance, of "policy punctuations" using US using spending data.

Figure 5.A
Federal Government Issue Spending

What, then, does government spending data tell us about the issues investigated here? Figure 5.A (above) illustrates federal government spending figures from 1985 to 1995 for those issues for which spending data is readily available. All amounts are calculated as a proportion of both total government spending, and total government spending excluding debt and transfer payments. The second calculation is included in case excluding these forms of “mandatory” spending (Jones et al. 1997) drastically alters the over-time dynamics – results show that it does not. Details of all the government spending measures are included in Appendix C.

Figure 5.A indicates that it is possible for government spending to reflect short-term changes in issue salience. Major changes in AIDS spending from 1987 to 1989, for example, reflect the appearance of that issue on the federal agenda. Similarly, increases in environmental spending from 1990 to 1992 are product of environmental concern in government from 1989 to 1991, and two jumps in unemployment spending (spending on job creation and training programs, not unemployment insurance) in 1986 and 1993 also reflect major policy change. Finally, increasing crime spending seems to match the expected increase in crime salience over this period. National unity spending, however, decreases over the survey period, and does not show the jumps in 1988 and 1992 that we would expect. This may be a product of the difficulty in measuring national unity expenditures, or it might be because concern for these issues is simply not reflected in spending priorities.

In four of five cases, then, there is an apparent connection between spending priorities and our expectations regarding short-term changes in issue salience. These changes will be discussed further as other measures are analyzed below. They do not, however, figure in the

larger agenda-setting process modeling in Chapters 7 and 8. Evidence here suggests the potential for spending data in yearly analyses, in line with recent work in the US and Canada. Monthly agenda-setting work, however, will have to rely on measures that exhibit more change at shorter intervals.

Committees

Congressional hearings have been used as a measure of the US policy agenda, most comprehensively by Baumgartner Jones (1993), but also by Bartels (1996), Sharp (1994), and Hall and Jones (1997). Hearings are searched in the *Congressional Information Service (CIS) Abstracts*, or culled from the *Federal News Service* and *Congressional Record*, and the number of subject-specific hearings in a given period is taken as an indication of issue salience.

It is not clear that committees will indicate issue salience for policymakers in Canada, however. In the US, committees are a fundamental part of the policy process – they are, in many cases, the single most important forum for policy discussion. Canadian House and Senate committees, on the other hand, play a much smaller role. The secondary role of committees is reflected in the fact that previous to the 1980s – excluding meetings to review departmental estimates – standing committees had the authority to meet only on receipt of an order of reference from the House. Matheson (1976) further notes that a bill has already been discussed in caucus before it arrives in a House committee, and government members are expected to support it. As a result, Matheson states, committees have had little input in policy debates and have rarely been an effective check on cabinet power. March's (1974)

review of the Public Accounts Committee shows that even the most important committees are regarded as ineffectual and are poorly attended (112-113).

This was set to change in the mid-1980s. Following recommendations by the Lefebvre and McGrath Committees, standing committees were given the power to hire staff and to decide when they would meet and what they would discuss. This was a clear step towards increased committee power, and suggested to many that committees would play an increased role in the policy process. Reviews since, however, indicate that this has not been the case. Franks (1987), for instance, alleges that committee effectiveness is hampered by procedural and reputational problems. The 1993 report of the Liaison Committee on Committee Effectiveness suggests that,

... while the opportunity for committees to offer advice on policy has been substantially increased, results measured by the influence that committees have had on the action of the Government or by their success in generating public debate has been mixed. (Franks, 1987:185)

In the most recent review of MPs' roles in Parliament, Docherty's (1997) findings suggest that in spite of reforms, committees continue to be plagued by partisanship:

... even committee chairs are not protected from an angry leader. Members sit in both of these positions at the discretion of the prime minister, and can be removed if their actions displease their leader. In the 35th Parliament, for example, voting against his government's budget cost Justice Committee Chair Warren Allmand his position. (23)

Savoie (1990) notes the ineffectiveness of committees in the budgetary process and, more recently (1999), echoes Docherty's belief that a concentration of power seriously undermines the effectiveness of House committees. Assessments of Canadian committees, then, are in agreement – marred by a collection of reputational, procedural, and parliamentary system-related problems, most Canadian committees' functions in the policy process have been trivial.

The fact that Canadian committees do not play an important role in the policy process seems to preclude the possibility that they could serve as a useful indicator of the policy agenda. Howlett's (1997) data may indicate otherwise, however. His Canadian policy-agenda setting analysis finds weak correlations between issue mentions in committee reports and mentions in Canadian newspapers and periodicals, indicating that – in spite of their minor policymaking role – committees may nevertheless serve as an indication of changing issue salience. Further evidence that committee data can indicate changing salience is also offered in Table 5.1 and 5.2 (below). The first table tracks hours in committee meetings over the survey period for those issues for which there are related committees. The lack of a Canadian version of the *CIS* makes tracking committee meetings extremely difficult – the data here is based on yearly reports available through the *Annual Report of the Committees and Legislative Services Directorate*. Data is available only by fiscal year, and so are presented in that format. Yearly data is reported in both real numbers and as a proportion of the total to control for yearly changes in the use of committees, and cells with values of zero are left blank to emphasize the possibility of missing data. Because committee meeting data is coded by committee name, and not by the minutes of meetings, it is likely that some issue-related meetings are missing. The fact that there is no data for inflation, for instance, is an

indication of the problems in coding committee meetings by committee title. As a result, this data should be regarded only a preliminary analysis – a more comprehensive and reliable dataset would entail coding the minutes of meetings by all committees. Table 5.2 tracks similar data for committee reports tabled in the House. The data here is taken from an exhaustive list of committee reports, coded by title, and aggregated by fiscal year to facilitate comparison with the committee meeting data.

Table 5.1
Committee Meetings, by Fiscal Year

<i>Fiscal Year</i>	<i>Issues</i>					
	AIDS	Crime	Debt / Def	Env't	Nat'l Unity	Taxes
86-87				82.52 / 3%	194.44 / 7.1%	
87-88				43.75 / 1.3%	167.65 / 5%	
88-89				41.97 / 4.5%	26.31 / 2.8%	
89-90				140.52 / 8.3%	32.25 / 1.9%	
90-91		68.4 / 4.7%	10.1 / 0.7%	158.9 / 10.8%	304.7 / 20.7%	
91-92		5.2 / 0.4%		97.3 / 6.9%	423.8 / 30.1%	23.7 / 1.7%
92-93		25.6 / 1.9%		56.6 / 4.1%	14.9 / 1.1%	5.6 / 0.4%
93-94				44.3 / 5.8%	30.4 / 4%	
94-95	14.9 / 0.5%			218.3 / 7.9%	173.6 / 6.2%	
95-96	27.6 / 1.8%			149 / 9.5%	101.3 / 6.5%	

(# of related hours in committee / percent of total # of hours in all committees)

Looking at Tables 5.1-2, trends in committee meetings and reports are loosely correlated with the trends in salience that Chapter 2's issue histories lead us to expect. Environmental reports and meetings, for instance, increase from 1989 to 1991, in line with what we know about government policy discussion and development during this period. National unity meetings show increases from 1990 to 1992 – the period surrounding the Charlottetown Accord discussions –, and crime and debt/ deficit reports rise in the early 1990s.

Unemployment and AIDS committee meeting data does not seem to follow the expected trends, likely due to missing data – both these topics are often addressed in committees with titles that do not reflect their issue content. Committee reports, however, are more telling. Unemployment reports surface during periods of policy change, and AIDS reports signal the beginning of government interest and the results of regular government monitoring of AIDS in the mid-1990s.

Table 5.2
Committee Reports, by Fiscal Year

<i>Fiscal Year</i>	<i>Issues</i>						
	AIDS	Crime	Debt / Def	Env't	Nat'l Unity	Taxes	Unemp't
86-87	1 / 9 / 1%	1 / 9.1%	0	0	0	0	2 / 18.2%
87-88	0	0	0	1 / 11.1%	3 / 33.3%	0	0
88-89	0	0	0	0	0	0	1 / 33.3%
89-90	0	0	0	1 / 25%	1 / 25%	0	0
90-91	0	2 / 20%	1 / 10%	4 / 40%	1 / 10%	0	0
91-92	0	10 / 50%	2 / 10%	4 / 20%	2 / 10%	23.7 / 1.7%	0
92-93	0	9 / 32.1%	1 / 3.6%	9 / 32.1%	5 / 17.9%	5.6 / 0.4%	0
93-94	1 / 8.3%	5 / 41.7%	1 / 8.3%	2 / 16.7%	1 / 8.3%	0	0
94-95	0	4 / 23.5%	1 / 5.9%	6 / 35.3%	0	0	1 / 8.3%
95-96	1 / 8.3%	4 / 33.3%	0	5 / 41.7%	0	0	2 / 11.8%

(# related committee reports / percent of total number of committee reports)

Trends in committee data, then, provide useful anecdotal evidence in tracing government attention to issues, although the use of meetings data as a reliable empirical measure requires more readily-available data and more ambitious coding. Reports, on the other hand, are easily and accurately recorded. The fact that most committees play a very minor role in policy discussions limits the degree to which one wants to rely on committee data alone, of

course. That committee reports might affect discussion elsewhere is possibility, however, and one that is tested later in this chapter.

Press Releases, Statements, & Speeches

Content analyses of US presidential speeches have been used as indications of the presidential agenda. Both Gonzenbach (1996) and Andrade and Young (1996), for instance, base their measures of presidential attention to drugs on an analysis of the *Public Papers of the Presidents*. The latter authors, in fact, suggest that speech content is a better indication of the presidential agenda than legislation-based measures, since there is a wide range of issues that are not necessarily translated into legislation (592).²⁹

The Canadian executive, however, plays a very different role than the White House. In a system of divided government, a President is obliged to rely on speeches and press releases as a principal means of publicizing executive preferences and initiatives. The Canadian Prime Minister and Cabinet, on the other hand, sit in the House and have their hands directly on the policy-making reins in all fields. As a result, the Prime Minister's Office (PMO) and Privy Council Office (PCO) do not often use speeches and press releases to publicize executive policy proposals. The Government's initiatives are discussed in caucus and Cabinet, and then announced by the appropriate Minister through the appropriate ministry. PMO press releases tend to be dominated by statements regarding retirements, deaths, and visiting dignitaries. The only policy discussion that does exist in PMO press releases with any frequency is foreign policy. Neither these nor Ministries' press releases are reliably or

consistently collected, however. Moreover, it is not clear that they cover all relevant policy proposals. Many proposals are simply announced in the House.

The Speech from the Throne, on the other hand, may prove a useful policy agenda measure. The State of the Union Address has been used in several US studies – its significance as an indication of the presidential agenda has been shown both in interviews with White House staffers and by empirical studies linking the Address with policy priorities, public opinion, and media content. In his interview-based study, for instance, Kingdon (1995) notes that,

Agencies all over government, staffers in the White House, interest groups, and others all vie for a place in the message. Mention of their particular problem or proposal, even though restricted to sentence or two, boosts further consideration.

(188)

Light's (1999) findings corroborate Kingdon's assertion. A majority of his interviews suggested he turn to the Address as a measure of the presidential agenda (6); he further notes that the Address is,

...*the* statement of legislative priorities. There is conflict over the positioning of requests within the address, over the length of sentences, over punctuation. A program has a higher priority if it is presented separately from the frequent laundry lists: if it come earlier in the domestic section of the message: or if it is mentioned in the introduction or conclusion of the address. (160)

If the Address is indeed a well-planned and calculated statement, it follows that a content analysis provides a good indication of presidential priorities. Admittedly, there are rarely

clear policy statements in the Address – the content is more symbolic than substantive (Hinckley 1990). Cohen (1999:34-7), however, notes that symbols play a significant role in political discourse, and suggests that a lack of specific policy statements does not take away from the important role the Address plays as a means of asserting policy priorities. Cohen's work (1995, 1999), in fact, represents the most thorough empirical analysis of the Address. Using a content analysis along with a longitudinal measure of aggregate public opinion, he finds reciprocal relationships between the presidential and public agendas across a variety of issues.

A number of other agenda-setting authors use content analyses of the Address in similar ways, with equally interesting results. Hill (1998) expands on Cohen's (1995) experiment, for instance, finding evidence of a reciprocal relationship between the Address and public opinion. Using individual-level public opinion data, Miller and Wanta (1996) and Wanta (1997) find that exposure to the Address leads respondents to see issues mentioned as more important. In addition, both Gilberg et al. (1980) and Wanta et al. (1989) find relationships between the Address and media content.

The importance and functionality of the State of the Union Address is well-established, then, both by the agenda-setting work noted above and in more general studies of presidential politics (i.e., Hargrove et al. 1984; Kessel 1974; Light 1993; Moen 1990; Walcott and Hult 1995). While the Speech from the Throne represents the Canadian equivalent of the State of the Union Address, however, there has been almost no discussion of the Throne Speech in Canada. This lack of analysis can only partly be attributed to differences between the State of the Union Address and the Throne Speech. Because the latter does not take place at

regular intervals, for instance, it is not possible to create a yearly time series, as it is with the former. The Throne Speech also seems to show more variance in length and structure than does the State of the Union Address. These problems can be overcome, however, and the Throne Speech can be used as an indication – albeit an inconsistent one longitudinally – of the Government's policy priorities.

Table 5.3
Issue Emphasis in Throne Speeches

<i>Issues</i>	<i>Session</i>					
	33.1 (1984)	33.2 (1986)	34.1 (1988)	34.2 (1989)	34.3 (1991)	35.1 (1994)
AIDS	0.00	0.00	0.00	0.33	0.00	0.00
Crime	6.42	3.58	0.00	2.95	0.39	4.14
Debt & Deficit	2.20	1.66	0.00	7.69	1.56	4.14
Environment	0.00	2.81	0.00	15.88	0.00	0.00
Inflation	0.00	0.26	0.00	0.00	1.17	0.00
National unity	11.38	8.94	0.00	11.62	20.31	6.05
Taxes	1.47	2.43	0.00	2.95	0.00	2.23
Unemployment	4.04	2.17	0.00	8.84	1.56	8.28
Other economic	17.61	10.34	0.00	12.27	6.90	3.82
Foreign affairs/Defense	26.79	11.88	0.00	7.69	3.39	3.18
Free trade/ Int'l trade	0.00	3.70	49.21	4.75	7.42	3.82
General	4.77	11.11	50.79	7.69	16.67	14.65
Other	25.32	40.87	0.00	17.51	40.63	49.68

Cells are percentages of lines in each Throne Speech.

Numbers in bold are highest percentage for that issue

Table 5.3 (above) presents a content analysis of the six Throne Speeches given from 1985 to 1995. The content of each speech is taken directly from Hansard. Each column line (not sentence) is coded for a single issue, and the number of issue-related lines are divided by the total number of lines to provide the percentage of each Throne Speech dealing with various

issues. Not all issues are presented in Table 5.3 – the eight issues of special interest are listed first, followed by several other issues that figure prominently in the six speeches. ‘General’ refers to symbolic comments about Canada that have no particular issue content, and all remaining issues are lumped together in a single category.

The Throne Speech for the 1st Session of the 34th Parliament is a peculiar case. This session was convened briefly in late 1988 to pass the Free Trade Accord (FTA), so the Speech deals only with free trade and ‘general’ issues. (The 2nd Session began when Parliament reconvened four months later.) Accordingly, this speech offers no information about the issues of primary interest in the current study. It is, however, illustrative of hypotheses on issue competition (see, for example, Hertog et al. 1994; Hilgartner and Bosk 1988; Iyengar and Simon 1993:376; Zhu 1992) and “killer issues” (Brosius and Kepplinger 1995). These hypotheses suggest that issues compete for limited agenda space, a dynamic especially evident here as all other issues disappear from the Throne Speech when the FTA is extremely salient. Moreover, this speech also indicates a clear relationship between Throne Speech content and policy priorities.

Other Throne Speeches will not show the same degree of single-mindedness. If Throne Speeches are in fact accurate statements of a Government’s priorities, however, issue salience trends found elsewhere should be reflected in the content analyses. Evidence in Table 5.3 shows that this is sometimes the case. The salience of national unity, environment, and debt/ deficit in the Throne Speech, for example, is linked with the salience trends observed in other media, public, and policy measures. National unity content rises during the period of the Charlottetown Accord; environmental issues rise preceding the major initiatives

from 1989 to 1991; debt/ deficit surfaces preceding the 1989 budget that first put this issue on the agenda.

The picture is less clear for other issues. A rise in AIDS content precedes a rise in AIDS expenditures in 1989, but there were significant rises from 1986 to 1988 that receive no mention. Crime, inflation, and unemployment mentions also reflect only some of the expected salience dynamics. This may be due in part to the timing of Throne Speeches. The Throne Speech is likely an accurate indicator of the Government's agenda at the time, but issue salience can change dramatically in the intervals between Throne Speeches. This seriously hampers the potential for Throne Speech content to serve as a functional policy agenda time series, at least on its own. In conjunction with other measures, however, Throne Speech content may prove useful.

Legislation & Legislative Initiatives

Perhaps the clearest indication of policymakers' priorities is policy itself. Legislation is easily collected, and is a widely used measure of the US policy agenda. Baumgartner and Jones' (1993) dataset constitutes the most comprehensive collection of this information, but authors such as Page and Shapiro (1983) have also relied on public policy as an agenda measure. The measure is also easily translated into the Canadian context – a variety of sources can be used to record the bills introduced each session, as well as the days on which the bill was discussed in the House and the Senate.³⁰

There are, nevertheless, a few methodological issues in recording legislative initiatives. Finished legislation is the clearest indicator of a Government's policy priorities, in that it

represents those issues important enough to have motivated bill introduction, debate, possible committee discussion, and a vote. By excluding bills that do not survive the policy process, however, we may be missing important information about the policy agenda, which should include all issues that receive attention. Accordingly, a legislation-based measure should likely include all bills that are introduced. This logic is advanced by a number of authors who have suggested using bill introduction as a measure of issue salience in the US Congress (i.e., Schiller 1995; Wilkerson et al. 1999)

Another issue pertinent to the Canadian context is whether both Government and Private Members' (PM) Bills should be used. The former are generally discussed in the Government party's caucus and cabinet, and forwarded by the appropriate minister. They are always debated, and almost always passed (since most governments have a majority in the House). PM Bills, on the other hand, are limited in that they cannot be 'money' bills, and may never be debated or voted on. The time given to PM Bills is limited, so a number of bills is chosen randomly for debate, and only a minority of these is selected for a vote. The end result of this process is that PM Bills tend to be taken less seriously, are often symbolic in nature, and are very rarely passed.

If both government and PM Bills are to be used as indications of the policy agenda, then, they should probably be included separately. This is the case in Table 5.4 (below), where the number of bills is recorded by fiscal year. Cells include the total number of bills, followed by a division into the number of Government and PM Bills. The trends in salience evident in other measure are also evident for crime, debt/ deficit, and environment. No trends are evident for other issues. Salience trends in committees and Question Period should not

necessarily show up in legislation, however, so the fact that salience trends here are different from elsewhere should not be taken as an indication that the measure is flawed. In fact, the same applies to previous measures – government spending, committee activities, Throne Speeches, and legislative initiatives might each be viewed as individual policy agendas, following paths that can be closely or loosely connected.

Table 5.4
Bills, by Fiscal Year

<i>Fiscal Year</i>	<i>Issues</i>						
	AIDS	Crime	Debt / Def	Env't	Nat'l Unity	Taxes	Unemp't
84-85	0	9 (1 / 8)	0	2 (1 / 1)	2 (0 / 2)	6 (6 / 0)	1 (0 / 1)
85-86	0	16 (6 / 10)	0	3 (0 / 3)	1 (0 / 1)	8 (8 / 0)	1 (1 / 0)
86-87	0	18 (5 / 13)	0	2 (1 / 1)	3 (0 / 3)	7 (7 / 0)	1 (1 / 0)
87-88	0	10 (5 / 5)	0	1 (1 / 0)	3 (2 / 1)	6 (6 / 0)	4 (3 / 1)
88-89	0	10 (3 / 7)	0	2 (1 / 1)	1 (1 / 0)	2 (2 / 0)	1 (1 / 0)
89-90	0	28 (5 / 23)	1 (1 / 0)	5 (1 / 4)	4 (3 / 1)	6 (6 / 0)	1 (1 / 0)
90-91	0	10 (1 / 9)	0	6 (1 / 5)	0	3 (1 / 2)	0
91-92	0	33 (7 / 26)	1 (1 / 0)	8 (5 / 3)	1 (0 / 1)	9 (2 / 7)	1 (0 / 1)
92-93	0	27 (5 / 22)	2 (2 / 0)	2 (1 / 1)	2 (1 / 1)	10 (5 / 5)	2 (/ 2)
93-94	0	22 (3 / 19)	1 (1 / 0)	0	0	10 (6 / 4)	5 (0 / 5)
94-95	0	24 (6 / 18)	0	4 (3 / 1)	2 (1 / 1)	11 (4 / 7)	2 (1 / 1)
95-96	0	16 (3 / 13)	0	2 (2 / 0)	1 (1 / 0)	6 (4 / 2)	3 (2 / 1)

(Total Bills (Government Bills / Private Members Bills))

Parliamentary Debate

Content analyses of the *Debates of the House of Commons* (Hansard) have informed empirical agenda-setting and other studies in Canada (i.e., Howlett 1997, 1998; Soroka 1999, Tremblay 1998, Crimmins and Nesbitt-Larking 1996), and have been used in various guises in studies of other parliamentary systems (i.e., Breuning 1994, Diskin and Galnoor 1990). The most similar US measure is congressional floor speeches, which have seen limited use

(i.e., Bartels 1996). In Canada, however, parliamentary debate has the distinct advantage of being better recorded and more easily accessible than any other policy agenda source, and is the only measure that allows for meaningful measurements on a monthly basis.

The current research, then, conducts a content analysis for each issue from 1985 to 1995, and uses this as the primary measure of the policy agenda. While Howlett (1997, 1998) and Soroka (1999a) use the index to identify relevant statements anywhere in Hansard, however, the current database is created by manually paging through the *Debates*, and recording not only the number of mentions, but the size of each mention, in column centimeters.³¹ This was done in large part because of problems with the Hansard index, which was found not to be an accurate measure of what is actually in Hansard. For the most part, index citations are accurate. There are, however, a considerable number of obvious and sizeable issue mentions in the *Debates* not included in the index. The measure used here includes these mentions, and has the additional advantage of including counts of column centimeters which offer an indication of issue mention length and so allow for a more nuanced and accurate time series.

Another difference between this and previous Hansard measures is that the current one uses only Question Period. Because independent measures are collected for committee reports and bill discussions, most other discussion periods in the House have already been covered. An analysis of Question Period alone, then, provides a unique opportunity to examine the relationship between this discussion and other policymaking arenas. Moreover, Question Period is by far the most flexible part of House business. Especially flexible, in fact, since, while the British system requires that questions be tabled in advance, questions in the

Canadian system can be entirely spontaneous. As a result, Question Period is the part of parliamentary discussion most susceptible to media influence:

Question period is a free-wheeling affair, with tremendous spontaneity and vitality.

The main topics are often those on the front pages on the major newspapers, or ones raised on national television news the previous evening. (Franks 1987: 146)

Question Period is also, then, the part of the policy process most likely to influence media and public agendas – parliamentarians, journalists, and public alike see it as *the* forum for heated debate and controversy about the most current issues (Franks 1987; Taras 1990). When searching for inter-agenda effects, Question Period seems to offer the most potential.

In fact, the flexibility and significance of QP is such that other policy measures might be reflected in a QP time series. Committee reports or legislative initiatives, for instance, might show up consistently enough that a QP content analysis is all that is required to adequately represent the policy agenda. This hypothesis is tested in Table 5.5 (below). The table presents the results of the following regression model, estimated by OLS:

$$Hansard_t = \sum_{k=1}^K Hansard_{t-k} + Committees_t + PMBills_t + GVBills_t + THSpeech_t + Sit_t, \quad (5.1)$$

where *Hansard* is the number of issue-related column centimeters in Question Period, *Committees* is the number of Committee Reports presented in the House, *PMBills* is the number of Private Members' Bill discussions (first, second, or third) in the House, *GVBills* is the number of Government Bill discussions in the House, and *THSpeech* is the percentage of the Throne Speech dealing with the issue (equal to zero in months when there is no Throne Speech). Equation 5.1 is in fact an autoregressive distributed lag (ADL) model – these

models, along with time series modeling in general, are described in the following chapter. In the meantime, it will suffice to say that Question Period content is modeled here as a function of past Question Period content and a wide variety of other policymaking indicators.

Creating the Hansard measure itself requires a certain amount of creativity. The House does not sit every day, nor every month, yet the series is used here and in later chapters as a monthly indication of the Question Period agenda. There are two ways in which the number of days sat per month can be built into the model. First, estimations can include a variable for the number of days the House sat each month – this variable (*Sit*) should soak up the effects of variations in monthly House business, as well as the effects of months in which the House did not sit at all. Secondly, the number of column centimeters each month can be divided by the number of days. The first method is the simplest, and allows us to examine the coefficients and the effectiveness of the monthly adjustments. Accordingly, this is the method used in the estimations below.

Current values of each of the independent variables are used, with the expectation that any effects should happen simultaneously, at least using monthly data. Since the model does not seek to estimate causality, but only relationships between the series, this is not a problem. Three lags of the *Hansard* measure are also included – this is enough lags to soak up any autocorrelation in the series. The policy series, in fact, are very weakly autocorrelated, as the magnitude and significance of the lagged dependent variables in the estimations attest. None of the time series are nonstationary, and residuals tested negative in all cases for autocorrelation and heteroskedasticity. Again, all of these time series issues are more dealt with in Chapter 6.

Table 5.5
Modeling Question Period

Variable	Lag	Subject							
		AIDS		Crime		Debt/ Deficit		Environment	
		B	SE(B)	B	SE(B)	B	SE(B)	B	SE(B)
Constant		-1.551	(3.757)	-31.854*	(13.664)	-3.343	(8.378)	-39.774	(30.481)
Hansard	-1	-0.023	(0.088)	0.379***	(0.075)	0.435***	(0.086)	0.298***	(0.075)
	-2	0.122	(0.088)	0.067	(0.082)	0.109	(0.094)	-0.026	(0.080)
	-3	-0.048	(0.088)	0.076	(0.076)	-0.042	(0.087)	-0.023	(0.074)
Comm.'s		23.244 ^a	(13.007)	-13.110	(9.571)	-15.254	(21.248)	-27.034	(23.679)
PM Bills		-13.007	(22.263)	10.492**	(3.268)			85.072**	(29.828)
Gov't Bills				11.995**	(3.546)	-2.963	(6.413)	-8.323	(10.520)
Th Spch		37.006	(68.248)	-17.369	(13.093)	15.558**	(5.571)	-10.359	(11.517)
Sit		0.872***	(0.257)	2.988**	(0.997)	1.528*	(0.584)	13.015***	(2.064)
R ²		0.125		0.478		0.322		0.437	

Variable	Lag	Subject							
		Inflation		National Unity		Taxes		Unemployment	
		B	SE(B)	B	SE(B)	B	SE(B)	B	SE(B)
Constant		-0.585	(1.774)	-61.066	(49.090)	-65.547*	(32.766)	-71.173 ^a	(42.512)
Hansard	-1	0.260**	(0.079)	0.350***	(0.091)	0.295***	(0.080)	-0.022	(0.079)
	-2	-0.029	(0.083)	0.168	(0.113)	0.027	(0.083)	0.163*	(0.077)
	-3	-0.005	(0.078)	-0.066	(0.110)	0.175*	(0.078)	0.193*	(0.077)
Comm.'s				115.503	(76.466)	-27.644	(26.446)	-47.874	(96.309)
PM Bills				-13.320	(66.885)	-14.184	(25.785)	59.384	(44.776)
Gov't Bills				-2.386	(24.597)	3.490	(8.049)	-16.697	(26.637)
Th. Spch		49.975***	(8.643)	-8.435	(12.407)	62.439	(44.077)	50.554**	(18.730)
Sit		0.311*	(0.119)	12.142**	(3.551)	13.125***	(2.539)	16.010***	(2.886)
R ²		0.342		0.278		0.405		0.318	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results in Table 5.5 show that Question Period content intermittently reflects other measures of the policy agenda. AIDS shows a weak effect of Committee Reports on QP, but this is the only issue that does. Private Members' and Government Bills seem to affect QP discussion for crime, and only the former do for environment. Throne Speech content is related to QP discussion for debt/deficit, inflation, and unemployment.

Admittedly, these are relatively weak tests for relationships between these other variables and the QP series – they allow only for simultaneous monthly effects, while the impact of other measures might take place over a longer period. CCFs, however, (not presented here) did not indicate any longer-term correlations in either direction. In short, there are no clear trends, and while the analysis demonstrates that committee reports, bills, and Throne Speeches sometimes affect QP discussion, they also show that the QP analysis does not accurately reflect policymakers' activities in other venues.

Conceptual Considerations

The present chapter has discussed and analyzed potential measures of the policy agenda in Canada. Thus far, however, it has concentrated on empirical investigation and ignored conceptual discussion about how and when measures are appropriate. More to the point, the question most germane to the project at hand is which measures should be used as dependent variables, and which as independent variables, in models of the larger agenda-setting process?

Work by Cobb and Elder (1972) is a good starting point. These authors distinguish between *systemic* and *institutional* policy agendas. The former refers to, "a general set of political controversies that will be viewed at any point in time as falling within the range of legitimate concerns meriting the attention of the policy". The institutional agenda, on the other hand, is, "a set of concrete, specific items scheduled for active and serious consideration by a particular institutional decision-making body"(14). Pritchard and Berkowitz suggest a similar distinction between *symbolic* and *resource* policy agendas. According to these

authors, "Symbolic agendas are those lists of issues that require visible, but not necessarily substantive, action on the part of policy makers. Resource agendas are those lists of issues that require substantive action, including the possible allocation of resources" (1993:86). Symbolic agendas, they suggest, are much more flexible – it is easier to make a speech than to re-allocate resources.

While the two typologies differ slightly, they are very similar in theme. The authors agree that it is important to distinguish between different kinds of policy agendas, and each draws a line between an abstract attention-based agenda, and a more concrete resource-oriented agenda. Moreover, both typologies point to the fact that attention is much more flexible, and likely more responsive to other agendas, than are resources.

How, then, are the various measures outlined above related to resource- and attention-based conceptions of the policy agenda, and what are the implications for empirical modeling? QP is clearly attention-based. It is, accordingly, the most likely to react to other agendas, at least in the short term. Committee reports, legislation, and spending, on the other hand, are progressively more resource-oriented. These agendas will likely be less reactive to public and media agendas in the short term, although they may show a response over an extended period. Long term public or media effects on committee activities or legislation are certainly possible – a number of agenda-studies have examined exactly this kind of impact (i.e., Page and Shapiro 1983). Any reaction of these measures may be too delayed to detect in an analysis spanning a short period, however. Nevertheless, committees and legislation can still have short-term effects on other agendas. The QP regressions show that these phenomena can intermittently effect QP discussion, but there is also the possibility that committee reports

and legislative initiatives can affect media, and subsequently public, agendas. Their diminished role as dependent variables does not negate their importance as independent variables.

Forthcoming analyses use policy measures in the following ways. The QP measure is used as both a dependent and independent variable. When we are looking for the effects of media or public on government, QP is most likely the arena in which these effects will first become evident. QP content is also an important independent variable, since past work indicates that it is the main forum through which policy discussion gets transmitted to the media. QP content is not the only independent variable, however. Committee reports, and discussion of Government and Private Members' Bills are also included as independent variables, with the expectation that – while their slow reaction time precludes using them as dependent variables in the current study – they may still affect media, public, and other policy agendas. Throne Speech content is also included as an independent variable. Its intermittent nature makes using it as a dependent difficult, in spite of the fact that it more closely allied with symbolic than resource agendas. Nevertheless, the QP regressions indicate its potential role as an independent variable, and it is easily accommodated as such in the models that follow.

Summary & Conclusions

This investigation into the Canadian policy agenda has illustrated the varied potential for five different measures of the policy agenda: government spending, committee activities, legislative initiatives, Throne Speech content, and Question Period discussion. The incremental changes that are typical of government spending, it is suggested, make this a

measure unlikely to show any kind of short-term effects. Committees, legislation, and Throne Speeches are unlikely to be impacted by media or public agendas in the short term, but are potentially important independent variables. Question Period content, on the other hand, is an attention-based policy measure likely to both affect and be affected by other agendas.

An analysis of the relationship between Question Period and other policy indicators, however, demonstrates that a policy agenda measure based only on Question Period content is missing part of the picture. If there is a single conclusion to draw from the work above, it is that different policy venues can exhibit different agendas, and that issue salience in different venues is loosely related at best. It is important, then, to incorporate a variety of policy measures into agenda-setting models, and the variation between them suggests these measures should be included individually. Modeling in Chapters 7 and 8 will do exactly this.

A variety of hypotheses have been testing along the way, but the final product of this and the two previous chapters is a detailed grocery list of functional media, public, and policy measures. Each of these measures has been analyzed individually above – in this way, the work that precedes can be seen as a type of univariate analysis. The next few chapters will concentrate on the multivariate analysis. Having established which agenda measures to use, the next section explores how the various agendas interact. First, however, Chapter 6 offers a statistical background to the modeling – a description of the time series statistics most relevant to agenda-setting analysis.

Causal Links

Causal Links

Chapter 6

Time Series Methods & Agenda-Setting ³²

Previous chapters have outlined the considerable methodological variance that exists between agenda-setting studies. Agendas have been operationalized many different ways, for instance, and real world indicators are not always included. Perhaps the area in which the most inter-study variance exists, however, is statistical methodology. One of the original attractions to agenda-setting, especially for public opinion analysts, was the fact that it is well-suited to empirical analysis. Nevertheless, the appropriate statistical method has rarely been clear, and this lack of methodological clarity has grown as both agenda-setting analysis and econometrics have become more sophisticated. Certainly, both fields have reached a stage where more advanced and reliable analyses are possible; only a handful of recent studies, however, have taken advantage of these developments.

Accordingly, the current chapter reviews past literature from a statistical standpoint and describes the time series methods and means used in forthcoming analyses. The central goal of this chapter is to justify the modeling methods used in Chapters 7 and 8. The byproduct, however, is a discussion of time series methods in general, with specific reference to their potential use in longitudinal agenda-setting research.

To begin, the use of time series data has both advantages and disadvantages. The greatest single advantage of time series data is that they allow for better tests of causality than do

cross-sectional data – they are well suited for testing dynamic processes. The largest disadvantage, on the other hand, is that time series data violate a number of assumptions central to the statistical techniques most common in political science.

Using time series data is further confused by the fact that choosing a statistical strategy is rarely straightforward. Most often, several methods can be used, and the choice (and justification) of a particular method is left to the researcher. Unfortunately, many political science analyses – and agenda-setting investigations in particular – suffer either from poor technical choice or inadequate description of the methods used. This chapter represents one effort to avoid these problems.

The chapter begins with a description of time series methods most common in recent agenda-setting research – cross-correlation functions (CCFs) and ARIMA modeling. This discussion is also used as an introduction to the general statistical problems of time series data. Following from the suggestion that neither CCFs nor ARIMA modeling are the best method for exploring agenda-setting here, autoregressive distributed lag (ADL) models, Granger causality, vector autoregression (VAR), and seemingly unrelated regressions (SUR) are described. These methods are seeing increased use in recent political science and political communications analyses, and they provide estimation procedures that seem especially functional for the longitudinal agenda-setting research in forthcoming chapters.

The discussion of time series methods below is far from comprehensive, and is not intended to replace the need for statistics texts. Rather, it offers a guide to time series methods used or useful in agenda-setting analysis. A major difficulty with interpreting past work is the lack of a straightforward description not only of the techniques used, but also of the connections

between the various techniques. This discussion of time series strategies is intended to emphasize ways in which these methods are linked, as well as indicate when each has been used and when each is appropriate. The review should help not just in describing the forthcoming analyses, but in interpreting past work and drawing the methodological links between this and previous agenda-setting studies.

CCFs, & the Difficulties With Time Series Data

The most common method of searching for bivariate time series relationships is through cross-correlation functions (CCFs) – correlation coefficients calculated between two series at various lags and leads. The equation is identical to that for a regular correlation coefficient, with subscript for x and y changed to reflect the variables' time series structure:

$$r_k = \frac{\sum_{t=1}^{T-1} (x_{t-k} - \bar{x})(y_t - \bar{y})}{\sqrt{\sum_{t=1}^{T-1} (x_{t-k} - \bar{x})^2 \sum_{t=1}^{T-1} (y_t - \bar{y})^2}}, \quad (6.1)$$

where x_t is the current (t) value of time series variable x , y_t is the current (t) value of time series variable y , k represents the value of the lag, and T is the total number of time series observations. In agenda-setting studies with monthly data, CCFs are generally calculated for between 12 to 15 lags and leads (with the expectation that effects have occurred within that many months).

The interpretation of CCFs is straightforward. If there are statistically significant correlations, there is probably a relationship between the two series. The lags and leads for which significant correlations exist are further thought to give an indication of causality. If a

media series and public opinion series are significantly correlated at a lead of 2, for instance, there is reason to believe that the media series leads the public opinion series. This has been the premise behind the large number of agenda-setting studies relying on CCFs for evidence of effects (i.e., Ader 1995; Smith 1987; Wanta et al. 1989). While CCFs can be a useful indication of bivariate relationships, however, they should be regarded only as a very weak indicator of causality.

The more fundamental problem with CCFs is that the nature of time series data often makes the calculation of confidence intervals unreliable. An accurate confidence interval is dependent on the mean for the residuals (error term) being equal to 0, and on there being no serial correlation in the residuals. These assumptions are difficult to meet with time series data, where there is frequently a trend and where the value at t is often related to the value at $t-k$. The heteroskedasticity and serial correlation that result have no direct impact on the correlation coefficients themselves, but they do bias confidence intervals and significance tests. (Nonstationarity, a product of trend, is discussed later.) Accordingly, time series evidence based entirely on CCFs is questionable.

The Functions of ARIMA Modeling

In an effort to avoid the difficulties noted above, some recent agenda-setting analyses have turned to ARIMA modeling (i.e., Gonzenbach 1992, 1996; Hester and Gonzenbach 1995; Rogers et al. 1991; Soroka 1999, 2000; Zhu et al. 1993). The function of an ARIMA model can be described in both statistical and conceptual terms. Conceptually speaking, the purpose of an ARIMA model is to separate the regular behavior of the series from the white-

noise component. “Regular behavior includes trends and cycles that remain relatively constant over time as well as behavior in which an event at one point in time has a predictable effect on a limited number of subsequent values” (Catalano et al. 1983:510). An ARIMA model, properly specified, accounts for this regular behavior. The residuals, or *white noise*, from the ARIMA model represent the *true* movements in the series – the series’ behavior above and beyond its regular trends and cycles. This white noise most often contains the information pertinent to the analysis of the relationships between time series. Following from this premise, Gonzenbach (1996) and others use ARIMA modeling to pre-whiten their series and then search for relationships using CCFs, without the problems of autocorrelation and trend.³³

Statistically speaking, ARIMA models help solve the problems of time series data by purging the series of trend (or nonstationarity) and serial correlation. This is the central statistical purpose of ARIMA analysis in agenda-setting work – to transform the data and create a stationary series free of serial correlation. To do this, an ARIMA model is estimated based on the dynamics of a time series. ARIMA models have three components: autoregressive (AR) processes, in which a past shock has an infinite impact with “an exponentially diminishing impact over time” (McCleary and Hay 1980:56) –

$$\hat{y}_t = \phi_1 y_{t-1} + \phi_2 y_{t-2} + \phi_3 y_{t-3} + \dots + \varepsilon_t, \quad (6.2)$$

moving average (MA) processes, where a random shock has a temporary impact on the time series –

$$\hat{y}_t = \varepsilon_t + \theta_1 \varepsilon_{t-1} + \theta_2 \varepsilon_{t-2} + \theta_3 \varepsilon_{t-3} \dots, \quad (6.3)$$

and integrated (I) processes, which account for nonstationarity in the time series –

$$\hat{y}_t = y_{t-1} + \theta_1 + \varepsilon_t, \quad (6.4)$$

where y_t is the original time series, and ε_t is the error term.

Regarding this last component, a stationary series is one that “varies more or less uniformly over time, about a constant, fixed level” (Hoff 1983:119). A nonstationary series, on the other hand, does not have a constant mean – it exhibits a systematic change in ‘levels’ (McCleary and Hay 1980). Nonstationary series create a considerable number of difficulties for econometricians, and these are discussed in detail later. For the time being, the ARIMA modeling procedure of dealing with integrated series will suffice. If a series is integrated, differencing is performed – subtracting each case in a series by the case that precedes it. Usually one or two differencing processes render a series stationary, and then AR and MA processes are used to account for the remaining regular movement in the time series.

An ARIMA model can have any combination of the three processes – a single AR process, two I processes and an MA process, and so on. Specifying the actual ARIMA model is a complicated procedure, involving a combination of preliminary diagnostic tests and subsequent testing of residuals. In most cases, the Box-Jenkins method is used – these authors established what has become a widely known three-stage method of estimating ARIMA models, aimed at using ARIMA modeling, “as a device for transforming the highly dependent, and possibly non-stationary process z_t , to a sequence of uncorrelated random variables a_t ; that is, for transforming the process to white noise” (1976:90). The details of this method are well described elsewhere (i.e., Harvey 1981, Hoff 1983, McCleary and Hay

1980) and need not be reviewed here. It is worth noting, however, that the vast majority of time series in political communications work tend to be relatively simple to fit. Generally speaking, these time series are straightforward AR(1) or AR(2) models – series that exhibit limited autocorrelation in the form of impacts declining gradually over time.

Why, When & How to Avoid Pre-Whitening

Unfortunately, ARIMA pre-whitening may have adverse effects on subsequent analysis. This is due to the fact that there is no *absolutely correct* ARIMA model for a time series. Using Box-Jenkins ARIMA modeling techniques, we can do our best at estimating a model, but we can rarely be sure that a model is doing exactly what we want it to do. More specifically, while we can test the residuals for trend and autocorrelation to be sure these problems do not remain, we cannot be sure that the model is purging the series of autocorrelation and trend without affecting other dynamics.

As a result, there is the possibility that we might be “throwing the baby out with the bath water” (Durr 1993:164) – an ARIMA model might model out autocorrelation and trend in a given times series, along with some more fundamental dynamics. This is particularly the case when differencing is used (Freeman et al. 1998:1295; Sims 1980). Moreover, ARIMA pre-whitening might also affect the relationship between two series. Two different ARIMA models or the unequal effects of the same model on two different time series might affect the existence or timing of the correlation between those two series (Catalano et al. 1983:512).

These concerns have been expressed in some recent agenda-setting work. Blood and Phillips, for instance, note that conventional procedures call for pre-whitening, “... at the cost

of losing valuable information and at the risk of wrongly determining the existence or absence of agenda-setting effects between series comprised of filtered or manipulated data” (1997:98).³⁴ As a result, it is worth considering whether pre-whitening is necessary, or whether we can find a way to use the original series. It is preferable, Blood and Phillips suggest, to do the latter. The choice of statistical methods in the current work is based on this hypothesis, in line with some recent work in political science and econometrics (i.e., Freeman, 1982; King 1989). That said, the benefits and disadvantages of pre-whitening continue to be debated.

ADL Models

Following sections describe a number of related statistical methods – Direct Granger tests, vector autoregression, and seemingly unrelated regressions. These are all variations, however, on the general autoregressive distributed lag (ADL) model, a relatively simple regression model, including – as the name suggests – both autoregressive and distributed lag components. The general ADL model is as follows:

$$y_t = \beta_0 + \sum_{k=1}^K \beta_1 y_{t-k} + \sum_{k=1}^K \beta_2 x_{(1)t-k} + \sum_{k=1}^K \beta_3 x_{(2)t-k} + \dots \varepsilon_t, \quad (6.5)$$

where k is the number of lags, and y_t and x_t are time series variables. Essentially, y_t is a function here of past values of itself, and past values of a series of other variables.³⁵ Note that both the number of these independent variables and the number of lags can vary.

ADL models are extremely flexible, and play a role in a variety of methods. A major advantage of an ADL model is that it can be used with autocorrelated variables. So long as

the number of lagged values of the variables account for their autocorrelation, the estimation will remain unbiased. This is provided, of course, that the time series are stationary, and that the autocorrelation can be accounted for by the simple AR processes. This latter fact should be verified by checking the model's residuals for autocorrelation.

There are a variety of tests for autocorrelated residuals. The autocorrelation function (ACF), for example, is a plot of correlations between different lags of the same variable. Simply plotting the ACF for the residuals will often point to major problems with autocorrelation.³⁶ There are a variety of tests examining autocorrelation in residuals, however, which provide better summary indicators of autocorrelation and are easier to report. Among the most common is the Ljung-Box (1978) Q-statistic, calculated as follows:

$$Q = N(N+2) \sum_{k=1}^K \frac{1}{N-k} r_k^2, \quad (6.6)$$

where k is the number of lags. The distribution of the Q-statistic is similar to that for χ^2 (with $k-p-q-P-Q$ degrees of freedom); results for the Q-statistic, therefore, are compared to a χ^2 table to determine whether the ACFs for a model's residuals are insignificant.

Dezhbakhsh (1990) provides a thorough review of similar tests, noting that several – including the Q-statistic – may be less appropriate when the regression model contains multiple lags of the dependent variable. The most appropriate measures when a model includes these lags along with other independent variables, Dezhbakhsh suggests, are Durbin's m (Durbin 1970) and the Lagrange multiplier (LM) test proposed by Breusch (1978) and Godfrey (1978). The LM test is used in a number of recent agenda-setting (i.e., Cohen 1995; Hill 1998) and related (i.e., Durr et al. 1997; Jones et al. 1997; Talbert et al.

1995) studies; accordingly, this test was used along with the Q-statistic to test for serially correlated residuals in the Chapter 7 and 8 models. The test involves: (1) regressing a model's residuals on lagged values of the residuals and the model's independent variables, (2) computing the F-statistic for testing the hypothesis that all coefficients in (1) are equal to zero, (3) multiplying the F-statistic by the number of lags used (p), and (4) comparing the result a chi-square distribution ($df=p$) (Maddala 1988:207). The end result is a test of autocorrelation of order p that is applicable to most regression models, including those with lagged values of the dependent along with several independent variables.

The number of lags in an ADL model should be based on a combination of theoretical consideration and the need to account for autocorrelation. If there is reason to believe that effects will occur within a four-month period, for instance, four lags (of monthly data) should be used. And provided these lags are enough to account for the autocorrelation in the various series, this model is appropriate. Because many ADL models will include a large number of lagged variables, however, they are susceptible to multicollinearity. It is important to test for this problem if the researcher intends to interpret individual coefficients, since multicollinearity can bias both the standard errors and the coefficients themselves. Lewis-Beck (1980) suggests looking at the bivariate correlations amongst the independent variables – a correlation of .8 or higher is an indication that multicollinearity is a problem. This method, however, does not account for collinearity between a given variable and all the other independent variables. As a result, Lewis-Beck suggests regressing each independent variable on all the other independent variables as the best method for testing for multicollinearity problems.

Tests for autocorrelation and multicollinearity are used with all the ADL models that follow, and are reported where necessary. Provided the models pass the tests, they provide a useful and relatively simple means of examining causal relationships between time series variables. On its own, an ADL model does not test the direction of causality, however. When we select a single variable as the dependent, we simply assume causality. In some cases this is justified, and an ADL model like equation 6.5 is suitable.³⁷ In other cases, when causality is unclear, other ADL-based methods are more appropriate.

The Direct Granger Method

Following Freeman (1983), the 'Direct Granger' method is used here to refer to a test for Granger causality between two variables – direct in the sense that it is a single-stage method, requiring no pre-whitening. This is the first advantage of the Direct Granger method – like the preceding ADL models, the Direct Granger equations include past values of both series. Estimates, then, can remain unbiased even if the time series are autocorrelated, and the process can proceed without pre-whitening.

Several agenda-setting analyses have combined ARIMA modeling and Granger causality (i.e., Gonzenbach 1996; Soroka 1999). This is probably unnecessary, however. As above, if the number of lags used in the Granger causality model is enough to account for the series' autocorrelation, no pre-whitening should be required. Freeman (1983), in fact, makes a direct comparison of pre-whitening and the Direct Granger technique, and finds that the latter method offers a more accurate test of causality than does ARIMA modeling followed by causality tests. The Direct Granger tests described below, then, provide one possible means

of testing causal links between autocorrelated time series without worrying about pre-whitening.

The second advantage to the Direct Granger method is that it provides a much stronger indication of causality than CCFs. Granger causality is based on the notion that “ Y_t is causing X_t if we are better able to predict X_t using all information than if the information apart from Y_t had been used” (Granger 1969:428). This is assessed based on the following ADL equations, representing relatively simple causal models of the time series x_t and y_t :

$$x_t = \sum_{k=1}^K \alpha_k x_{t-k} + \sum_{k=1}^K \beta_k y_{t-k} + \varepsilon_t, \quad (6.7)$$

$$y_t = \sum_{k=1}^K \gamma_k x_{t-k} + \sum_{k=1}^K \delta_k y_{t-k} + \eta_t, \quad (6.8)$$

where K is the number of lags used in the estimation, and ε_t / η_t are randomly-distributed and uncorrelated error terms.

A Direct Granger test involves estimating equations 6.7 and 6.8 with and without the independent variable. Equation 6.7, for instance, is estimated excluding and including y_t . An F-test is then used to test the null hypothesis that the history of this independent makes no significant contribution to the current value of dependent, above and beyond the contribution of past values of the dependent. This F-test is as follows:

$$F = \frac{(SSE_r - SSE_u) / K}{SSE_u / (T - p)}, \quad (6.9)$$

with m and $n-k$ degrees of freedom. In this equation, SSE_r is the sum of squared errors in the restricted equation (the equation *excluding* values of the independent variable), SSE_u is the

sum of squared errors for the unrestricted equation (the equation *including* values of the independent variable), and p is the number of parameters in the unrestricted regression equation. If the unrestricted version is considerably better, the F-test is significant, and we can conclude that the independent variable in this equation 'Granger causes' the other. This process is performed for equations 6.7 and 6.8, allowing for four possibilities: (1) there is a one-way causal relationship, (2) there is a 'feedback' or reciprocal causal relationship, (3) there is an instantaneous causal link, and (4) there is no relationship between the variables (Granger 1969).

The decision as to how many lagged coefficients of the series should be used in a Direct Granger test is important. First, the models' residuals should be checked for autocorrelation – the models will have to include at least as many lags as are required to avoid autocorrelated residuals. A further consideration is that the direction of causality can sometimes change if different numbers of lags are used. The most common case is one in which the direction of causality is confused because too few lags are used. The most conservative course of action is to test for Granger causality several times, using different numbers of lags. This allows us to both (1) check whether the direction of causality remains the same when different numbers of lags are used, and (2) identify the number of lags that produces the strongest effect.

The use of Granger causality tests in political science has increased in recent years, and several agenda-setting studies use Direct Granger testing to test or establish causality (i.e., Bartels 1996; Brosius and Kepplinger 1990; Smith 1987). Following chapters rely intermittently on Granger causality tests, either by using the Direct Granger approach as described above, or by adapting the test to models including additional independent

variables. The method by which the equations are estimated, however, requires some further discussion.

Estimating Systems of Equations

The preceding description assumes that the Direct Granger equations (6.7 and 6.8) can be solved individually. As a corollary, it ignores the possibility that the models are theoretically and empirically linked. There is often reason to believe this, however. From a theoretical standpoint, the individual regressions are components of a larger agenda-setting process. Statistically speaking, it is likely that equations 6.7 and 6.8 will have correlated error terms. If this is the case, an estimation procedure that takes this correlation into account will yield more accurate estimates.

The objective, then, should often be to solve the equations as a system, and there are several methods to do this. Vector autogression (VAR) is one example, and is ideally used to solve a system of equations for which the independent variables are the same. In their investigation into the relationship between public opinion and military spending in the US, for example, Hartley and Russett (1992) use VAR to solve equations similar to 6.7 and 6.8. In short, VAR involves transforming the individual regressions into a single model, and solving this equation using OLS estimation.³⁸ The result is an estimation of the coefficients in each individual equation that takes into account the residuals for all equations.

While a simple function of VAR is to solve Direct Granger equations, its central purpose is much more ambitious. Sims (1980) proposes the method as a means of avoiding the 'extraordinary' restrictions in typical structural equations, and allowing for unrestricted

multi-directional causality between all the variables in the system. As such, VAR represents both a method of solving equations simultaneously and a particular outlook on econometric modeling.

Another means by which to solve a system of equations is Zellner's (1962) seemingly unrelated regressions (SUR) estimation. SUR techniques use Aitken's generalized least squares (GLS) to solve a system of equations accounting for linked error terms, sometimes creating more efficient estimates than either OLS on individual equations or an VAR OLS estimation. "Essentially, this gain in efficiency occurs," Zellner writes, "because in estimating the coefficients of a single equation, the Aitken procedure takes account of zero restrictions on coefficients occurring in other equations" (1962:353).

In fact, SUR can be used in exactly the same circumstances as VAR. In his discussion of Granger causality in political science, for instance, Freeman (1982) estimates Direct Granger equations using a SUR estimation. A SUR estimation provides no gains in efficiency, however, when the right hand side (RHS) variables do not change across equations (Zellner 1962:351). Greene (1992:488-9) offers a succinct description of the situations in which a SUR estimation offers no gain in efficiency over VAR – if the equations are unrelated, if the equations have identical RHS variables, or if the RHS variables in one block of equations are simply a subset of those in another.³⁹ In all these cases, the GLS and OLS estimations are identical. If there is more considerable variation in the RHS variables, however, and there is still reason to believe that the equations are linked, a SUR estimation will yield more efficient estimates.

Take, for instance, the following set of equations:

$$x_t = \beta_0 + \sum_{k=1}^K \beta_1 x_{t-k} + \sum_{k=1}^K \beta_2 y_{t-k} + \sum_{k=1}^K \beta_3 z_{t-k} + \sum_{k=1}^K \beta_4 w_{t-k} + \varepsilon_t, \quad (6.10)$$

$$y_t = \beta_0 + \sum_{k=1}^K \beta_5 x_{t-k} + \sum_{k=1}^K \beta_6 y_{t-k} + \sum_{k=1}^K \beta_7 w_{t-k} + \sum_{k=1}^K \beta_8 v_{t-k} + \eta_t, \quad (6.11)$$

$$z_t = \beta_0 + \sum_{k=1}^K \beta_9 x_{t-k} + \sum_{k=1}^K \beta_{10} y_{t-k} + \sum_{k=1}^K \beta_{11} z_{t-k} + \sum_{k=1}^K \beta_{12} w_{t-k} + \mu_t, \quad (6.12)$$

where y is the media agenda, x is the public agenda, z is the policy agenda, and w and v are real world indicators. This set of equations is similar to those used in the Chapters 7 and 8. Both the media and public agendas appear as independents in all three equations, as does one real world indicator (w). The policy agenda does not appear in the public agenda equation, however, based on the supposition that policymakers can only affect the public through the media. And a second real-world indicator (v) appears only in the public agenda equation. Because the RHS variables are significantly different, beyond the RHS variables in some equations simply being a subset of those in another, a SUR estimation is appropriate.⁴⁰

The SUR estimation technique has been used recently in political science, although not in agenda-setting work.⁴¹ Because the forthcoming estimations are generally of the sort portrayed in equations 6.10-12, SUR is the primary method of estimation used in Chapter 7 and 8.⁴²

Presenting VAR/SUR Results

Multiple lags, multicollinearity, and an estimation that allows for both direct and indirect effects combine to make the interpretation of VAR/SUR models considerably more difficult than that of a standard regression. Bartels' (1996) agenda-setting work is a typical example

of the use of VAR methodology,⁴³ and provides a telling illustration of the resulting difficulties in interpretation. Bartels examines the reciprocal relationship between the US press and politicians, estimating causal relationships between the *New York Times*, local newspapers, *ABC News*, executive branch activities, and congressional activities. Five equations are estimated – one for each variable, and all of which have seven lags of all five variables as predictors. This results in a very large number of coefficients that – on their own – are hard to interpret. Moreover, multicollinearity probably precludes examining the individual coefficients, since it produces the possibility that, while the overall effects are accurate, the individual coefficients are not.

Freeman et al. (1989) discuss these difficulties with VAR. As compared with regular structural equation modeling, Freeman et al. suggest, VAR sacrifices quantitative precision for better accuracy in causal inference. We can no longer examine individual coefficients; we can, however, make more convincing claims about causal relationships between variables. As the preceding discussion indicates, these claims are not made by interpreting individual coefficients. Rather, as Bartels demonstrates, hypotheses are tested using Granger causality-style F-tests and impulse response functions. Both of these methods are described below.

Chi-square Granger exogeneity tests, on the one hand, are used to test the null hypotheses that the sum of all lags for a given variable in a single equation is equal to zero. This is an extension of the Granger causality test described earlier. In this case, a model such as equation 6.10 is estimated with and without variable y_t . The two models are compared, and a chi-square test or F-statistic is used to test the null hypothesis that the history of y_t contributes

nothing to the prediction of x_t .⁴⁴ As described earlier, a statistically significant test is taken as an indication of causality, while an insignificant test is taken as an indication that y_t is exogenous to the process. These tests do not indicate the sign of the effects, however, and negative effects do sometimes exist. Accordingly, an additional method of interpreting the results is required.

Impulse response functions – part of a class of interpretive methods referred to as *innovation accounting* – are a common method of interpreting VARs, and are also applicable to near-VARs or SUR estimations. This method provides information on both the direction and duration of effects, information lacking in the Granger tests. The mechanics of impulse response functions are complicated and will be left to statistics texts (e.g., Enders 1996). A very brief explanation here will suffice: all autoregressive (AR) processes have a moving average (MA) representation, where each endogenous variable is expressed in terms of present and past values of shocks to each endogenous variable. For a VAR/SUR estimation, the resulting sets of MA coefficients are called *impulse response functions*, and plotting them over time is a way to visually represent the behavior of the endogenous series in response to shocks in one of these series. If results are standardized, the effects of or on each of the variables are directly comparable, and provide a useful tool with which to examine the magnitude, direction, and duration of agenda-setting dynamics.

The central difficulty with this method is that a typical VAR/SUR model is under-identified, so a researcher must impose additional restrictions in order to identify the MA coefficients and plot impulse response functions. As a result, some authors argue that the theoretical advantages of an unrestricted VAR are lost in innovation accounting, since this method

forces the researcher to apply a structural model to a previously unrestricted VAR (e.g., Bartels and Brady 1993). Nevertheless, impulse response functions represent one of the few means by which the results of a VAR or SUR model can be intelligently interpreted, and the graphic display of impulse responses is especially attractive to those interested in dynamic effects.

A major task of the researcher, then, is to decide which restrictions should be imposed – essentially, which variables should be allowed to affect each other contemporaneously at period 1, and which should affect each other only after period 1. Making this decision is made somewhat easier when the model – like the ones used here – already includes several restrictions. A totally unrestricted VAR, after all, offers no clue as to which restrictions should be imposed for innovation accounting, while a near-VAR or SUR model already suggests several restrictions.

The two most common methods of imposing restrictions – of *decomposition* – are the Choleski and Bernanke-Sims decompositions. The method proposed by Sims (1988) and Bernanke (1988) is more flexible, and more appropriate for the current analyses⁴⁵ where the following restrictions, written in matrix notation, seem the most appropriate:

$$\begin{bmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \end{bmatrix} = \begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix} \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \end{bmatrix} \quad (6.13)$$

for a three variable system where variables 1 to 3 are media, public, and policy or, for a four variable system, where variables 1 to 4 are media(1), media(2), public, and policy:

$$\begin{bmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \\ e_{4t} \end{bmatrix} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \\ 1 & 1 & 0 & 1 \end{bmatrix} \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \\ \varepsilon_{4t} \end{bmatrix} \quad (6.14)$$

where e are the models' residuals, ε are the innovations, 1 implies the possibility of contemporaneous effects, and 0 implies a contemporaneous correlation restricted to 0. Looking at the first matrix, then, media residuals are affected contemporaneously by their own innovations as well as those in the policy series. Taken in total, this matrix allows for the media and policy to affect each other contemporaneously, while effects on or of the public agenda take a period to manifest themselves. CCFs between media and policy series show that these series are often highly correlated at lag 0, suggesting that allowing for simultaneous effects is an accurate representation. Public effects on the media and policy agendas, on the other hand, should not be contemporaneous, since public opinion will take time to be recognized before it is reacted to. Similarly, we might hypothesize that effects on the public agenda take one period to become evident.

The impulse response functions used below, then, are plotted using the Sims/Bernanke decomposition as it is estimated by RATS (Regression Analysis for Time Series). These results should be recognized as the product of a slightly different system than the original equations. They nevertheless provide useful information about inter-agenda dynamics, and are used along with the Granger exogeneity tests to describe inter-agenda dynamics.

A Note on Stationarity in Time Series Econometrics

A variable is said to be stationary when the mean and variance remain constant over time. A recent development in econometrics has been the recognition that many economic time series are nonstationary, and that using normal econometric methods with these variables can present considerable difficulties. Confidence intervals and R^2 s, for instance, can be biased in such a way that researchers are more likely to reject the null hypothesis. Accordingly, a considerable amount of recent work is dedicated towards dealing with this difficulty (see, for example, Hendry 1986). Methods of solving the nonstationarity problem, however, remain contentious, and it is not always clear – both to users of econometrics and econometricians themselves – how one should identify and deal with nonstationary variables.

Identifying nonstationarity is a difficult task. It normally takes the form of testing for a unit root – a coefficient of 1 for an AR process, which indicates that innovations have a permanent impact on the time series. The identification of a unit root is difficult, however, since AR coefficients are biased downward in cases where a unit root exists. Specific unit roots tests have been developed, the number and scope of which is far too great to summarize adequately here. Maddala and Kim (1998) provide a thorough review, the thrust of which is that (1) the most common unit root tests lack power and should not be used, and (2) it is rarely clear when other unit root tests are appropriate.

If and when nonstationary variables are identified, they can be dealt with in several ways (see Maddala and Kim 1998:20-29). Typically, difference-stationary variables, showing a change in variance over time, can be differenced as in the Box-Jenkins ARIMA modeling procedure. Trend-stationary variables, showing a change in mean over time, can be accommodated by

including a time variable in the regression equation. Both these methods may result in lost information, however, as has been discussed above. There are a number of other alternatives. Cointegration analysis and error correction models (ECM) are two methods specifically oriented towards working with nonstationary data. Unfortunately, neither of these lends itself to the type of analysis required here. Freeman et al. (1998) examine the difficulties created for VAR estimations by nonstationary time series variables, and suggest a new method of estimation (FM-VAR) – this method of estimation has seen little use, however, and is not easily estimated.

The end result is that while recognizing the problems with nonstationarity is important, a means of dealing with it in the current context is not readily available. Blood and Phillips' (1995, 1997) agenda-setting analysis presents a telling example. These authors note that most agenda-setting work has not taken nonstationarity into account, and use various unit root and cointegration tests to identify univariate traits and bivariate relationships in their agenda-setting data. In spite of evidence of unit roots and cointegration, Blood and Phillips then use VAR in their multivariate analysis, a method that may be biased by nonstationary data. This is less a gap in Blood and Phillips' methodology, however, than an indication of the lack of methods readily available to deal with nonstationary data.

Turning to the forthcoming analyses, preliminary testing showed that real world indicators often exhibited nonstationarity and tested positive for unit roots. Previous to their use in the SUR models, however, these series were differenced. This was due less to a concern about unit roots than to a belief that the public reacts to changes in – rather than the absolute value of – real world indicators such as the CPI, crime rates, number of AIDS cases, or

unemployment rate. Nevertheless, the differencing meant that the problems with nonstationarity in these series were largely avoided.

A variety of preliminary tests were conducted for the remaining series. Policy and media series almost always tested negative for a unit root, while some public opinion series tested positive – probably partly a function of using linear interpolation to fill in missing data in the monthly series. In the estimations, however, the potential effects of nonstationarity in these series were ignored. This decision is in line with many advocates of VAR/SUR methodologies (see, for instance, Doan 1996), and is based here on three factors in particular. First, a review of unit root tests, as described above, did not indicate that unit root tests were consistently reliable. Secondly, if unit roots were found, no method of dealing with them was readily available, at least not one that did not risk a loss of information. Finally, some econometricians have charged that “there are serious conceptual difficulties in distinguishing unit root processes from stationary processes in finite samples” (Campbell and Perron 1991:2). Ten years of data is a relatively small sample by econometric standards, and so these concerns are certainly applicable here. In sum, then, while this note serves to warn the reader about the potential problems with nonstationarity, the analyses that follow only partly deal with these difficulties.

A Note on Causality in Time Series Econometrics

The term *causality* is used frequently in the work that follows – it is the central focus of agenda-setting research, and testing it represents the major goal of a natural history inquiry. Econometric definitions of causality are firmly rooted in Granger’s (1969) notion of causality

– x causes y if past values of x help predict current values of y . Related in part to Granger's work, Charemza and Deadman (1997) provide a succinct statement of the three assumptions underlying econometric notions of causality:

1. 'instantaneous causation' does not exist, since there is always a time difference between independent actions,
2. for similar reasons, there is no such thing as 'simultaneous causation'...
3. the future cannot 'cause' the present. (165)

The last element is the most important, and points to the fact that what econometricians call a causal relationship is most often more closely related to temporal precedence than it is to proof of actual causation.

"...it must be stressed at the outset that this [econometric] notion of causality is a purely statistical one, and it does not correspond to any acceptable definition of cause and effect in the philosophical sense" (Harvey 1981:301).⁴⁶ Rather, indicators of causality in the current work – and in econometric analyses in general – are based on the assumption that *causality* and *predictability* are interchangeable, at least empirically speaking. Of course, this problem is most damaging for analyses in which there is no strong theoretical justification for the hypothesized causal relationship. This is not the case here, where a combination of intuition, practical experience, and accumulated empirical evidence suggest that relationships between the media, public, and policymakers are in fact *causal*. The work that follows assumes, then, that proof that one variable predicts – or 'Granger causes' – another is adequate proof of causation.

Summary

Past longitudinal agenda-setting work has relied on a variety of statistical methods, not all of which are appropriate for either time series data or demonstrations of causality. This chapter has noted that CCFs provide a weak indication of causality, and their significance tests are most often biased due to the nature of time series data. Pre-whitening the data using ARIMA modeling is one way to solve this problem, but this risks losing important information. An alternative, and the one suggested here, is to use ADL models that can account for the serial correlation in time series data and thereby offer accurate estimates and confidence intervals without pre-whitening, at least when the data are the product of relatively simple AR processes.

VAR and SUR are essentially extensions of the simple ADL model, and are seeing increased use in political science concerned with time series data. By solving a set of equations as a system, these methods offer the possibility of more accurate coefficient estimates when equations are related. The models in Chapters 7 and 8 are best estimated by Zellner's SUR; accordingly, this is the predominant method of estimation in the work that follows. Because the estimations result in a large number of coefficients and allow for both direct and indirect effects, interpreting the coefficients themselves is difficult. Consequently, two additional methods of interpretation are used – Granger exogeneity tests, and innovation accounting.

This chapter has also noted the difficulties surrounding both nonstationarity and notions of causality in econometrics. Regarding nonstationarity, the review here acknowledges that unit roots are a potential problem, but the estimations that follow go only some way towards dealing with this difficulty. Regarding causality, econometric definitions of causality have

been reviewed, and the assumptions that underlie the following work in this regard are clarified. In short, the causality tests below are based on temporal precedence – a reasonable supposition considering the strength of arguments concerning, and accumulated evidence of, causal relationships between media, public, and policy agendas.

Causal Links

Chapter 7

Modeling Agenda-Setting

Previous chapters have examined individual agendas in Canada. Experiments and estimations have served other purposes along the way, but the various methodological tests have been aimed primarily at providing the background for this chapter, which estimates 'expanded' models of the agenda-setting process. The information accumulated thus far, then, is used here to estimate interactions between the media, public, and policy agendas.

We begin with a description of the basic agenda-setting model (based on the statistical discussion in the preceding chapter), followed by brief reviews of the various agenda measures detailed in Chapters 3 to 5. As the centerpiece of this project, the estimation results then take up the vast bulk of this chapter. Detailed results are presented for each of the eight issues, with an eye on discovering the predominant causal effects and on testing Chapter 2's issue typology. The end product is a considerable body of results that (1) accurately describe agenda-setting dynamics for eight individual issues in Canada, (2) serve as tests of the prominent, sensational, and governmental issue types, and, more generally speaking, (3) provide experiments into the value of an 'expanded' agenda-setting estimation. Results indicate that both the issue types and expanded model are on solid ground. With only a few exceptions, issue dynamics tend to be of the sort described in Chapter 2 – dynamics that the SUR estimations seem to capture well.

The Model

All the models in this chapter are estimated using Zellner-Aitken seemingly unrelated regressions (SUR), as described in Chapter 2. The basic model is as follows:

$$MD_t = \sum MD_{t-k} + \sum PB_{t-k} + \sum QP_{t-k} + \sum Cm_{t,t-1} + \sum PMb_{t,t-1} + \sum Gb_{t,t-1} + \sum THSp_{t,t-1} + \sum Ec_{t+1,0,-1} + \sum Bd_{t+1,0,-1} + \sum RW_{t-m} \quad (7.1)$$

$$PB_t = \sum MD_{t-k} + \sum PB_{t-k} + \sum Ec_{t+1,0,-1} + \sum RW_{t-m} \quad (7.2)$$

$$QP_t = \sum MD_{t-k} + \sum PB_{t-k} + \sum QP_{t-k} + \sum Cm_{t,t-1} + \sum PMb_{t,t-1} + \sum Gb_{t,t-1} + \sum THSp_{t,t-1} + \sum Bd_{t+1,0,-1} + \sum RW_{t-m} + sit \quad (7.3)$$

MD (*media*), *PB* (*public*), and *QP* (*policy*) are the endogenous variables described in previous chapters. *MD* is the number of stories, monthly, in eight major Canadian newspapers. *PB* is the proportion of responses to the MIP question citing the relevant issue. *QP* is the number of column centimeters in Hansard, during Question Period, dealing with the issue at hand. The number of column centimeters is divided by the number of days the House sat each month to control for differences in this regard, as described in Chapter 5. Since Question Period happens for a finite period (forty minutes) each day the House sits, this measure can be seen as a proportion of the available Question Period time each month given to a particular issue.

The number of lags (*k*) used for the three endogenous variables is different for each issue, and was determined using what has become the usual strategy to establish lag length in VAR/SUR estimations. First, the model is estimated using a maximum number of lags, where the maximum is based either on data constraints or theoretical premise. In this case,

the initial number of lags was six, with the assumption that any impact of one agenda on another would happen within a six-month period. Then, the statistical significance of the sixth lag of all endogenous variables is tested using a Granger exogeneity test. If the lag is not statistically significant, it is dropped. Subsequent lags are dropped using the same process, until a statistically significant lag is reached.⁴⁷ This model's residuals are then tested for autocorrelation – if no autocorrelation exists, the model is accepted. Using this method, the environment and inflation models use 5 lags, the crime model uses 4 lags, and all other models use 3 lags.

The model (equations 7.1-3) also incorporates a variety of exogenous variables, including the additional policy-related measures described in the Chapter 5. A committee reports variable (*Cm*) counts the number of related reports presented in the House each month; Private Members' and Government Bills variables (*PMb* and *Gb*) count the number of bill discussions (1st, 2nd, 3rd, and other readings) in the House each month; the Throne Speech variable (*THSp*) is the proportion of the Speech given to an issue in months when there was a Throne Speech, and is coded 0 in all other months. Preliminary tests showed that any correlation between these policy variables and the others exists either concurrently or within a one-month period. Accordingly, they are included at lags t and $t-1$ only. It is assumed that, like Hansard, these policy variables cannot affect public opinion directly. Accordingly, they are included only the media and policy equations.

The estimations also include what can be seen as number of 'structural' policy variables – structural in the sense that they are relatively inflexible in their timing and so do not reflect any measure of government attention. These variables may nevertheless have an effect on

attention to issues, however, and so are included here both to test this possibility and to control for these effects in the larger estimation. These policy variables include dummies for both elections and budgets (Ec , Bd). Since the House does not usually sit for several months previous to or following an election, the election variable is included only in the media and public equations. Budgets, on the other hand, should not affect the public directly – this variable is included only the media and policy equations. Preliminary tests showed that any election and budget effects also happen within a one-month period, but that the impact of these phenomena sometimes precedes the actual event. The effect of elections on the public, for instance, can happen during the campaign period in the month preceding the actual vote. Similarly, anticipation of the April budget can often have an effect on Question Period discussion in March. Election and budget variables, then, are included at lags $t+1$, t , and $t-1$. A dummy variable for months in which the House did not sit at all (Sit) is also included in equation 7.3, to soak up the effects of months in which there was no potential for a Hansard measure score anything other than 0.

Finally, most models include real world indicators (RW). The only exception is national unity, for which there is no available real world indicator. Ideally, it would be possible to use opinion on separation in Quebec as an exogenous measure in this estimation, thereby examining whether media, government, and national public concern over national unity are related to Quebecers' support for independence. Cloutier et al.'s (1992) history of sovereignty support in Quebec shows, unfortunately, that polls during this period are too sparse to build an adequate longitudinal measure.

The remaining seven models, on the other hand, include at least one real world measure.

These are, briefly, as follows:

AIDS	• Yearly change in number of AIDS cases
Crime	• Yearly change in violent crime rate
	• Yearly change in property crime rate
Debt & Deficit	• Yearly change in debt as a proportion of GDP
	• Yearly change in deficit as a proportion of Federal Government spending
Environment	• Yearly change in number of hectares harvested (forests)
	• Yearly change in ozone depleting substances
	• Yearly change in carbon dioxide emissions
	• Yearly change in number of species at risk
Inflation	• Monthly change in consumer price index (CPI)
Taxes	• Yearly change in income tax burden
	• Yearly change in consumption tax burden
Unemployment	• Monthly change in unemployment rate

Detailed information on the calculation and sources of real world indicators is offered in Appendix E. The reader will note that, as discussed in Chapter 6, differenced series are used based on the belief that reactions by the public, media, and policymakers will most often be to relative changes in the various real world indicators rather than their actual values. The number of lags for real world variables (m) varies across issues, but is based on the same

process as for the endogenous variables (k) – analyses began with six lags and subtracted lags if they were not statistically significant, based on Granger exogeneity tests.

Equations 7.1-3 stand as the basic model upon which the following estimations are based, with several caveats. We have already seen that the number of lags varies, as do the real world indicators. Exogenous policy series, such as committee reports, are included only where relevant. There are no reports or bills that are relevant to inflation, for instance, so these variables are excluded from the inflation estimations. A final, and more dramatic, difference across issues is that the crime and tax estimations use two different media series and four rather than three equations.

For both crime and taxes, newspaper articles were gathered on two related but separable topics. For crime, general ‘crime’ articles were collected along with those dealing with violent crime (murder and rape). Preliminary analysis showed that these media series were closely correlated. Because public opinion polls were sometimes coded ‘crime or drugs’, however, drug-related newspaper articles were also collected. This series was not closely correlated with the more general crime series, and could have an individual effect on the public opinion measure. For taxes, similarly, general ‘tax’ articles were collected separately from ones dealing specifically with the GST. This was done with the expectation that the two series might have different relationships with the public and Question Period series. Again, preliminary analyses revealed that the ‘tax’ and ‘GST’ series were only loosely correlated, and including them individually might lead to more accurate results. Accordingly, for both crime and taxes, the two time series are included individually by

essentially duplicating equation 7.1 for the second media measure, and using both media measures as exogenous variables in equations 7.2 and 7.3.

The overall models, then, test two different groups of hypotheses. First, they test the inter-relationships between media content, public opinion, and Question Period discussion. These tests are pertinent to the issue types described in Chapter 2, and represent the culmination of work on an 'expanded', multi-directional agenda-setting process. Secondly, these models test the degree to which a wide variety of other variables are related to this process. Committees, bills, Throne Speeches, elections, budgets, and real world factors may have varying effects on the three endogenous variables. Including them in equations 7.1-3 both estimates the significance of these effects and controls for these variables in measuring media-public-Question Period dynamics.

Results are discussed below using a combination of (1) graphs of the time series themselves, (2) Granger exogeneity tests, and (3) impulse response functions. The latter two exhibits are drawn from the results of the 'expanded' model (equations 7.1-3), and have been described in detail in Chapter 6. It is worth noting here, however, that while the two should certainly be related, Granger tests and impulse response functions will not always show exactly the same dynamics. In the first case, significance tests are based only on direct effects, while the latter estimations take into account indirect effects as well. Accordingly, the analyses will consider both, taking advantage of the easy interpretation offered by the Granger tests, and the consideration of both direct and indirect effects afforded by the impulse response functions.

The estimations themselves are included in Appendix E. The coefficients are not necessarily readily interpretable due to potential multicollinearity; because most models include a

relatively small number of lags, however, multicollinearity problems are minimized. A more fundamental problem in interpreting the coefficients, discussed in Chapter 6, is that the equations are solved as a system. Accordingly, effects of one variable on another can occur both directly and indirectly, and the latter effects will not be adequately reflected in the raw coefficients. (This is the major advantage to the impulse response functions displayed below – they take into account both direct and indirect effects.) Nevertheless, where a relatively small number of lags is used, the value or direction of the effect of a significant lag can be a useful indicator. The tables in Appendix E also include R^2 s and tests for serial correlation in the residuals. Luckily, this type of serial correlation does not appear to be a major concern in the estimations.

Results

The hypotheses about issue types are largely supported by the results that follow. There are two exceptions – both AIDS and crime show comparatively little variation in public opinion over the time period, making an accurate estimation of effects difficult. The other six issues, however, are relatively free of data problems and provide illustrations both of the three issue types and the potential of the ‘expanded’ model and SUR estimation used here. Issues are discussed individually below, beginning with the successful models of prominent, sensational, and governmental issues, and ending with a discussion of the less successful analyses.

Prominent Issues: Inflation and Unemployment

The model for inflation offers an obvious and strong illustration of prominent issue dynamics. Figure 7.A (below) begins by displaying the inflation time series. As noted in Chapter 2, the time period can be divided in two – a pre-1991 period of rising inflation, and rising public concern about inflation, and a post-1991 period of lower inflation and lower public concern. Media attention follows a connected, but slightly different path from the public series, suggesting that this agenda may be less closely correlated with the CPI.

Figure 7.A
Time Series – Inflation

The dynamics suggested by the time series above are borne out in Table 7.1's Granger tests (below). Each dependent variable is listed (column 1) along with all its independents (column 2). The chi-square test (column 3) tests the null hypothesis that all the coefficients

for that independent variable are not different than zero. A significant chi-square test (column 4), then, indicates that lags of the independent variable contribute significant information to the prediction of the dependent, above and beyond the effects of all the other variables in the system, and – since this is a SUR estimation – taking into account the possibility that the individual equations are related.

Table 7.1
Granger Exogeneity Tests – Inflation

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	40.773	(0.000)	Public	Media	2.285	(0.809)
	Public	6.688	(0.245)		Public	1086.025	(0.000)
	Policy	9.921	(0.078)		Election	1.358	(0.715)
	Throne Spch	0.191	(0.909)		Real World	12.811	(0.012)
	Elections	3.151	(0.369)	Policy	Media	5.541	(0.353)
	Budget	30.937	(0.000)		Public	15.062	(0.010)
	Real World	5.849	(0.211)		Policy	10.522	(0.062)
					Throne Spch	29.109	(0.000)
					Budget	5.992	(0.112)
					Real World	65.067	(0.000)

Based on results from SUR estimation, 85:5 to 95:11.

Text in bold is significant at $p < .10$

^a df = 5

The Granger results show, first of all, that each series is autocorrelated. Each series' past values are significant predictors of its current value – the media coefficients are significant in the media model, for example, the public coefficients in the public model, and the policy coefficients in the policy model. Furthermore, significance tests of the real world lags indicate that the public and policy agendas are led by changes in the CPI, and the media agenda is not. Some other effects are also evident – budgets spark attention to inflation in the media, for example, while Throne Speech content creates a similar rise in attention during

Question Period. There is also a significant effect of the public on the policy agenda – this is likely an indication that the public reacts early to increases in inflation, and that policy response is dually to inflation and to public reaction to it.

Figure 7.B
Impulse Response Functions – Inflation

The significance of the real world indicator, however, overshadows any other causal relationships between the three agendas. This is further illustrated in the impulse response functions illustrate in Figure 7.B (above). Three graphs are displayed – the first illustrates the effects on each agenda of a one standard deviation impulse in the media agenda, the other two do the same for the public and policy agendas. As described in Chapter 6, the decomposition used to estimate impulse response functions allows for the possibility of

concurrent effects between the media and policy series, but not the public series. Looking at the first graph, then, there is the possibility that policy can be something other than zero at period one; public is restricted to zero, so effects on this agenda can only appear from period two. For the policy graph, media can be something other than zero at period one. In the public graph, finally, any effects on media or policy agendas will not appear until period two.

Looking at the results themselves, then, it is clear that there are very few inter-agenda effects. The public graph indicates a relatively high degree of autocorrelation in that series, but no significant effects of the public agenda on either other series. The media graph shows that this agenda has a contemporaneous impact on policy, reflected in the rise in the policy series at period 1. The effects of this impact decline gradually until period 4. This is the only significant inter-agenda-setting effect, however. Inflation salience is driven for the most part by inflation itself.

The situation for unemployment is very similar. Again, Figure 7.C (below) begins with the time series themselves. As with inflation, there appears to be a relationship between the public agenda and the unemployment rate – they both start high, reach a low point around 1990, and then steadily increase until 1995. Both policy and media attention follow similar, but less pronounced, trends. The exception to the rule is a spike in the media agenda in 1989 – the product of unemployment policy discussions that were especially salient in *La Presse*.

Figure 7.C
Time Series – Unemployment

Table 7.2
Granger Exogeneity Tests – Unemployment

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	14.559	(0.002)	Public	Media	2.146	(0.543)
	Public	10.036	(0.018)		Public	584.911	(0.000)
	Policy	1.384	(0.709)		Election	5.444	(0.142)
	Committees	1.464	(0.481)		Real World	10.702	(0.030)
	Bills	18.251	(0.001)	Policy	Media	4.451	(0.217)
	Throne Spch	25.485	(0.000)		Public	3.971	(0.265)
	Election	3.158	(0.368)		Policy	6.010	(0.111)
	Budget	2.700	(0.440)		Committees	5.355	(0.069)
Real World		8.522	(0.074)		Bills	1.391	(0.846)
					Throne Spch	14.154	(0.001)
					Budget	3.023	(0.388)
					Real World	18.810	(0.001)

Based on results from SUR estimation, 85:6 to 95:11.

Text in bold is significant at $p < .10$

^a df = 3

Granger exogeneity tests in Table 7.2 (above) reflect the dynamics in Figure 7.C. Committee reports, bills, and Throne Speech content spark interest in either the media or policy agendas, and the public agenda leads the media. The clearest effect, however, is that three endogenous variables are led by the unemployment rate, although it is worth noting that effects are more significant for the public and policy agendas than for the media agenda (the latter is significant only at $p=0.074$).

Figure 7.D
Impulse Response Functions – Unemployment

The impulse response functions in Figure 7.D (above), like those for inflation, serve to emphasize the dominance of the real world indicator. The graphs show few inter-agenda dynamics. The policy series has a contemporaneous effect on the media agenda, but the

effects disappear by period 2. The public opinion series displays significant autocorrelation, and has mild (temporary) impacts on the policy and media agendas at period 2. Like inflation, this is probably an indication that the public agenda is the first to react to rising unemployment, and that media and policy attention reflect a response to both the unemployment rate and public reaction to it.

Evidence presented here, then, corroborates past research finding few public agenda-setting effects for inflation and unemployment. Issues that are experienced everyday by a considerable number of individuals are much less open to media influence than are issues most people do not themselves experience. This is not to say that such prominent issues are *never* open to media influence, but this topic will be left for Chapter 8. In the meantime, it is clear that inflation and unemployment are accurately portrayed as prominent issues – issues which tend to display no agenda-setting effects above and beyond each series' autocorrelation and the significant effects of real world indicators.

Sensational Issues: Environment

Problems with the crime and AIDS estimations (discussed below) leave environment as the sole example of a sensational issue in the current investigation. Past agenda-setting work on the environment has shown this issue to consistently exhibit public agenda-setting effects by the media, however. Moreover, Figure 7.E (below) displays what appears to be a classic public agenda-setting time series. Environment begins low on the public and media agendas, rising quickly in the late 1980s, and then gradually declining to what appears to be an equilibrium slightly higher than before.

Figure 7.E
Time Series – Environment

Table 7.3
Granger Exogeneity Tests – Environment

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	10.855	(0.054)	Public	Media	10.804	(0.055)
	Public	14.339	(0.014)		Public	65.765	(0.000)
	Policy	18.788	(0.002)		Election	13.126	(0.004)
	Committees	1.981	(0.371)		Real World	33.928	(0.000)
	Bills	14.198	(0.007)	Policy	Media	14.780	(0.011)
	Throne Spch	13.721	(0.001)		Public	18.513	(0.002)
	Election	0.232	(0.972)		Policy	16.833	(0.005)
	Budget	17.607	(0.001)		Committees	1.877	(0.391)
Real World		6.931	(0.140)		Bills	6.952	(0.138)
					Throne Spch	1.457	(0.483)
					Budget	3.383	(0.336)
					Real World	13.822	(0.008)

Based on results from SUR estimation, 87:8 to 95:11.

Text in bold is significant at $p < .10$

^a df = 5

Indeed, the Granger tests in Table 7.3 (above) also present evidence of the typical public agenda-setting model. The media agenda has a significant impact on both the public and policy agendas. This is also reflected in the impulse response functions in Figure 7.F (below) – a rise in media attention leads to increases in both public and policy attention. The impact on the public agenda is relatively small but long-lived, declining gradually until period 12.

Figure 7.F
Impulse Response Analysis – Environment

That said, media effects are only part of the story. The public agenda affects the policy agenda at period 2, and has a delayed but significant impact on the media agenda as well. The policy agenda also has a weak influence on media attention at period 2. And these effects are also evident in the Granger tests – all three agendas are significant predictors of all

other agendas. The media plays a significant role in increased attention to environmental issues, then, but results indicate that the media, public, and policymakers likely play mutually reinforcing roles.

While uni-directional effects of the media on other agendas are not identified in this model, however, additional considerations do suggest the comparative significance of the media as a leader over the public and policy agendas. Impulse response functions suggest that media effects on the public, for instance, begin at period 2 and are lasting. Public effects on the media, on the other hand, are initially negative, and do not become positive until period four. These dynamics suggest the possibility that while the relationship between the media and public becomes a reciprocal one, the initial relationship is one in which the media leads.

Impulse response functions indicate that media effects on policymakers are slightly greater and more prolonged than are effects in the other direction. The predominant direction of the media-policy relationship, however, can be determined in a more convincing manner using weekly series. While the larger estimations use monthly data, after all, both the media and policy time series are available on a weekly basis, which may provide a more accurate look at inter-agenda dynamics. Granger causality tests with this weekly data using four lags indicate that media Granger causes policy, and that policy does not Granger cause media ($F=2.274$; $\text{significance}=.06$; $df=4,558$). As with the public, then, and demonstrated in a more compelling fashion, the media plays the dominant role in the media-policy relationship, in line with our expectations for sensational issues.

Governmental Issues: Debt and Deficit, National Unity, and Taxes

The time series for debt/deficit are shown in Figure 7.G. The sharp increase in the policy series in 1989 marks the Throne Speech that introduces debt/deficit to the media, public, and policy agendas. The salience of debt/deficit issues for the media and policymakers increases from 1990 onwards, while a marked rise in issue salience for the public is delayed until 1993.

Figure 7.G
Time Series – Debt and Deficit

The Granger tests in Table 7.4 (below) serve to emphasize the importance of the media agenda. Tests show the media has a strong effect on both the public and policy agendas. This effect is further indicated in the impulse response functions in Figure 7.H (below). An increase in salience for the media leads to a marked and sustained increase in the public

agenda, and – while the effects are more temporary – the policy agenda is also positively and significantly affected.

Table 7.4
Granger Exogeneity Tests – Debt and Deficit

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	3.095	(0.377)	Public	Media	16.485	(0.001)
	Public	5.588	(0.133)		Public	64.539	(0.000)
	Policy	0.570	(0.903)		Election	2.274	(0.517)
	Committees	1.034	(0.596)		Real World	0.224	(0.894)
	Bills	1.526	(0.466)		Economy	5.323	(0.150)
	Throne Spch.	8.016	(0.018)	Policy	Media	10.911	(0.012)
	Elections	5.557	(0.135)		Public	0.690	(0.876)
	Budget	5.800	(0.122)		Policy	6.299	(0.098)
	Real World	2.899	(0.235)		Committees	0.550	(0.760)
	Economy	3.711	(0.294)		Bills	11.824	(0.003)
					Throne Spch.	1.743	(0.418)
					Budget	5.386	(0.146)
					Real World	2.321	(0.313)
					Economy	10.081	(0.018)

Based on results from SUR estimation, 88:5 to 95:11.

Text in bold is significant at $p < .10$

^a $df = 3$

The expected policy effects on the media agenda are less clear – certainly, results show this relationship is likely bi- rather than uni-directional. Preliminary tests showed the two series are strongly correlated at lag 0. Granger tests in Table 7.4 offer evidence of causality running from media to Question Period content and not in the other direction. Impulse responses, on the other hand, illustrate a reciprocal relationship – in both cases, an impact on one agenda creates a small rise in the other series at periods 1 and 2.

A more conspicuous effect of policy on the media agenda takes the form of a strong and significant Throne Speech coefficient at lag 0 (see Table E.3), and, consequently, a

significant Granger test for Throne Speech coefficients in Table 7.4. The significant effects here are likely entirely attributable to the 1989 Throne Speech. Interestingly, this Throne Speech variable is not a significant predictor for the Question Period series. Nevertheless, the Speech seems to have sparked media attention to the issue, and we can hypothesize that subsequent attention is in large part a product of this increased media attention.

Figure 7.H
Impulse Response Analysis – Debt and Deficit

The significant Throne Speech coefficient, then, is evidence of two things. First, it is clear that debt/deficit is appropriately portrayed in Chapter 2 as a governmental issue. Media drives attention to debt/deficit issues after 1989, but media attention is sparked by the 1989 Throne Speech. Secondly, and more generally speaking, these results emphasize the

potential problems with using only one measure as an indication of the policy agenda. Granger tests, after all, show a uni-directional effect of the media agenda on Question Period content. Without the additional policy measures, we would miss an important part of the picture of the dynamics surrounding debt/deficit issues in Canada.

Figure 7.I
Time Series – Taxes

The taxes time series in Figure 7.I (above) look remarkably similar to the environment time series. Taxes are low on the media and public agendas, rising abruptly in the late 1980s, and then slowly declining to a level in the mid-1990s that – for the media at least – is slightly higher than the level before the increased salience. Unlike the situation for environment, however, tax salience in Question Period appears to lead the pack – there is a rise in 1987,

and then a more prolonged rise from 1989 to 1991. This, of course, is the period of debate surrounding the new GST.

Table 7.5
Granger Exogeneity Tests – Taxes

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media1	Media1	90.766	(0.000)	Public	Media1	9.641	(0.086)
	Public	15.741	(0.008)		Media2	11.034	(0.051)
	Policy	2.167	(0.826)		Public	22.998	(0.000)
	Committees	0.639	(0.727)		Election	0.294	(0.961)
	Bills	3.822	(0.431)		Real World	0.021	(0.989)
	Throne Spch.	67.556	(0.000)	Policy	Media	35.177	(0.000)
	Election	1.930	(0.587)		Media2	16.889	(0.005)
	Budget	4.677	(0.197)		Public	14.109	(0.015)
	Real World	3.248	(0.197)		Policy	9.171	(0.102)
Media2	Media2	25.283	(0.000)		Committees	0.622	(0.733)
	Public	28.733	(0.000)		Bills	6.845	(0.144)
	Policy	14.982	(0.010)		Throne Spch.	4.420	(0.110)
	Committees	2.051	(0.359)		Budget	9.899	(0.019)
	Bills	1.013	(0.908)		Real World	11.653	(0.003)
	Throne Spch.	4.424	(0.110)				
	Election	0.385	(0.943)				
	Budget	0.100	(0.992)				
	Real World	10.682	(0.005)				

Media1=tax articles; Media2=GST articles

Based on results from SUR estimation, 87:8 to 95:11.

Text in bold is significant at $p < .10$

^a df = 3

Granger tests for the taxes estimation are listed in Table 7.5 (above). (Remember that taxes results are the product of a four-equation system.) To begin, the media-policy relationship is reciprocal – each affects the other, and the coefficients are similarly strong and significant. Granger tests further indicate that it is media attention to the GST – as opposed to taxes in general – that is affected by Question Period content. This result that seems accurate considering the heated and concentrated debate that surrounded the GST, as opposed to the more diverse and dispersed discussions on taxes in general. Both media variables, in turn

affect the public agenda. Finally, media attention to the GST and discussion in Question Period are fed in part by increasing public concern.

Figure 7.J
Impulse Response Analysis – Taxes

Evidence from the Granger tests is corroborated by the impulse response functions in Figure 7.J (above), although the clarity of presentation is confused somewhat by the four-equation system. General tax articles have their largest impact on the public agenda at period 3; GST articles, on the other hand, have an impact that builds gradually, reaching a peak at period 12. (Subsequent lags, not pictured here, show this impact declining gradually after this period.)

The policy agenda has a concurrent influence on both media series, although the relationship between GST articles and Question Period content appears to be a reciprocal one – GST articles elicit a strong response in Question Period.

Figure 7.K
Time Series – National Unity

The national unity time series are illustrated in Figure 7.K (above). Three periods of increased salience are worth noting. The first is in 1987, when the creation of the Meech Lake Accord leads to increases in both the media and policy agendas. The second and more prolonged period begins in 1990, as the Meech Lake Accord fails and we enter the period leading up to the Charlottetown Accord referendum. Finally, the rise in 1995 reflects the Quebec referendum of this year.

The most noteworthy aspect of Figure 7.K is the way in which the public agenda seems to track the media agenda, following it up and down with a slight delay. Indeed, the Granger tests in Table 7.6 (below) demonstrate the media's role in increasing attention to national unity – tests show that the media is a significant predictor of both the public and policy agendas. Impulse response functions in Figure 7.L (below) tell a similar story – the media effects on the other two agendas are strong and prolonged. Its effect on the policy agenda is uni-directional, while the media-public relationship is reciprocal – Granger tests show the public lags are significant predictors of the media agenda, and impulse response functions indicate that the public agenda has an effect on the media from period 2 onwards (and the policy agenda at period 2).

Table 7.6
Granger Exogeneity Tests – National Unity

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	53.947	(0.000)	Public	Media	12.943	(0.005)
	Public	8.255	(0.041)		Public	136.692	(0.000)
	Policy	4.931	(0.177)		Election	0.800	(0.849)
	Committees	7.527	(0.023)		Qref	38.923	(0.000)
	Bills	7.855	(0.097)		Nref	15.529	(0.001)
	Throne Spch	0.583	(0.747)	Policy	Media	25.263	(0.000)
	Election	0.926	(0.819)		Public	6.328	(0.097)
	Budget	6.563	(0.087)		Policy	4.802	(0.187)
	Qref	3.243	(0.356)		Committees	0.854	(0.653)
	Nref	3.287	(0.349)		Bills	9.517	(0.049)
					Throne Spch	1.509	(0.470)
					Budget	6.472	(0.091)
					Qref	129.900	(0.000)
					Nref	5.034	(0.169)

Based on results from SUR estimation, 85:6 to 95:11.

Text in bold is significant at $p < .10$

^a df = 3

While there is strong evidence of media effects, however, the sought after policy agenda effects did not materialize, either in the Granger tests or in the impulse response functions. In the latter, for instance, a media impact leads to rise in the policy agenda that lasts until period 12; a policy impact has virtually no effect on any agenda. As with environmental issues, weekly time series were used here in an effort to find Question Period effects on the media agenda, but the unidirectional effects indicated in the initial Granger tests remained. The only evidence of policy effects, then, are the significant Granger tests for bills and budget speeches in Table 7.6. (Committee reports also show significant results in the media equation, but the coefficients in Appendix E show the effects are negative.)

Figure 7.L
Impulse Response Functions – National Unity

In an effort to better model concern for national unity, this model also includes two additional dummy variables for the 1992 national referendum and the 1995 Quebec referendum. Granger tests show that both referenda coincide with increased public concern for national unity issues, and the Quebec referendum has a strong effect on attention to national unity in Question Period. Neither event seems to effect media attention, however. This seems highly unlikely, but there are two possible explanations: (1) referendum-related articles included different keywords that were used for the national unity search, or (2) the increased salience for the media was for a longer period than is covered by the referendum dummy variables. In either case, the relationship between referenda and media content requires further analysis.

The national unity and taxes estimates are very similar, then, in that they indicate both the potential lead role of the media, and the difficulties with measuring and attributing cause to the policy agenda. It is possible to sort through the various measures and dynamics, and the models above indicate that effects are of the sort we would expect from a governmental issue. In neither case, however, is this conclusion an obvious one. Moreover, the differences between these governmental issues and the estimation for environment are not clear. In spite of weekly results showing that media leads Question Period content, after all, the environment estimation still shows significant effects for bills and budgets on media attention. (Throne Speeches also have a statistically significant Granger test, but coefficients are negative.) In short, the relative weakness of policy agenda effects for taxes and national unity make it difficult to portray these issues as governmental. Work in the next chapter, luckily, helps to clarify the story for national unity.

Minimal Effects: AIDS and Crime

It came as a surprise that the variation in public opinion for AIDS was so small during the survey period. In spite of considerable media attention, AIDS is never cited by more than 2% of respondents to the MIP question (Table 7.M, below). The result is that measuring the impact on or of public opinion is difficult – what little variation can exist is more likely entirely random than an indication of changing salience.

Figure 7.M
Time Series – AIDS

Table 7.7
Granger Exogeneity Tests – AIDS

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	0.411	(0.938)	Public	Media	2.427	(0.489)
	Public	10.823	(0.013)		Public	1754.281	(0.000)
	Policy	1.200	(0.753)		Election	16.914	(0.001)
	Committees	1.105	(0.576)		Real World	1.570	(0.210)
	Bills	0.009	(0.995)	Policy	Media	0.582	(0.901)
	Throne Spch.	1.095	(0.578)		Public	10.540	(0.014)
	Election	5.389	(0.145)		Policy	2.177	(0.536)
	Budget	1.397	(0.706)		Committees	0.682	(0.711)
	Real World	3.082	(0.079)		Bills	1.212	(0.545)
					Throne Spch.	2.102	(0.350)
					Budget	4.455	(0.216)
					Real World	1.826	(0.177)

Based on results from SUR estimation, 87:6 to 95:11.

Text in bold is significant at $p < .10$

^a df = 3

Figure 7.N
Impulse Response Functions – AIDS

Response of Shock in Media

Response of Shock in Public

Response of Shock in Policy

Media —▲—
Public —■—
Policy —●—

Nevertheless, the model was estimated, and Granger exogeneity tests are displayed in Table 7.7 (above). Results show that public opinion led both media and policymakers. This should not be taken too seriously, however, since the variance for the public measure suggests it is unreliable. In spite of the considerable variance in both the media and policy agendas, on the other hand, Table 7.7 shows no evidence of a relationship between these two variables. In neither case do the Granger tests indicate any significant effects.

This lack of effects can also be seen in the impulse response functions displayed in Figure 7.N (above). Both inter- and intra- agenda-setting effects are weak, with the exception of the public agenda, which shows strong autocorrelation (due in part to a comparatively high number of interpolated entries). The media and policy series, on the other hand, show no effects whatsoever. As with the Granger exogeneity tests, then, impulse response functions do not indicate any discernable agenda-setting effects for AIDS.

In spite of its more precise four-equation system, the crime estimation also offers only weak agenda-setting results, again due possibly to a lack of variance in public opinion. Figure 7.O (below), for instance, illustrates the fact that the number of MIP respondents citing crime/drugs never exceeds 8%, in spite of considerable media and policy attention.

Figure 7.0
Time Series – Crime

Nevertheless, the results for crime are slightly more successful than those for AIDS. Taken at face value, the Granger tests for crime in Table 7.8 (below) appear to indicate the dynamics we expect from a sensational issue. First, it is notable that the salience of crime is in no way related to real world indicators. Furthermore, the widespread belief that rising public concern over crime is led by the media is apparently evidenced by mildly significant effects of both crime- and drug-related articles on the public agenda.

Impulse response analyses in Figure 7.P (below), however, show that media effects on the public are initially negative, rather than positive. (This is also reflected in the coefficients themselves listed in Appendix E.) Both media measures eventually show a positive impact on the public agenda, but this is both delayed and very small in magnitude. In short, in spite

of the accumulated related research and intuition suggesting that public concern about crime should be led by the media, there is little evidence here of media effects.

Table 7.8
Granger Exogeneity Tests – Crime

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media1	Media1	21.001	(0.000)	Public	Media1	7.725	(0.102)
	Public	25.793	(0.000)		Media2	8.798	(0.066)
	Policy	14.566	(0.006)		Public	33.343	(0.000)
	Committees	2.136	(0.344)		Election	2.506	(0.474)
	Bills	7.417	(0.115)		Real World	2.254	(0.324)
	Throne Spch.	1.074	(0.585)	Policy	Media1	14.393	(0.006)
	Election	5.613	(0.132)		Media2	6.987	(0.137)
	Budget	1.777	(0.620)		Public	27.742	(0.000)
Media2	Real World	0.321	(0.852)		Policy	7.935	(0.094)
	Media2	7.349	(0.119)		Committees	3.380	(0.185)
	Public	2.454	(0.653)		Bills	12.670	(0.013)
	Policy	1.331	(0.856)		Throne Spch.	0.402	(0.818)
	Committees	2.786	(0.248)		Budget	0.287	(0.963)
	Bills	12.003	(0.017)		Real World	3.949	(0.139)
	Throne Spch.	0.887	(0.642)				
	Election	2.515	(0.473)				
	Budget	5.254	(0.154)				
	Real World	0.468	(0.792)				

Media1=crime articles; Media2=drugs articles

Based on results from SUR estimation, 88:9 to 95:12.

Text in bold is significant at $p < .10$

^a df = 4

Attention to crime in Question Period, on the other hand, is led by the media agenda. Media and policy measures appear to affect each other in the Granger tests, but the impulse response functions indicate that crime articles have an significant impact on policy at period 1, while policy has a delayed, negative impact on the media agenda. This estimation does find some evidence of media effects, then, but they apply only to the policy agenda.

As a final note, the possibility exists that policymakers and the media are locked in a reciprocal relationship in which crime salience continues to rise. This is certainly the story apparent in the time series illustrated earlier (Figure 7.O) – both the media and policy agendas appear to rise steadily throughout the survey period. Granger tests also indicate that crime-related bill discussions increase attention to crime during Question Period and to drugs in the media – an indication that increasing policy attention may be part of the causal story.

Figure 7.P
Impulse Response Functions – Crime

A lack of variance in public opinion may be at the heart of the problems with the AIDS and crime estimations. It may be that attention to some issues, such as AIDS, can simply not be adequately measured with the MIP question, and agenda-setting analyses will have to rely on more subject-specific questions to more accurately measure changing salience for the public. Unfortunately, no such question exists for this time period. It should have been telling, perhaps, that Rogers et al.'s (1991) detailed study of agenda-setting for AIDS makes only a minimal effort to deal with the public agenda.

Problems with the AIDS and crime estimations might otherwise be a product of the more general trends in issue salience throughout the survey period. While other issues rise and fall during the survey period, for instance, the salience of crime rises gradually and consistently and the salience of AIDS is consistently decreasing (since no public opinion measure exists previous to 1989). With this in mind, it is interesting to note that Brosius and Kepplinger (1990) find similar results in their analysis of both pensions and public security – issues which exhibited steady trends throughout their survey period (1986, weekly). These authors suggest that issues showing steady trends in salience, but relatively little short-term variance, will more often show evidence of the public leading the media. The relationship between variance and agenda-setting effects is not clear here, since crime articles exhibit considerable variance but no public agenda-setting. But the evidence above is clearly of the same sort uncovered by Brosius and Kepplinger – steady trends throughout the survey period, and (surprising) public effects on the media agenda.

In short, these results could be (1) a product of data problems created by a steady trend, or (2) an accurate reflection of the role the public can play in issues whose salience experiences

gradual change. Deciphering which explanation is the correct one, however, is beyond the scope of this analysis. Data problems might be considered, such as the effects of unit roots on VAR/SUR estimations. Otherwise, we might consider why public opinion shows little change for these issues, in spite of considerable swings in media attention. We should not dismiss the possibility that the media simply did not have an effect on the public agenda for AIDS and crime, but that the public agenda was driven by and large by itself – issues developed in the public independent of media and policy agenda attention. The current study will refrain from making inferences, however. Further testing is required to draw accurate conclusions about the agenda-setting dynamics surrounding the AIDS and crime issues.

Summary & Conclusions

The evidence amassed in Tables 7.1 to 7.8 and Figures 7.A to 7.P offers a considerable amount of information about issue dynamics in Canada from 1985 to 1995. We have seen, for instance, that inflation and unemployment display exactly what the prominent issue type leads us to expect. These issues are real-world driven, with little room for other dynamics. Environment, on the other hand, demonstrates considerable media impact, as anticipated in Chapter 2's description of sensational issues. Debt/deficit seems a good illustration of governmental issue dynamics – media content, sparked by the 1989 Throne Speech, leads public attention.

While Chapter 7 has its successes, however, it is not without its difficulties. AIDS and crime estimations reveal few agenda-setting effects, in spite of the expectation that both issues would be media-driven. Whether this is a product of data or an accurate reflection of reality

is unknown, and will require further testing. National unity and taxes, on the other hand, display a myriad of agenda-setting effects – enough that distinguishing the predominant direction of effects is difficult. They look like governmental issues, but we cannot be sure.

Generally speaking, the estimations above are successful in their attempt to both demonstrate the potential for this type of modeling and indicate the value of the prominent-sensational-governmental issue typology. Evidence above indicates that issue attributes have a clear and systematic effect on the agenda-setting process. While estimations in Chapter 7 are more comprehensive in both methodology and scope than any previous modeling efforts, however, still more can be done. This is the goal of Chapter 8.

Causal Links

Chapter 8

Expanding the Models

Preceding analyses have made a number of assumptions. They have used all available data from 1985 to 1995, for instance, assuming that estimations will benefit from using the largest time period for which data is available. Multiple policy agendas have been included in the model, but the media agenda measure was premised on the idea that media effects are best modeled using a single time series. And, in addressing agenda-setting in Canada, preceding models assume that only Canadian agendas are pertinent.

The current chapter challenges these assumptions. The goal here is not to prove that preceding models are wrong, of course. Rather, the suggestion here is that, while the general models estimated in Chapter 7 are widely applicable and provide accurate estimates of issue dynamics over an extended time period, they can nevertheless be improved on an issue-by-issue basis. Broadly conceived, the central goal of this chapter is to further indicate the value of an expanded agenda-setting analysis – once a general model is established, the model can be tailored to offer particular insights into the agenda-setting dynamics of individual issues.

This chapter, then, considers the individual traits of particular issues, and suggests adjustments to the Chapter 7 models. First, we consider the possibility that issue dynamics will change over time. Prominent issues will vary in their prominence, for instance, and evidence below indicates that the potential for media influence varies as well. Similarly, this

chapter tests the hypothesis that the age of issues affects their inter-agenda dynamics. Evidence is found supporting Zucker's (1978) hypothesis that a newer issue is more open to agenda-setting. This evidence also demonstrates the advantages of taking trends in salience into account, rather than just data availability, when determining study intervals – sometimes, it appears, a longer time period is not better.

Finally, the potential for additional exogenous variables is discussed. The media agenda is dissected again, this time with an eye on the *Globe and Mail* as a 'leading' newspaper. Another more interesting possibility is that the *New York Times* is a leading newspaper in Canada – there are several issues in which we might expect the Canadian media, public, and even policymakers to be affected by the US media. A large proportion of television programming – both entertainment and news – originates in the US, and significant US newspapers such as the *New York Times* enjoy considerable Canadian circulation. Moreover, Canadian networks and newspapers may take cues from their more dominant US counterparts. The *New York Times*, then, may play a leading role – not only for Canadian media, but the Canadian public as well. The final section in this chapter tests this possibility, and finds evidence of 'cross-border' agenda-setting.

Temporal Changes in Issue Prominence: Inflation & Unemployment

In their analysis of inflation in the 1960s and 70s, MacKuen and Coombs (1981) find that dividing their time period into two intervals leads to dramatically different results. While the initial model indicates a real world-driven model, a model for the period of comparatively low inflation indicates media influence on the public agenda. These authors conclude that

real world factors lead when they are prominent, and the media has the opportunity to lead when real world indicators are less consequential.

The current data offers an opportunity to replicate MacKuen and Coombs' analysis. The opportunity is attractive not only for the sake of replication, but also because demonstrating media effects in periods of low real world salience offers a further indication of the important role prominence plays in agenda-setting dynamics.

The new inflation targets set in 1991 led to a decreased rate of inflation from that point onward, so problems with inflation are greater in the first half of 1985 to 1995 than in the second. We might expect, then, that the potential for media influence will be greater in the 1990s, when inflation itself is less prominent. In order to test this hypothesis, the SUR model for inflation was re-estimated, dropping cases on a month-by-month basis from the beginning of the series. If there is in fact media influence later in the period, we should reach a point where this is reflected in the results.

As it turns out, estimations excluding the first 5½ years show that the media does lead the public agenda during low inflation. Table 8.1 (below) presents Granger exogeneity tests for a model using data from October 1991, a few months after the new inflation targets, to December 1995, the end of the time series (coefficients are listed in Appendix E). Note that during this time period, the CPI no longer has a significant impact on public opinion. Media content, on the other hand, exerts a significant influence, essentially replicating MacKuen and Coombs' findings, and further demonstrating the important role of prominence in agenda-setting.

Table 8.1
Granger Exogeneity Tests – Inflation, 91:10 to 95:12

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	3.169	(0.674)	Public	Media	11.152	(0.048)
	Public	16.170	(0.006)		Public	69.203	(0.000)
	Policy	12.902	(0.024)		Election	1.832	(0.608)
	Elections	2.802	(0.423)		Real World	4.094	(0.393)
	Budget	21.177	(0.000)	Policy	Media	10.171	(0.071)
	Real World	0.702	0.951		Public	7.220	(0.205)
					Policy	0.816	(0.976)
					Budget	5.151	(0.161)
					Real World	12.585	(0.013)

Based on results from SUR estimation, 91:10 to 95:12.

Text in bold is significant at $p < .10$

^a df = 3

Table 8.2
Granger Exogeneity Tests – Unemployment, 86:8 to 89:12

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	14.940	(0.002)	Public	Media	4.124	(0.248)
	Public	15.039	(0.002)		Public	521.787	(0.000)
	Policy	4.942	(0.176)		Election	20.324	(0.000)
	Committees	1.472	(0.479)		Real World	3.997	(0.406)
	Bills	8.644	(0.071)	Policy	Media	29.183	(0.000)
	Throne Spch.	114.268	(0.000)		Public	2.078	(0.556)
	Election	5.236	(0.155)		Policy	12.009	(0.007)
	Budget	12.520	(0.006)		Committees	4.337	(0.114)
	Real World	25.390	(0.000)		Bills	2.289	(0.683)
					Throne Spch.	14.767	(0.001)
					Budget	2.740	(0.434)
					Real World	5.313	(0.257)

Based on results from SUR estimation, 86:8 to 89:12.

Text in bold is significant at $p < .10$

^a df = 3

The situation for unemployment is not as clear-cut, but evidence of a slightly increased media role during periods of low unemployment also exists. Table 8.2 (above) shows the

Granger exogeneity tests for a SUR model re-estimated for August 1986 to December 1989 (coefficients are listed in Appendix E). Following a similar process as for inflation, this time interval was arrived at by dropped cases from the beginning and end of the unemployment time series to try to find a period during which the media played a leading role. The end result was a period of low and falling unemployment, during which real world and media coefficients changed in the same way as with inflation.

In the policy equation, the significance of the real world measure disappears, and the media coefficients become statistically significant. This is an obvious and important change in the equation, and exactly the one we would expect from decreased prominence. Predictors of the public agenda change in the same direction, but not so dramatically. The unemployment rate, formerly significant, no longer plays a leading role. The media agenda increases in strength and significance, but – although the media at lag 1 is statistically significant at $p=.08$ (see Appendix E) – this group of coefficients is not strong enough to reject the null hypothesis of Granger exogeneity.

The unemployment results are less successful, then, but should be seen as a weaker version of the inflation results rather than an indication that MacKuen and Coombs' hypothesis is incorrect. In fact, it is striking that in both cases the roles of the media agenda and real world indicators are virtually reversed. Results in Tables 8.1 and 8.2 indicate that prominence plays an especially important role in agenda-setting. The impact of prominence is not only evident cross-sectionally – as prominent issues show weaker agenda-setting by the media –, but also longitudinally – as media and real world roles change over time with the relative prominence of issues.

The Duration of Issues: National Unity

Preceding results for inflation and unemployment illustrate the possibility that accurate estimations may be hampered if the time period used is too long – effects may be more difficult to identify if issue attributes change during the period of analysis. It follows that more than just changes in prominence should be considered. There are other attributes that can change, after all, and estimations might also be improved by taking this into account.

The attribute that most clearly changes over time, regardless of the issue, is duration. As discussed in Chapter 2, Zucker (1978) suggests that the age of an issue will affect the potential for media effects. A new issue, he proposes, is more open to media impact since the public knows little. As time progresses, the public learns more and is less susceptible to manipulation. Moreover, the public becomes bored. This is Downs' (1972) central hypothesis – issues will rise and fall over time in large part because the public has a limited attention span.

Testing this hypothesis is dependent in part on our ability to determine the beginning of an issue. The point at which an issue becomes 'old' likely varies across issues and is more difficult to determine, but this is probably less important. Given a time period, one can simply subtract cases from the end and watch for changing dynamics. The point at which a statistical model changes – provided it changes at all, and in the right direction – will likely be the dividing line between what Downs calls the "alarmed discovery and euphoric enthusiasm" and the "gradual decline of intense public interest" (1972:39-40).

That said, the starting point of an issue need not be pinpointed exactly – a rough estimate will probably suffice. Moreover, an issue need not be entirely ‘new’. A re-framed issue or a new sub-issue will probably also have effects on agenda-setting dynamics. Indeed, this is the thrust behind much of the policy agenda-setting work dealing with problem definition and issue framing. Rochefort and Cobb (1994), for example, note that describing an issue in a new way often wins attention. Baumgartner and Jones’ work on air transportation policy (1994) and other issues (1993) offers evidence that a re-framing of issues in the media or policy agendas is often associated with increased attention.

Following from this premise, national unity issues appear to offer an opportunity to examine the effects of issue duration on agenda-setting. There is a strong argument that the national unity issues of the late eighties were new and different from those that preceded them. There is little doubt, after all, that the 1982 patriation and the addition of the Charter fundamentally changed national unity issues in Canada. And if the events of the late eighties were not directly a function of the new Constitution itself, they were certainly a product of Quebec’s not having signed it – the situation creating the need for the Meech and Charlottetown Accords. 1985-1995, then, marks a period of national unity debate distinctly different from that which preceded it.

Accordingly, the national unity model was re-estimated, dropping cases from the end and watching for a marked change in causal relationships. As expected, the change came around the time of the referendum. Movement in the public opinion time series anticipates changes in the media and policy agendas after mid-1992, when national public attention is waning and the Federal Government is turning away from the business of Accords. As a result, the

overall picture in the Chapter 7 model (Table 7.6) is somewhat muddled. Each agenda affects the other, with the exception of the one causal link we expect the most – a policy impact on the media.

Table 8.3
Granger Exogeneity Tests – National Unity, 85:6 to 92:3

<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Sig.</i>
Media	Media	28.672	(0.000)	Public	Media	13.896	(0.003)
	Public	3.089	(0.378)		Public	96.875	(0.000)
	Policy	8.035	(0.045)		Election	0.802	(0.849)
	Committees	11.164	(0.004)	Policy	Media	12.119	(0.007)
	Bills	11.510	(0.021)		Public	4.923	(0.178)
	Throne Spch.	0.222	(0.895)		Policy	3.593	(0.309)
	Election	1.914	(0.590)		Committees	0.995	(0.608)
	Budget	5.224	(0.156)		Bills	4.353	(0.360)
					Throne Spch.	1.724	(0.422)
					Budget	5.637	(0.131)

Based on results from SUR estimation, 85:6 to 92:3.

Text in bold is significant at $p < .10$

^a $df = 3$

Table 8.3 (above) presents Granger exogeneity tests for a period ending in March 1992, and offers a much clearer picture of agenda-setting dynamics than the Chapter 7 estimation. First, and most importantly, the public is no longer a significant predictor of either the media or policy agendas. Public opinion is led by the media, which is in turn driven by Question Period content, committee reports, and legislative initiatives. In truth, the media-Question Period relationship is a reciprocal one. Nevertheless, the general governmental issue dynamics are evident, and certainly more so when the latter 3 years – the period during which national unity issues apparently grow ‘old’ – are dropped from the analysis.

In sum, national unity results provide some evidence that duration is an important element in the agenda-setting process. The potential for media impact is limited by the age of an issue, although it is clear that a new issue frame, or new sub-issue, is just as good as an entirely new issue. In the case of national unity, the Accords represented a new element in the national unity debate, and one for which the public responded to policy and media agendas. This lasted only for a period, however, before the public – and the media and policymakers soon thereafter – grew bored with the issue and moved on to other things.

A Leading Newspaper?

A final way in which the Chapter 7 models might be changed is through the addition of other exogenous variables, either through breaking down the current variables, or adding completely new ones. This is not to say that an unlimited number of variables should be added – describing as much of the variation as is possible with a limited number of variables is, after all, more convincing than a regression with an endless supply of independents. Nevertheless, there are several important exogenous variables that might both add to the predictive power of the equations, and demonstrate an important element of the agenda-setting process. Environmental issues, for instance, might be driven by the interest group agenda. Alternatively, we may be able to more accurately measure media effects by either breaking down or adding to the media measure used above. This final topic is taken up below, as attention is focused on the possibility of a leading newspaper, and the potential effects of taking this into consideration in the ‘expanded’ estimations of the agenda-setting process.

It has often been suggested that the *New York Times* (NYT) plays a leading role among US newspapers. Gans (1979), for example, notes that the *Times* and *Washington Post* are often used by editors as early indications of stories' newsworthiness, as does Miller (1978) in her study of the US press and congressmen. Reese and Danielian (1989) find empirical evidence of this phenomenon – they show that the *Times* played a leading role in breaking the drug issue in the US.

Taras (1990) proposes a similar role for the *Globe and Mail* in Canada, suggesting that it helps set the agenda for other media. This view is buttressed by Fletcher's (1981) finding that a vast majority of media managers across Canada read the *Globe and Mail*. Evidence in Column 2 of Table 3.1 (Chapter 3) also points to the possibility that the *Globe* stands apart from other Canadian newspapers. In three of eight cases – as many as *La Presse* – the *Globe* is the paper whose elimination leads the highest alpha coefficient. This may simply be because the *Globe* is following a different agenda. It may also, however, be because it is setting the agenda, and issue salience rises for this paper sooner than for the others. Evidence is not overwhelming, of course, considering that the *Globe* stands out in only 3 of 8 issues. The potential that the *Globe* plays a leading role in Canada, however, is a possibility worth exploring.

Alternatively, it may be that the Canadian equivalent of the *New York Times* is the *Times* itself. The *Times*, after all, is highly regarded newspaper with a global circulation. It is not unreasonable to suggest that media – newspapers and otherwise – outside the US see it in the same way as those inside the US. And in Canada the potential for US influence seems especially strong.

Testing the influence of the *NYT* in Canada is of course a much larger issue than simply investigating the leading role of the *Globe and Mail*. The latter adds to our understanding of the relationship between Canadian newspapers; the former speaks to broader questions about domestic policy-making and international relations. Both investigations suggest how Chapter 7 models might be expanded, however, and this is the central focus of the tests that follow.

The Globe and Mail

The potential effects of the *Globe and Mail* on other Canadian newspapers are tested here using the following ADL model:

$$Others_t = \beta_0 + \sum_{k=1}^K \beta_1 Others_{t-k} + \sum_{k=1}^K \beta_2 Globe_{t-k} + \varepsilon_t, \quad (8.1)$$

where *Globe* is the *Globe and Mail* time series for each issue, and *Others* is a measure made up of the remaining 7 newspapers. Four lags ($k = 4$) of each variable are included, based on the assumption that any effects will have taken place within a four week period. Four lags is also enough to eliminate any autocorrelation from the various models' residuals, and few enough to minimize problems with multicollinearity.⁴⁸

The significance of the *Globe* lags, then, provides a test of the hypothesis that this paper leads other Canadian newspapers. Table 8.4 (below) presents the results of the estimation of equation 8.1 for each issue. To conserve space, only the summed values for the lagged coefficients are displayed – the value for *Globe and Mail*, for instance, represents the value of all four lagged coefficients combined; the standard error is also for this cumulative impact.

The second column includes a Granger-style F-test, testing the null hypothesis that the cumulative impact of the lagged *Globe and Mail* variables is equal to 0. The third and fourth column then repeats this for the lags of the 'Other' newspapers, the dependent variable. Issues are listed by issue type, although no obvious trend in this regard is apparent.

Table 8.4
ADL Models – The Globe and Mail as a Leading Newspaper

Issues	<i>Globe and Mail</i>		'Others'		<i>La Presse</i>	
	Summed Coef.'s	F-test ^c	Summed Coef.'s	F-test ^c	Summed Coef.'s	F-test ^c
<i>Prominent issues:</i>						
Inflation	1.694*** (0.475)	3.589**	0.191 (0.087)	11.256***		
Unemployment	-0.028 (0.680)	0.255	0.445*** (0.069)	14.406***		
<i>Sensational issues:</i>						
AIDS	0.483 (0.480)	0.488	0.498*** (0.063)	20.960***		
Crime	0.338 (0.284)	1.199	0.550*** (0.062)	21.679***		
Environment	0.393 (0.226)	1.572	0.796*** (0.041)	95.277***		
<i>Governmental issues:</i>						
Debt & Deficit	1.650** (0.522)	3.667**	0.295*** (0.072)	5.127***		
Taxes	0.461* (0.223)	3.948**	0.857*** (0.032)	187.980***		
National Unity	0.007 (0.180)	0.755	0.800*** (0.039)	126.811***		
National Unity ^a			0.798*** (0.040)	103.676***	-0.000 (0.047)	1.438
National Unity ^b	0.186 (0.153)	0.224	0.738*** (0.057)	44.695***		

1985-1995, weekly data

Dependent Variable: Others (Newspapers)

^a Calculated using *La Presse* individually, and including the *Globe and Mail* in 'Others'.

^b Calculated excluding *La Presse* from 'Others'.

^c df = 4, 519

Ignoring the bottom two rows for the time being, the past values for 'other' newspapers are the best predictors of the current values in all cases except inflation. Above and beyond this impact, the *Globe and Mail* is a significant predictor of other newspapers' issue emphasis for three issues – debt and deficit, inflation, and taxes. (These latter two series were ones in which the *Globe* stood apart in Table 3.1's alpha results.) Effects of the *Globe* for the other five issues are insignificant.

The national unity issue requires some further analysis, however. Previous tests demonstrated that the *La Presse* follows a different path from the English language newspapers on national unity issues. This is in line with past research emphasizing regional differences where national unity issues are concerned. Taking this into account, the test for a leading newspaper here is re-estimated in two ways in the bottom columns of Table 8.4. First, the possibility that *La Presse* leads English language newspapers is tested (second last row). The poor coefficient for *La Presse*, however, indicates that this is not the case. *La Presse* and the English language newspapers are simply following different paths where national unity is concerned, although previous results demonstrate that the gap is not necessarily as wide as has been assumed.

Next, the possibility that the *Globe* leads English language newspapers is tested. The relationship between the *Globe* and other newspapers is re-estimated in the final row, this time excluding *La Presse* from the 'other' category. Again, there is no major change in coefficients or significance. It is worth noting here, however, that – unlike the other tests – when this one is repeated with only 3 lags the *Globe and Mail* F-test is significant (F-test=2.55431, sig.=0.038). Results in Table 8.4, then, do not offer strong evidence that the

Globe and Mail leads English newspapers for national unity issues; nevertheless, additional testing did indicate this possibility.

In sum, evidence suggests that the *Globe and Mail* sometimes plays the role of a leading newspaper in Canada, similar to the *New York Times*' role in the US. Is there a pattern to when the *Globe* has or does not have an impact on other newspapers' agendas? One could argue that debt/deficit, inflation, national unity, and taxes are 'national' issues, while crime, environment, and unemployment are more localized in nature. If this is true, it appears as though the *Globe* leads on 'national' issues. This hypothesis requires further testing, however. It is not intuitively obvious, after all, whether AIDS is a national or local issue, and convincingly categorizing the other issues requires more background than is provided here. Nevertheless, Table 8.4 suggests that the *Globe* is sometimes a leading newspaper in Canada, and that further study might reveal a pattern to this newspaper's leading role.

These tests suggest, then, that Chapter 7 models might be re-estimated separating the *Globe* from other newspapers. For inflation, debt/deficit, and taxes – issues for which the *Globe* plays a leading role – this may result in a more accurate model. Models are not re-estimated here along these lines here, however. This section, after all, is just a beginning – considering the *Globe* on its own introduces the possibility that other papers might lead for other issues, and this possibility suggests a myriad of further tests and models. Nevertheless, the tests above indicate the potential for this line of analysis in the future. In the meantime, they serve as a useful precursor to the next section, which investigates a leading newspaper whose potential effects are important enough to justify a more thorough analysis.

The New York Times

Surprisingly, there has been no consideration of cross-border agenda-setting, at least where the media and public agendas are concerned. Hoberg (1991) has examined the potential for cross-border agenda-setting in the policymaking arena, suggesting that Canadian environmental policy development has been influenced by US policies. There has been no agenda-setting research examining the interplay between two countries' media and public agendas, however. This is especially striking considering the Canadian context, where there exists the widely recognized possibility that Canadian media and public agendas are affected by US media – either through direct media-public effects, or through inter-media influence.

It is a simple enough process to collect US media data, compare it with Canadian media content, and add the time series to the Chapter 7 SUR estimations. According, data was collected for the four issues for which US media influence seemed most likely – AIDS, environment, inflation, and unemployment. Figure 8.A (below) displays the results, plotting the *NYT* time series against the Canadian media times series collected for the preceding work.

First, an ADL model similar to that for the *Globe and Mail* was estimated:

$$CDNnews_t = \beta_0 + \sum_{k=1}^K \beta_1 CDNnews_{t-k} + \sum_{k=1}^K \beta_2 NYT_{t-k} + \varepsilon_t, \quad (8.2)$$

where *CDNnews* is the measure built from all eight Canadian newspapers, and *NYT* is the *New York Times* series. Again, the model includes four lags of each variable, and weekly series were used. Table 8.5 (below) presents the results.

Figure 8.A
US and Canadian Media Time Series

Table 8.5
ADL Models – The New York Times as a Leading Newspaper

<i>Issues</i>	<i>NYT</i>		<i>CDN newspapers</i>	
	Summed Coef.'s	F-test ^a	Summed Coef.'s	F-test ^a
AIDS	0.344 (0.214)	1.516	0.473*** (0.065)	19.538***
Environment	0.216 (0.138)	1.666	0.808*** (0.041)	98.092***
Inflation	0.252* (0.120)	2.497*	0.303*** (0.084)	13.658***
Unemployment	-0.047 (0.349)	1.250	0.441*** (0.068)	13.342***

1985-1995, weekly data

Dependent Variable: CDN Newspapers

^a df = 4, 519

No causal effects are found for AIDS, environment or unemployment. For inflation, however, there is evidence that US media content Granger causes Canadian media content. It may be that the *NYT* is doing a good job of anticipating economic conditions – it could be serving here as a proxy for economic conditions rather than as an indication of the US media agenda. The media effects for inflation could be genuine, on the other hand – Canadian media attention to inflation could be driven in part by US media.

We can test this possibility more convincingly by adding the *NYT* variable to the Chapter 7 models, where most other variables and effects are controlled for. In fact, this is the case for all four issues – the possibility that the *NYT* affects any of the Canadian media, public, or policy agendas can be tested by adding *NYT* variables to the Chapter 7 SUR estimations. The models were re-estimated, then, with these new variables, and results are presented in Table 8.6 (below; again, the coefficients are listed in Appendix E). Since most coefficients are

unchanged by the addition of the US media variables, the table includes an abbreviated list of Granger exogeneity results.

Table 8.6
Granger Exogeneity Tests – US Media Influence

<i>Subject</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Chi-Square Test^a</i>	<i>Significance</i>
AIDS	CDN Media	CDN Media	2.285	(0.515)
		US Media	11.138	(0.011)
	Public	CDN Media	2.478	(0.479)
		US Media	0.969	(0.809)
	Policy	CDN Media	0.980	(0.806)
		US Media	8.777	(0.032)
Environment	CDN Media	CDN Media	7.029	(0.219)
		US Media	10.700	(0.058)
	Public	CDN Media	1.614	(0.899)
		US Media	10.298	(0.067)
	Policy	CDN Media	12.804	(0.025)
		US Media	13.872	(0.016)
Unemployment	CDN Media	CDN Media	14.094	(0.003)
		US Media	3.513	(0.319)
	Public	CDN Media	1.962	(0.580)
		US Media	4.659	(0.199)
	Policy	CDN Media	4.428	(0.219)
		US Media	0.081	(0.994)
Inflation	CDN Media	CDN Media	28.650	(0.000)
		US Media	10.265	(0.068)
		US CPI	2.605	(0.626)
	Public	CDN Media	2.484	(0.779)
		US Media	10.734	(0.056)
		US CPI	15.040	(0.005)
	Policy	CDN Media	5.807	(0.325)
		US Media	6.337	(0.275)
		US CPI	10.406	(0.034)
	US Media	US Media	42.539	(0.000)
		US CPI	3.000	(0.558)

Results are based on SUR estimation of models as in Chapter 7, with additional US media variables.

Text in bold is significant at $p < .10$

^a For AIDS and Unemployment, $df = 3$; for Environment and Inflation, $df = 5$.

For AIDS, environment, and unemployment, only the tests of US and Canadian media variables are listed. Canadian media tests are included since these are the variables most

likely to change with the addition of the US variables. There is no change, however, in the significance of the Canadian media variables for AIDS or unemployment. For unemployment, in fact, there are no agenda-setting effects by the Canadian or US media. For AIDS, the US media leads both Canadian media and Question Period attention to AIDS. There is evidence in Table 8.6, then, of a causal relationship. Admittedly, the assumption of causality seems a larger leap of faith when we start to consider agendas from outside Canada. Nevertheless, evidence is in this direction, suggesting the importance of further investigation and the possibility of cross-border agenda-setting for AIDS.

The results for environment are more striking. In this case, the formerly significant effects of the Canadian media on the public agenda disappear, and are replaced by a stronger impact of the *NYT* on the Canadian agenda. The policy agenda, on the other hand, is driven by both the Canadian and US media agendas. Again, the possibility that these are something other than causal relationships should be considered. In this case, it may be that it is not the *NYT* itself that is driving other agendas. This newspaper may simply be a more accurate surrogate of the general media agenda – newspaper, television, and radio – affecting the Canadian public. As with AIDS, however, evidence supporting the possibility of US media impact justifies further investigation.

The AIDS and environment estimations are similar in that both expanded models indicate US influence, while the preceding ADL models of the media alone did not. This newfound US media influence could be a product of two modeling differences. First, the expanded models use monthly time series, while the previous models used weekly series. Changing the level of aggregation could alter the results, as could the more prolonged period taken into account

in the new estimations. Secondly, evidence of US media influence could appear here because this second estimation controls for other influences – it is a more accurate model of the larger process.

The inflation estimation in Table 8.6 is different from the others in that it involves a more complex adjustment to the original Chapter 7 model. In this case, both the *NYT* and the US CPI are included in the model, using the same number of lags as the other variables. A fourth equation is also added, predicting present *NYT* content as a function of past *NYT* media content and the US CPI. Granger exogeneity results for this equation, as well as abbreviated results for the other three equations, are listed in the bottom section of Table 8.6.

Results indicate that – even controlling for the US inflation rate – attention to inflation in the *NYT* affects Canadian media *and* public concern about this issue. Canadian media responds to the *NYT*; the Canadian public responds to both the *NYT* and the US CPI; Canadian policymakers respond to the US CPI. There is a logic to these results – based on previous results, for instance, we would expect the media to be the least correlated with real world indicators. There is also some logic in the fact that while Canadian media and public are affected by the *NYT*, policymakers are led only by real world indicators from the US. These suppositions are secondary, however. The most important finding here is simply that changes in media and public attention in Canada are related to *NYT* content above and beyond any relationship with the US CPI.

As with environment, the explanation that the *NYT* acts as a better measure of the overall media agenda is appealing. On the other hand, the idea that US attention to inflation drives Canadian attention is not entirely unlikely. Certainly, the two countries' economies are

linked, and important economic news in the US often receives considerable Canadian coverage. Of the issues surveyed here, then, these results offer the strongest evidence of the potential importance of US media in Canadian agenda-setting dynamics, and confirm that this type of cross-border agenda-setting deserves further attention.

Summary & Conclusions

This chapter has demonstrated that the Chapter 7 models can be further refined, and that our pictures of the agenda-setting process can improve as a result. For prominent issues, evidence for inflation and unemployment shows that it is worth examining changes in prominence over time as well as across issues. For sensational and governmental issues, it is clear that issue duration can affect agenda-setting dynamics – national unity results show that the potential for public agenda-setting was limited after the 1992 referendum, for instance. Moreover, these results show that national unity displays the predicted governmental issue dynamics when we consider the pre-1992 period. Finally, this chapter demonstrates that we should consider additional exogenous variables. The US media agenda is prime candidate for Canadian agenda-setting studies, and examples above point to the possibility of agenda-setting effects by the US media for AIDS, environment, and inflation.

What, then, do this chapter's results mean for the Chapter 7 models? Certainly, the results from Chapter 7 are accurate, specifically for 1985-1995 time period, but also generally speaking. This chapter's results make two important additions to the Chapter 7 conclusions, however. First, adding variables above and beyond the main three agendas can add valuable detail to agenda-setting models. Models based on the media, public, and policy agendas

cover substantial territory, and the dynamics identified in these models are most often robust enough to remain unchanged as other variables are added. Nevertheless, more comprehensive models can lead to more nuanced or wide-ranging results.

Secondly, this chapter shows that marked changes in issue salience may be an indication that the study period should be reduced, or at least reconsidered, before a causal model is estimated. The complex Chapter 7 results for national unity, for instance, appear to have been the function of a time period that spanned two distinctly different phases in issue dynamics. When the periods were separated, the underlying dynamics became much clearer. Similarly, inflation and unemployment estimations indicate that investigating media effects for prominent issues should involve a consideration of changes in the relative salience of real world indicators. Results for these issues indicate that agenda-setting analyses concerned with causality and issue attributes might often be best served by the two-stage method of investigation used here. Initially, all available data can be used, and the predominant issue dynamics will often, although not always, emerge. As a second step, breaking the time period into parts helps identify changes in dynamics related to changes in issue attributes such as prominence and issue duration.

Chapter 9

Final Conclusions

The preceding research covers a wide range of related hypotheses. For the most part, specific findings have been reviewed along the way. This final chapter briefly re-considers the results, however, and discusses how they relate to each other and the general contributions they – as a group – make to agenda-setting analysis in general and individual studies of media, public opinion, and policymaking in particular. The chapter begins with a concise review of findings, and closes with a general discussion of the agenda-setting framework as it currently stands.

Summary of Findings

About Agenda-Setting

A central goal of the preceding analysis has been to demonstrate the value of an agenda-setting framework. The sheer volume of agenda-setting literature offers some proof of its merit, but the fact that various sub-fields remain disjointed and empirical work is often poorly conceived has tended not to help agenda-setting's case. Work presented here represents an effort to solve some of the conceptual and methodological difficulties that exist in agenda-setting work, and proving the value of an agenda-setting framework is an important part of this course of action.

The central advantage of an agenda-setting framework, this work maintains, is its ability to combine mass media research, the study of public opinion, and public policy analysis. Each of these fields is important in its own right. They are clearly inter-related, however, and agenda-setting provides a vernacular facilitating directly comparable hypotheses and measures. Consequently, an agenda-setting framework permits the incorporation of the three fields into a single, more complete, and more precise form of empirical analyses. Unfortunately, this has seldom been the case in past work. With the exception of a few recent studies, the vast majority of agenda-setting analyses have concentrated on one or two agendas, ignoring other relationships fundamental to an accurate picture of issue dynamics. The fact that the public and policy agenda-setting literatures have for the most part remained isolated is well recognized. The current work represents one effort at ameliorating this division, and improving agenda-setting modeling as a result.

Moreover, the 'expanded' agenda-setting model described in Chapter 1 goes some way towards suggesting a means by which empirical models should be conceived and estimated. The initial attraction for many theorists to agenda-setting was that the framework lent itself to empirical analysis. An effort to more explicitly link agenda-setting with an appropriate empirical model, then, represents an important development.

About Canadian Agendas

In contrast with the work emphasizing regional differences, there is a Canadian newspaper agenda. This is true when we consider issue salience, at least, although it is entirely likely that a more context-sensitive study would find more significant differences. Nevertheless, where simple agenda-setting is the primary focus, it is clear that the assumption of a

Canadian newspaper agenda is on firm ground. Evidence presented here certainly does not identify any trends based on region or ownership. The only trend that is identified is based on issue salience: increased issue salience leads to increased inter-newspaper consistency. It is likely, then, that agenda-setting by the media is doubly strengthened during periods of high salience – both because of the increase in salience, and the increased similarity in media content.

There is also a Canadian public agenda. Again, there is undoubtedly more regional difference in issue opinions than in the rather 'thin' measure of public opinion used here. Where issue salience is concerned, however, there is a considerable degree of inter-regional consistency. That said, this consistency is stronger longitudinally than cross-sectionally. While issue salience in provinces tends to rise and fall at the same time, the mean level of concern varies across provinces. Evidence indicates that this difference is partly attributable to variations in real-world conditions – provinces in which concern tends to be higher also tend to be those where real world conditions are more prominent. Audience attributes also play a role. Concern for national unity, for example, is highest in regions with large French populations. This is not a groundbreaking finding, admittedly, but it does point to the value of agenda-setting studies that are better-equipped to investigate the relationship between individual-level variables and agenda-setting effects.

While evidence tends to support the existence and measurability of the media and public agendas, the policy agenda is quite a different story. There are a wide variety of possible measures, certainly, even in system of government decidedly less open than that of the US. Those examined above include Question Period content, legislative initiatives (both

Government and Private Members' Bills), committee reports and activities, and Throne Speech content. The fact most obvious in the analysis, however, is that these measures are often only tangentially related. In short, government attention to issues can take a wide variety of forms, can happen in many venues, and – despite this author's attempts to find one – there is no single summary measure. A Question Period measure can be interpreted only as a measure of Question Period; a measure of legislative initiatives measures nothing other than legislative initiatives. Accordingly, government attention must be measured at a number of levels, and these should be included individually in empirical analysis. Yearly analyses might find more success in tracking general policy trends using a single series. For monthly or weekly analysis, however, multiple measures are required.

About the Agenda-Setting Process

Contrary to assumptions made in the vast majority of agenda-setting analyses, agenda-setting dynamics are often multi-directional. Media and policy agendas often interact, for instance, each affecting the other as issues rise and fall in significance. And while the relationships between agendas are not always multi-directional, it is certainly true that the direction of effects changes across issues. It is incorrect to assume that the media causes the public agenda and measure only this effect. In some circumstances, the public will affect the media agenda, and modeling agenda-setting effects should take this possibility into account.

That said, information on issue attributes can help predict the directions of influence that are most likely. The three issue types proposed here – prominent, sensational, and governmental – have proven useful in this regard. Generally speaking, a given issue at a given time will display either prominent, sensational, or governmental issue dynamics. In the first case, real

world indicators will lead the media, public, and policy agendas. The obtrusiveness or prominence of issues, in fact, is perhaps the most powerful predictor of the presence or lack of agenda-setting dynamics. Issues that are more prominent will show smaller agenda-setting effects, and preceding evidence demonstrates that both inflation and unemployment are prominent issues. Furthermore, as the degree of prominence changes over time, so too will the potential for agenda-setting dynamics. In periods of low unemployment or inflation, there is more opportunity for – and preceding tests find evidence of – media effects.

Sensational issues, on the other hand, will tend to be media-driven. These issues are recognizable in that they will generally not be obtrusive, allowing for the possibility of media effects. They will probably, but not necessarily, lend themselves to dramatic events. Environment proved to be good example of such an issue, demonstrating the power of media to affect both public and policy agendas.

Debt/deficit offered the clearest example of governmental issue dynamics – a policy agenda that leads the media agenda, and a public agenda that follows. National unity and taxes were additional examples, although the results for these issues were less clear-cut. It is significant that the national unity results were clarified when a shorter time period was used – this example proved not only the importance of issue duration, but also the possibility that issue types can vary over time. Over an extended time period, issues can exhibit a number of different dynamics, and the national unity estimation proved the value of reconsidering the time period under investigation.

It is true that the three issue types are not mutually exclusive, nor are they entirely well equipped to be predictive as opposed to descriptive. It will not always be obvious that an

issue is sensational as opposed to governmental, for instance, before agenda-setting effects are estimated. In many cases, however, prior consideration of issue attributes will suggest hypotheses about how an issue will move between agendas, and demonstrating this has been a primary goal of the preceding tests of issue types. In the future, empirical measures of issue attributes that allow for a more accurate and well-founded prior classification of issues might be a worthwhile endeavor. In the meantime, it is clear that the strength and direction of agenda-setting dynamics vary across issues and over time, that these variations are directly linked to issue attributes, and that the various attributes are reasonably well summarized by the prominent/ sensational/ governmental issue typology.

Finally, it is worth noting that additional variables can be added to the agenda-setting models proposed here. Chapter 8 included a preliminary test of the US media agenda, but this is by no means the only possibility. Dearing (1989) considers the polling agenda; Kaye (1994) examines the agendas of political parties. The interest group agenda represents another option worth exploring, especially for environmental issues or abortion. Our pictures of the agenda-setting process will improve in both accuracy and explanatory power as additional agendas are included in future analyses.

In Closing...

The worlds of political science and politics are too often divided. Political science certainly has a value on it own, but there must at some point be efforts to link academic work with everyday politics. To a large extent, agenda-setting represents one such effort.

Much of the preceding work dwells on an agenda-setting framework's ability to combine work from a variety of political science sub-fields. It is also true, however, and perhaps more significant, that agenda-setting links these research streams with the stuff of everyday politics. Issues are a central feature of day to day political interactions – they are the primary unit of analysis in newscasts, in Question Period, in discussions between friends, and also in longitudinal agenda-setting work. As a result, this type of analysis not only provides an empirical means of testing various theories of media effects and policymaking, but its results tell the real-world history of an issue. Thus, agenda-setting work serves both academic and pragmatic purposes – it tests political science hypotheses, but it also provides sensible explanations of how issues rise and fall and how politics functions in Canada.

The fact that the story of how politics functions in Canada is complicated comes as no surprise, of course. In spite of considerable efforts to build a relatively simple model, evidence presented above suggests that an accurate picture of political communications in Canada is necessarily complex. Nevertheless, the preceding work can be distilled into a few short conclusions. The interactions between media, public and policymakers can be understood in terms of issue dynamics, or the rise and fall of issue salience over time. Causal relationships between the three major agendas are often multi-directional. An order to the interactions can be detected, however – issue dynamics change systematically based on issue attributes, which vary both across issues and over time. It follows that understanding issue attributes and the measurement of agendas and their relationships provides us with the tools to model and, consequently, better understand political communications, policy development, and everyday politics.

Notes

- ¹ Rogers and Dearing (1988) list 153 agenda-setting studies published before 1988. A brief article search turns up at least another 100 published since that time.
- ² McGuire (1986) offers a more recent description of 'minimal effects' research.
- ³ For further examples along these lines, see Berkowitz (1992); Wanta et al. (1989).
- ⁴ For other descriptions of media effects on policy, see Mollenhoff (1965) and Weiss (1974).
- ⁵ McCombs et al.'s (1995) typology is based on an earlier and widely cited version by McCombs (1981).
- ⁶ For a more thorough discussion of the impact of missing variables in statistical models, see Kennedy (1998:94-5).
- ⁷ MacKuen and Coombs (1981) also used troop rates and crime rates for their analyses of the Vietnam War and crime, although in these cases the 'objective conditions' were not found to be statistically significant.
- ⁸ Zucker (1978) suggests that pollution, drugs, and energy (during certain periods) are unobtrusive, and presents some evidence that each issue shows a public agenda-setting effect by the media. Crime – an obtrusive issue – did not show significant public agenda-setting. Unemployment and cost of living did show agenda-setting effects

despite their obtrusive nature. While Zucker notes the importance of including real-world indicators in an analysis of media-public effects, however, he does not include empirical real-world indicators in several of his models. Zucker's calculation of Pearson's r coefficients is suspect as well – he has a maximum of 16 cases for the six issue areas analyzed, and no effort is made to control for autocorrelation in the time series data.

- ⁹ While the relationship between environmental interest groups and the media is taken for granted here, it is well-documented elsewhere. See for instance, Pross (1992) on Canadian interest groups and the media generally speaking; Anderson (1991), Neuzil and Kovarik (1996), Olien et al. (1989), and Rubin and Sachs (1973) on environmental interest groups and the media; and Brown and May (1989) on Greenpeace in particular.
- ¹⁰ For more detailed information on issues in the 1993 campaign, see Jenkins (1999).
- ¹¹ A Canadian version of the US *Time* magazine is *Maclean's* main competitor, but this is essentially a US magazine with some content changed for Canadian distribution. It is not clear, then, that *Time* would be accurately called a Canadian news magazine, or that it would be an accurate measure of the Canadian news media agenda.
- ¹² Other theorists using television include Cook et al. (1983), Hill (1985), and Watt et al. (1993).
- ¹³ Beginning in 1994, the *Canadian News Disc* provides a full-text index to television news programs on the two major Canadian networks, CBC and CTV.

- ¹⁴ Data was collected for two other French newspapers – *Le Devoir* and *Le Soleil*. Unfortunately, *La Presse* was the only French newspaper for which information was available for the entire time period, so the analyses below include only this French newspaper.
- ¹⁵ In preliminary testing, all of the following analyses were performed on monthly data as well. There were no significant differences in trends or results.
- ¹⁶ For a more complete description of Cronbach's alpha along with a more general discussion of reliability tests, see Carmines and Zeller (1979).
- ¹⁷ Alpha (α) can also be calculated based on inter-item correlation coefficients, calculated as follows,

$$\alpha_s = N\bar{\rho} / [1 + \bar{\rho}(N - 1)],$$

where $\bar{\rho}$ is the mean inter-item correlation coefficient. By using the correlation coefficients, this latter calculation functions as a standardized version of α (α_s). The first calculation is used for the following analyses.

- ¹⁸ Estimates of α could be biased if the data were nonstationary. This is not the case for weekly or monthly media time series.
- ¹⁹ Although this study does not use it, Theta (θ) is another measure of reliability, described by Carmines and Zeller (1979) as "a special case of Cronbach's alpha," (61) and calculated as follows,

$$\theta = (N/N - 1)(1 - 1/\lambda_1),$$

where N is the number of items and λ_1 is the first eigenvalue in the PCA. θ , then, has a similar interpretation as α , and can be used in its place along with PCA.

- 20 α 's are presented for 1990 to 1995 only to enable a direct comparison with US results. Data before 1990 was not available for most US newspapers.
- 21 The regional and ownership trends identified here were very verified using bivariate correlations.
- 22 For more detailed descriptions on the concentration of ownership of Canadian newspapers, see Shaw and Thomas (1991), Winter (1997), and Taras (1999).
- 23 For additional research in Canada reaching similar conclusions, see Picard et al. (1988).
- 24 US data was not collected for all series because either (a) some issues were exclusive to Canada, and would not be reported extensively in US media (debt and deficit, national unity, taxes-including GST), or (b) results from the US search engines were too large (crime).
- 25 It is worth noting that the libraries available on the Lexis-Nexis search engine vary by subscription. The newspapers available to the author were those available through the University of British Columbia's subscription to Lexis-Nexis.
- 26 Admittedly, the goal of regional representation was hampered by the availability of newspaper data. It would have preferable to include a newspaper from the southern US,

for instance, as well as the *LA Times* and *Chicago Tribune* – two significant regional/national papers. The *LA Times* is not included here, despite its significance, because the results of a title search in Lexis-Nexis are unsound – news stories that are repeated in the various editions of the *LA Times* are also often repeated in the index. The *Chicago Tribune*, unfortunately, is not available on Lexis-Nexis in Canada.

- ²⁷ As a second step, the Direct Granger method was used to test for causal direction. The Granger method is not described until Chapter 6, so results are not presented here. Nevertheless, it is worth noting the premise and results of these tests. First, the expectation was that if stories consistently appear on either the front page or other pages first, this would be evident in the Direct Granger tests. Results indicated that the AIDS issue likely appeared on other pages before it became front page news. The direction of influence for other stories was less clear, however. In most cases, there was evidence of bi-directional causality, suggesting that neither the front page nor other pages are the consistent starting point for news stories.
- ²⁸ For a more detailed analysis of Howlett's use of the media in place of the public agenda, see Soroka (2000).
- ²⁹ For another example of the use of speeches as an indication of the US executive agenda, Bartels (1996).
- ³⁰ Petry (1999) stands as one example of the use of legislation as an indicator of the policy agenda in Canada.

³¹ The font and column size changes very slightly between the 33rd, 34th, and 35th sessions. To make up for this discrepancy, the time series were adjusted in the following manner: (1) A random sample of 10cm sections was selected from each session, (2) the number of words were counted in each section, (3) using the average number of words in a 10cm section for the 33rd, 34th, and 35th sessions, a weight was created to adjust the measurements so they were directly comparable.

³² This section relies on a wide variety of statistical sources. Where necessary, individual sources are cited. On a more general level, the texts that provided the background for the following section should be noted. Furthermore, since the current review seeks only to provide a concise background to the statistical procedures used, the following list may prove useful for those interested in more detailed information. The two most widely used texts, both for general and time series information, were Judge et al. (1988) and Kennedy (1998). For more specific information on particular topics, see the following: for general time series information – Catalano et al (1983), Chatfield (1989), and Harvey (1981); for ARIMA analysis – Box and Jenkins (1976), Box and Pierce (1970), Hoff (1983), and McCleary and Hay (1980); for Granger causality – Freeman (1983) and Granger (1969). All estimations were performed with RATS; the accompanying texts (Doan 1996; Enders 1996) were also useful in describing most time series techniques.

³³ Gonzenbach is a clear advocate of the use of ARIMA modeling in agenda-setting work. Above and beyond his own analyses, see Gonzebach and McGavin's (1997) description of agenda-setting methodologies.

- ³⁴ See also Feige and Pearce (1979).
- ³⁵ A general ADL model can sometimes include current values of the independent variables as well, and the method by which past lags are incorporated in the model can vary. See, for instance, Judge et al. 1988: Chapter 27.
- ³⁶ This method of checking for autocorrelation is noted by Chatfield (1980), who suggests the following as an easily computed 95% confidence limit to test for significant autocorrelations: $\frac{\pm 2}{\sqrt{N}}$, where N is the number of cases in the time series.
- ³⁷ For a discussion on choosing a strategy based on knowledge of causality, see Catalano et al. (1983).
- ³⁸ For a clear description of how this done, see Enders (1996:109-111).
- ³⁹ This latter case – when RHS variables vary somewhat, but a VAR estimation is still used – is sometimes referred to as a ‘near-VAR’.
- ⁴⁰ For a more developed econometric discussion of the use of SUR versus VAR estimations, see Dwivedi and Srivastava (1978).
- ⁴¹ Chappell (1990), for instance, uses a SUR setup to “jointly estimate vote and political support functions for US presidents” (314); Chappell and Suzuki (1993) use the same method for US presidential, House, and Senate elections. The objective in the second case, by way of example, is to be able to include information from all elections when predicting votes in only one type of election. For other examples of SUR use in political

science, see Chubb (1985), Ferejohn and Calvert (1984); Simon et al. (1991). Hoole and Huang (1992) use SUR estimation and Granger causality.

⁴² Not all estimations, admittedly, vary in the same way as equations 6.10-12, and for some the SUR estimation presents no gains in efficiency vis-à-vis VAR estimation. When this was the case, the models were solved using both SUR and VAR, and the results compared. Since there were no significant differences, SUR estimation was used for all models for the sake of consistency and clarity.

⁴³ For other examples of VAR use in political science, see Enders and Sandler (1993); MacKuen et al. (1992).

⁴⁴ Granger exogeneity tests usually take the form of an F-test, rather than a chi-square test. RATS' SUR estimation makes the use of an F-test considerably more difficult than a chi-square test, however, so the latter is used here when SUR estimations are used.

⁴⁵ The Choleski decomposition is used more frequently than the Bernanke-Sims decomposition. This former method assumes a lower triangular residual correlation matrix as follows:

$$\begin{bmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ 1 & 1 & 1 \end{bmatrix} \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \end{bmatrix}$$

Using this matrix, X has contemporaneous effects on all three variables, Y has contemporaneous effects on the second and third, and Z has contemporaneous effects only on itself. Y can still affect X , but these effects cannot be contemporaneous. The

order of the variables can be changed; as a result, considerable thought must be given to which variables should be allowed to effect each other contemporaneously, and the order should be adjusted accordingly (the more residual series are correlated, the greater the impact their ordering will have). This method of decomposition presents difficulties in situations where a lower triangular correlation matrix – with variables in any order – is not appropriate, however. It was for this reason that the more flexible Bernanke-Sims decomposition was used in the forthcoming analyses.

⁴⁶ For a summary of the debate surrounding causation in econometrics, see Darnell 1994.

⁴⁷ For another description of this process, see Enders (1996).

⁴⁸ All of the weekly media time series used here tested negative for unit roots.

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Appendix A

The Media Agenda: Title Search Keywords

All media time series are the product of title searches, using the keywords listed below. For the sake of brevity, plural forms of words are not listed, but were always included in the search where appropriate. The same applies for the feminine version of French keywords. When individual words could not be used as search terms on their own, other words were added to the search (i.e., AIDS). The results of all searches were verified manually, and unrelated articles were deleted when identified.

<i>Subject</i>	<i>Title Search Keywords</i>
AIDS	<i>English:</i> 'AIDS' and 'HIV'; 'AIDS' and 'health'; 'AIDS' and 'epidemic'; 'AIDS' and 'death'; 'AIDS' and 'treatment'; 'AIDS' and 'research'; 'AIDS' and 'drug'; 'AIDS' and 'medicine'; 'AIDS' and 'virus'; 'AIDS' and 'clinic'; 'AIDS policy'. <i>French:</i> 'SIDA'.
Crime	For crime: <i>English:</i> 'crime'; 'criminal'; 'murder'; 'murderer'; 'rape'; 'rapist'; 'robbery'; 'robber'; 'theft'; 'thief'. <i>French:</i> 'crime'; 'criminal'; 'meutre'; 'meurtrier'; 'rapt'; 'vol'; 'voleur'. For drugs: <i>English:</i> 'marijuana'; 'cocaine'; 'heroin'. <i>French:</i> 'marijuana'; 'cocaine'; 'heroin'.
Debt/Deficit	<i>English:</i> 'debt' and 'national'; 'debt' and 'federal'; 'debt' and 'government'; 'debt' and 'public'; 'deficit' and 'national'; 'deficit' and 'federal'. <i>French:</i> 'dette' and 'nationale'; 'dette' and 'federale'; 'dette' and 'gouvernement'; 'dette' and 'publique'; 'deficit' and 'national', and 'deficit' and 'federal'.

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<i>Subject</i>	<i>Title Search Keywords</i>
Environment	<i>English:</i> 'environment'; 'environmental'; 'environmentalist'; 'environmentalism'; 'conservation'; 'conservationist'; 'ozone'; 'endangered' and 'species'; 'endangered' and 'animal'; 'endangered' and 'plant'; 'endangered' and tree'; 'endangered' and 'fish'; 'global warming'; 'clearcut'; 'clearcutting'; 'acid rain'; 'pollution'; 'pollute'; 'pollutant'; 'polluter'. <i>French:</i> 'environnement'; 'environnemental'; 'environmentalist'; 'environnementalisme'; 'conservation'; 'conservationist'; 'ozone'; 'menacees' and 'especies'; 'menace' and 'animal'; 'menacee' and 'plante'; 'menace' and 'arbre'; 'menace' and 'poisson'; 'rechauffement planetaire'; 'coupe a blanc'; 'pluies acides'; 'pollution'; 'polluer'; 'polluant'.
Inflation	<i>English:</i> 'inflation'. <i>French:</i> 'inflation'.
National Unity	<i>English:</i> 'national unity'; 'constitution'; 'constitutional'. <i>French:</i> 'unite' and 'nationale'; 'constitution'; 'constitutionnel'.
Taxes	<i>English:</i> 'tax' and 'federal'; 'GST'. <i>French:</i> 'impot' or 'taxe' and 'federale'; 'TPS'.
Unemployment	<i>English:</i> 'unemployment'. <i>French:</i> 'chomage'.

Appendix B

The Public Agenda: Sources & Comparison of Survey Results

This appendix includes both descriptive and diagnostic information for the public agenda time series. Coding schemes for the open-ended 'most important problem' (MIP) question varied among polling organizations. The first table lists the codes used for each subject analyzed in the current work. The second lists the various surveys used from each polling firm, and the MIP question wording. A final section then discusses the problems with using different polling firms, and compares results from the firms used here.

MIP Coding Schemes

<i>Subject</i>	<i>MIP Codes</i>
AIDS	<i>Environics</i> : 'AIDS' <i>Pollara</i> : 'AIDS'
Crime	<i>Angus Reid</i> : 'crime/capital punishment/gangs' <i>CBC</i> : 'crime or violence' <i>Environics</i> : 'crime/ law and order' <i>Pollara</i> : 'crime/violence'
Debt/Deficit	<i>Angus Reid</i> : 'deficit/government spending' <i>CBC</i> : 'national debt/ deficit' <i>Decima</i> : 'deficit' <i>Environics</i> : 'deficit/ public debt'; 'government spending/ waste' <i>Pollara</i> : 'deficit/government spending'; 'high deficit/debt'
Environment	<i>Angus Reid</i> : 'environment/ pollution' <i>CBC</i> : 'acid rain'; 'pollution/ environmental problems' <i>Decima</i> : 'environment' <i>Environics</i> : 'pollution/environment'; 'ecology/energy' <i>Gallup</i> : 'environment/ pollution' <i>Pollara</i> : 'environment'
Inflation	<i>CBC</i> : 'high cost of living/ high prices' <i>Decima</i> : 'inflation' <i>Environics</i> : 'cost of living/ inflation' <i>Pollara</i> : 'inflation/cost of living'

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<i>Subject</i>	<i>MIP Codes</i>
National Unity	<i>Angus Reid</i> : 'national unity/ Quebec'; 'constitution/ Meech Lake'; 'language issues' <i>CBC</i> : 'language'; 'Meech Lake Accord'; 'Quebec'; 'unity/ national unity' <i>Decima</i> : 'national unity' <i>Environics</i> : 'French/ English problems'; 'Meech Lake/ constitution'; 'national unity'; 'Quebec separating' <i>Gallup</i> : 'constitution/ national unity' <i>Pollara</i> : 'constitution'; 'national unity/separation'
Taxes	<i>Angus Reid</i> : 'taxes/ tax reform/ GST' <i>CBC</i> : 'GST/ new sales tax'; 'over-taxation (income/ sales tax)'; 'taxes (unspecified) <i>Decima</i> : 'government/ taxes' <i>Environics</i> : ' GST'; 'taxes (not including GST)'; 'taxes/ income taxes' <i>Gallup</i> : 'GST/ taxes' <i>Pollara</i> : 'taxes'; 'high taxes'
Unemployment	<i>Angus Reid</i> : 'unemployment/ jobs' <i>CBC</i> : 'unemployment/ lack of jobs' <i>Decima</i> : 'unemployment' <i>Environics</i> : 'unemployment' <i>Gallup</i> : 'unemployment' <i>Pollara</i> : 'unemployment/jobs'

Survey Information

<i>Pollster</i>	<i>MIP Question Wording</i>	<i>Survey Details</i>	
		<i>Survey Number</i>	<i>Data Collection Dates</i>
Angus Reid	To begin with, thinking of the issues presently confronting Canada, which one do you feel should receive the greatest attention from Canada's leaders? What other issues do you think are important for Canada right now?	vol. 8, 1.1	January 1993
		vol. 8, 3.1	March 1993
		vol. 8, 5.1	May 1993
		vol. 8, 7.1	July 1993
		vol. 8, 8.1	September 1993
		vol. 8, 10.1	November 1993
		vol. 9, 1.1	January 1994
		vol. 9, 3.1	March 1994
		vol. 9, 5.1	May 1994
		vol. 9, 7.1	July 1994

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<i>Pollster</i>	<i>MIP Question Wording</i>	<i>Survey Details</i>	
Angus Reid cont'd		vol. 9, 8.1	September 1994
		vol. 9, 10.1	November 1994
		vol. 10, 1.1b	December 1994
		vol. 10, 1.1a	January 1995
		vol. 10, 2.1	March 1995
		vol. 10, 3.1	May 1995
		vol. 10, 4.1	July 1995
		vol. 10, 5.1	September 1995
		vol. 10, 6.1a	November 1995
CBC / Globe and Mail	What would you say is the most important problem facing Canada today? [What would you say is the next most important problem facing Canada today?]*	n/a	October 1989
			June/Jul 1990
			October 1990
			April 1991
Decima	In your opinion, what is the most important problem facing Canada today - - in other words, the one that concerns you personally the most?	21	March 1985
		22	June 1985
		23	September 1985
		24	December 1985
		25	March 1986
		26	June 1986
		27	September 1986
		28	December 1986
		29	March 1987
		30	June 1987
		31	September 1987
		32	December 1987
		33	March 1988
		34	June 1988
		35	September 1988
		36	December 1988
		37	March 1989
		38	June 1989
		39	September 1989
		40	December 1989
		41	March 1990
		42	June 1990
		43	September 1990
		44	December 1990
		45	March 1991
		46	June 1991
		47	September 1991
		48	December 1991
		49	March 1992
		50	June 1992
		51	September 1992
		52	December 1992
		53	March 1993

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<i>Pollster</i>	<i>MIP Question Wording</i>	<i>Survey Details</i>	
Decima cont'd		54	June 1993
		55	September 1993
		56	December 1993
		57	February 1994**
		58	May 1994**
		59	August 1994**
		60	November 1994**
		61	Feb 1995**
Environics	In your opinion, what is the most important problem facing Canadians today?	FC853	April 1985
		FC862	February 1986
		FC872	March 1987
		FC882	February 1988
		FC883	May 1988
		FC884	October 1988
		FC891	December 1988
		FC892	March 1989
		FC893	June 1989
		FC894	October 1989
		FC901	December 1989
		FC902	March 1990
		FC903	June 1990
		FC904	October 1990
		FC911	January 1991
		FC912	April 1991
		FC913	July 1991
		FC914	October 1991
		FC921	February 1992
		FC922	May 1992
		FC923	August 1992
		FC924	November 1992
		FC941	March 1994
		FC942	June 1994
		FC943	September 1994
		FC944	December 1994
		FC951	March 1995
		FC952	June 1995
		FC953	September 1995
		FC954	December 1995
Gallup	What do you think is the most important problem facing this country today?	498-2	June 1985
		510-1	June 1986
		518-2	February 1987
		530-1	February 1988
		808-2	July 1988
		001-2	January 1990
		001	January 1995

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<i>Pollster</i>	<i>MIP Question Wording</i>	<i>Survey Details</i>
Pollara	n/a	January 1992 April 1992 August 1992 November 1992 February 1993 May 1993 August 1993 October 1993 February 1994 May 1994 August 1994 November 1994 February 1995 May 1995 August 1995 November 1995

NOTES:

* CBC/Globe and Mail only allowed for multiple responses in the first poll. The remainder record single responses only, and so use only the first part of the question.

** Decima changed their data collection methods in 1994. While field dates for the previous polls took place in the months indicated, the field dates for these latter polls spanned each quarterly period. In the time series created for this study, the middle month of the field work is used as the date for these last few polls.

Comparing Pollster's Results

Wording and coding changes might lead to different results for different polling firms. Because there are relatively few months that include results for two polling firms, however, comparing firms' results directly is difficult. So too is using plots to compare the series. Figure B.A (below), for example, plots the series for each polling firm for debt/deficit. Plots for other series are similar, and while they testify to the fact that the series are highly correlated, they don't allow for any kind of detailed comparison.

Figure B.A
Comparing Pollsters' Results – Debt/Deficit

In an effort to get a better view of differences between polling firms, the Table B.1 (below) lists the mean, standard deviation, and number of cases for each issue, by polling firm. The table goes some way towards indicating the high degree of consistency that exists across polling firms, in spite of changes in both question wording and response codes.

The significant differences in mean and standard deviation that do exist are for the most part a product of the fact that different firms' data were available for different time periods. Variation in means for crime, for instance, are entirely attributable to the time period during which a firm was gathering data – the later the data begins, the higher the mean. Similarly, differences in all other issues' means are for the most part attributable to differences in data gathering periods. The fact that the *CBC/Globe and Mail* polls run only from 1989 to 1991,

for instance, leads to lower means for crime and unemployment, and a higher mean for national unity. Pollara data does not start until 1992, so the mean is higher for debt/deficit and unemployment, and lower for inflation.

Table B.1
Comparing Pollsters' Results – All Issues

<i>Issues</i>		<i>Polling Firms</i>					
		Angus Reid	CBC/G&M	Decima	Environics	Gallup	Pollara
AIDS	Mean				0.004		0.008
	St.Dev				0.004		0.005
	N				26		6
Crime	Mean	0.020	0.004		0.017	0.020	0.017
	St.Dev	0.017	0.003		0.014	0.011	0.013
	N	38	4		25	9	15
Debt/deficit	Mean	0.094	0.065	0.094	0.066	0.075	0.145
	St.Dev	0.066	0.017	0.049	0.045	0.104	0.100
	N	51	4	25	26	17	15
Environment	Mean	0.062	0.084	0.055	0.077	0.060	0.018
	St.Dev	0.051	0.052	0.052	0.069	0.059	0.009
	N	51	4	25	26	13	15
Inflation	Mean		0.028	0.035	0.027		0.006
	St.Dev		0.011	0.020	0.019		0.006
	N		4	41	26		15
National Unity	Mean	0.141	0.175	0.069	0.080	0.056	0.108
	St.Dev	0.104	0.169	0.071	0.055	0.064	0.091
	N	51	4	41	26	19	15
Taxes	Mean	0.057	0.086	0.214	0.060	0.033	0.108
	St.Dev	0.053	0.052	0.080	0.033	0.029	0.091
	N	51	4	41	26	9	15
Unemployment	Mean	0.141	0.089	0.263	0.253	0.304	0.326
	St.Dev	0.084	0.040	0.124	0.113	0.117	0.099
	N	51	4	41	26	19	15

1985-1995

The only exception to the rule is for the Decima time series for taxes. The mean here is markedly higher than the others, and the difference in this case cannot be explained by the time period during which the data was gathered. The graph of polling results (not shown here) further illustrates a gap between this and the other series – the Decima series hovers well over the others throughout the time period. The Decima ‘government/taxes’ code, then, is clearly picking up something different from the other codes, which are more clearly oriented towards taxes only. As a result, the Decima data was excluded from the final time series.

In all other cases, there appears to be little difference between polling firms, despite wording and coding changes. This is in line with work by Smith (1980, 1985), who suggests that wording changes for the MIP question in the US produce no significant changes in results. As a result, the different series were combined, as described in Chapter 4.

Appendix C

The Policy Agenda: Sources

Hansard and Throne Speech content analysis, as well as legislation counts, were performed manually, and did not use specific keywords. Although government spending was not used in the final agenda-setting models, time series data were collected for preliminary analyses. The sources of these data are noted below.

<i>Subject</i>	<i>Government Spending</i>
AIDS	Includes all AIDS-related expenditures made through the Department of Health and Welfare. Included, for instance, is all money spent on education and prevention, biomedical initiatives, care, treatment and support, support to non-governmental organizations, coordination and collaboration costs, the Aboriginal AIDS Program, administration and support, and the AIDS secretariat. SOURCES: 1983-1993: Lindquist Evert A. and David M. Rayside, "Federal AIDS Policy for the 1990s: Is It Too Early for 'Mainstreaming' in Canada?, in How Ottawa Spends: The Politics of Competitiveness, 1992-1993, Francis Abele, ed. (Ottawa: Carleton University Press, 1992), pp313-352. 1993-1995: figures are taken from the Canadian Strategy on HIV/AIDS, Phase II.
Crime	Based on the amount of money spent each year on the 'Protection of Persons and Property' (as defined by the National Tax Foundation) by the Solicitor General's department and the Department of Justice. The Solicitor General responsibilities include CSIS, the Correction service, the office of the Correctional Investigator, the National Parole Board, the RCMP, and the RCMP eternal review committee and public complaints committee. The Department of Justice expenditures include the Canadian Human Rights Committee, the Supreme Court, the Federal Court, the Tax Court, the Commissioner for Federal Judicial Affairs, etc. SOURCE: The National Finances, Canadian Tax Foundation, various years.
Environment	Based on the cash spent by the Department of the Environment on the Environmental Protection Service, Atmospheric Environment Service, Environmental Conservation Service, and Administration, as well as 'other' environmental expenditures as classified in The National Finances, including expenditures made by Indian and Affairs and Northern Development, Canada Mortgage and Housing Corporation (CMHC) and the National Capital Commission.
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<i>Subject</i>	<i>Government Spending</i>
National Unity	The national unity data includes a number of series: 1) All cash spent by the Secretary of State (until 1994) or the Department of Canadian Heritage (1994 onwards) on 'Bilingualism Development', as defined by the Canadian Tax Foundation. This includes the Official Languages Program, which deals with the promotion and use of official languages, as well as summer language bursaries. 2) Expenditures on 'Recreation and Culture' (as defined by the Canadian Tax Foundation), including postal subsidies, Canada Council, Telefilm Canada, national Archives, museums, Parks Canada, Fitness and Amateur Sport Program, NCC, etc. The majority of these expenditures are made, depending on the year, through the Department of Canadian heritage, the Secretary of State, or the Department of Communications. SOURCE: The National Finances, Canadian Tax Foundation, various years.
Unemployment	The series for unemployment is based on the expenditures on 'Labour and Employment', as defined by the National Tax Foundation. The series includes all expenditures on employment-related developmental uses programs, including such things as the Canada Employment Centres, the Work-Sharing Program, and Job Creation and Training Courses. Most expenditures are made through the Canada Employment and Immigration Commission (CEIC), although some expenditures in select years are made through the Department of Labour or the Department of Agriculture. SOURCE: The National Finances, Canadian Tax Foundation, various years.

Appendix D

Real-World Indicators & Sources

Where possible, real-world indicators were collected for each issue. In most cases, more real-world indicators were collected than were used in the final agenda-setting models. All indicators, and their sources, are listed below.

<i>Subject</i>	<i>Real World Indicators</i>
AIDS	No. of reported cases of AIDS, all ages, Canada; reported yearly, divided into monthly increments. <i>Source:</i> Division of HIV/AIDS surveillance, Bureau of HIV/AIDS, DTD, and TD, Laboratory Centre for Disease Control, Health Protection Branch, Health Canada, HIV and AIDS in Canada: Surveillance Report to December 31st, 1997 (April 1998), Table 10, pg. 16.
Crime	- Violent Crime Rate & % change in Rate (1) - Property Crime Rate & change in Rate (2) - Total Police Reported Crime (excluding traffic offenses) Rate & change in Rate (3) <i>Source:</i> Canadian Centre for Justice Statistics, <i>Canadian Crime Statistics 1997</i>, Statistics Canada, 1997: 14.
Debt/Deficit	- Gross Federal Government Debt (National Debt), in millions, reported annually as of March 31st (1) - Federal Government Revenue and Expenditure, in millions, reported annually as of March 31st: Total Revenue (2) – Total Expenditure (3) - Debt, as a proportion of GDP = (1) / Gross domestic product at market prices, expenditure-based, not seasonally adjusted, in millions (4) - Deficit, as a proportion of Federal Government Revenue = ((2) – (3)) / (2) <i>Sources:</i> Statistics Canada – (1) CANSIM D469409, (2) CANSIM D464223, (3) CANSIM 464264, (4) CANSIM D15689

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<i>Subject</i>	<i>Real World Indicators</i>
Environment	• Timber harvest levels – Annual area harvested, 1000s of hectares (1) • New supplies of ozone-depleting substances, CFCs and other ODS (2) • Carbon dioxide emissions from fossil fuel use, in megatonnes (3) • Cumulative change in risked species, of all species, subspecies, and populations evaluated by COSEWIC (4) • Leading indicators for Canada / composite index of 10 indicators, unsmoothed, (81=100) • Monthly change in composite index = $(5)_t - (5)_{t-1}$ <i>Sources:</i> All sources are reported in Canada's Environmental Indicators Series, from Environment Canada, but originate from the following sources – (1) Natural Resources Canada, Canadian Forestry Service, National Forestry Database, (2) Commercial Chemicals, Evaluation Branch, Environmental Protection Service & Statistics Canada, (3) Environmental Protection Service, Environment Canada, & Statistics Canada, (4) COSEWIC Secretariat, Canadian Wildlife Service, Environment Canada, (5) CANSIM D100030.
Inflation	• Consumer price indexes for Canada, monthly, 1996 classification, (1992=100, all items) (1) • Monthly change in CPI = $(1)_t - (1)_{t-1}$ • Leading indicators for Canada / composite index of 10 indicators, unsmoothed, (81=100) (2) • Monthly change in composite index = $(2)_t - (2)_{t-1}$ <i>Sources:</i> (1) CANSIM P100000, (2) CANSIM D100030
Taxes	• Income tax burden = Income taxes (1) / GDP (6) • Personal tax burden = Personal taxes (2) / (6) • Consumption tax burden = Consumption taxes (3) / (6) • General sales tax burden = General sales taxes (4) / (6) • Total tax burden = (1) + (3) + Misc. Taxes (5) / (6) <i>Sources:</i> (1) CANSIM D464225, (2) CANSIM D464226, (3) CANSIM D464229, (4) CANSIM D464230, (5) CANSIM D464237, (6) CANSIM 15689

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<i>Subject</i>	<i>Real World Indicators</i>
Unemployment	• Unemployment rate for those aged 15 and over, reported monthly, unadjusted (1) • Change in unadjusted unemployment rate = $(1)_t - (1)_{t-1}$ • Unemployment rate for those aged 15 and over, reported monthly, seasonally adjusted (2) • Change in adjusted unemployment rate = $(2)_t - (2)_{t-1}$ • Leading indicators for Canada / composite index of 10 indicators, unsmoothed, (81=100) (3) • Monthly change in composite index = $(3)_t - (3)_{t-1}$ <i>Sources:</i> (1) D980404, (2) CANSIM D980745, (3) CANSIM D100030.

Appendix E SUR Estimations

Table E.1
SUR Estimation Results – AIDS

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		B	SE(b)	B	SE(b)	B	SE(b)
Constant	-	18.413***	(3.536)	0.018	(0.026)	0.605 ^a	(0.339)
Media	1	0.012	(0.101)	-0.001	(0.001)	0.005	(0.010)
	2	0.054	(0.101)	0.001	(0.001)	-0.004	(0.010)
	3	-0.033	(0.100)	0.000	(0.001)	0.004	(0.010)
Public	1	14.304	(12.303)	1.613***	(0.094)	-0.944	(1.148)
	2	5.196	(20.531)	-0.917***	(0.158)	4.040*	(1.940)
	3	-11.717	(11.738)	0.263**	(0.090)	-2.506*	(1.141)
Hansard	1	0.503	(0.947)			-0.079	(0.094)
	2	-0.682	(0.960)			-0.105	(0.097)
	3	0.372	(0.868)			-0.073	(0.087)
Committees	0	10.103	(11.689)			0.642	(1.166)
	1	6.926	(10.918)			0.699	(1.097)
PM Bills	0	-0.507	(10.898)			-0.889	(1.090)
	1	0.898	(10.986)			0.761	(1.095)
Throne Speech	0	-14.865	(35.508)			0.981	(3.543)
	1	-35.165	(35.814)			-5.021	(3.574)
Election	-1	-13.394 ^a	(7.605)	0.013	(0.061)		
	0	6.555	(7.685)	-0.245***	(0.061)		
	1	9.358	(8.273)	-0.063	(0.066)		
Budget	-1	0.449	(4.016)			-0.344	(0.401)
	0	-0.029	(4.244)			-0.161	(0.434)
	1	-5.243	(4.531)			0.811 ^a	(0.461)
AIDS cases	0	0.021 ^a	(0.012)	0.000	(0.000)	-0.002	(0.001)
Sitting	0					-0.488 ^a	(0.273)
R ²		0.304		0.971		0.221	
Q-statistic (16)		19.756		10.292		10.123	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 87:6 to 95:11.

Table E.2
SUR Estimation Results – Crime

Independent Variables	Lag	Dependent Variables			
		Media (Crime)		Media (Drugs)	
		B	SE(b)	B	SE(b)
Constant	-	46.689**	(18.001)	7.780*	(3.248)
Media (Crime)	1	0.378**	(0.112)		
	2	0.169	(0.119)		
	3	-0.155	(0.137)		
	4	0.004	(0.123)		
Media (Drugs)	1			0.203 ^a	(0.125)
	2			-0.019	(0.131)
	3			0.139	(0.119)
	4			0.097	(0.106)
Public	1	8.325**	(2.069)	0.347	(0.547)
	2	-0.278	(2.324)	0.033	(0.592)
	3	-4.827 ^a	(2.621)	-0.633	(0.625)
	4	7.809**	(2.544)	-0.436	(0.622)
Hansard	1	-0.261	(0.346)	-0.076	(0.083)
	2	-0.254	(0.322)	0.002	(0.075)
	3	-0.439	(0.314)	-0.046	(0.077)
	4	-1.019**	(0.351)	0.037	(0.087)
Committees	0	-0.934	(2.380)	-0.919 ^a	(0.551)
	1	2.882	(2.217)	-0.148	(0.564)
PM Bills	0	-1.343	(0.881)	0.491*	(0.200)
	1	-0.165	(0.896)	-0.380 ^a	(0.230)
Govt Bills	0	1.414	(0.906)	-0.314	(0.206)
	0	1.397	(0.901)	0.408 ^a	(0.212)
Throne Speech	0	0.139	(4.093)	-0.614	(0.907)
	1	-4.123	(4.172)	0.472	(0.947)
Election	-1	-11.506	(14.647)	3.615	(3.929)
	0	26.092 ^a	(15.003)	5.112	(3.749)
	1	19.909	(14.858)	1.12	(3.672)
Budget	-1	7.542	(7.403)	0.816	(1.876)
	0	2.789	(7.465)	2.970 ^a	(1.824)
	1	6.336	(7.378)	2.735	(1.823)
Prop. Crime	0	0.188	(1.348)	-0.189	(0.328)
Vio. Crime		-0.336	(0.780)	0.114	(0.167)
Sitting	0				
R ²		0.673		0.467	
Q-statistic		11.572		14.649	

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Table E.2 continued...

Independent Variables	Lag	Dependent Variables			
		Public		Policy	
		B	SE(b)	B	SE(b)
Constant	-	-0.513	(1.445)	18.778*	(8.132)
Media (Crime)	1	-0.004	(0.006)	0.016	(0.036)
	2	-0.006	(0.007)	-0.073*	(0.038)
	3	0.009	(0.007)	-0.123**	(0.042)
	4	0.012 ^a	(0.007)	0.04	(0.041)
Media (Drugs)	1	-0.050 ^a	(0.028)	-0.310*	(0.160)
	2	0.061 ^a	(0.033)	-0.063	(0.161)
	3	0.052 ^a	(0.032)	0.032	(0.152)
	4	-0.035	(0.024)	-0.185	(0.127)
Public	1	0.353**	(0.124)	0.079	(0.694)
	2	0.489***	(0.135)	2.301**	(0.769)
	3	-0.17	(0.136)	-0.405	(0.832)
	4	-0.053	(0.133)	2.225**	(0.827)
Hansard	1			0.129	(0.116)
	2			-0.212*	(0.099)
	3			0.034	(0.100)
	4			-0.235*	(0.114)
Committees	0			-0.858	(0.749)
	1			0.847	(0.734)
PM Bills	0			0.429	(0.294)
	1			-0.092	(0.301)
Govt Bills	0			0.847**	(0.290)
	0			0.006	(0.287)
Throne Speech	0			0.802	(1.266)
	1			0.240	(1.289)
Election	-1	0.934	(0.986)		
	0	0.191	(0.953)		
	1	-1.271	(0.943)		
Budget	-1			0.710	(2.488)
	0			1.023	(2.428)
	1			0.435	(2.461)
Prop. Crime	0	-0.101	(0.068)	0.050	(0.411)
Vio. Crime		0.052	(0.042)	-0.329	(0.245)
Sitting	0			-4.98***	(1.709)
R ²			0.707		0.751
Q-statistic			13.597		17.204

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 88:9 to 95:12.

Table E.3
SUR Estimation Results – Debt and Deficit

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		B	SE(b)	B	SE(b)	B	SE(b)
Constant	-	4.614**	(1.648)	0.461	(1.725)	2.477	(2.058)
Media	1	0.155	(0.110)	0.417***	(0.106)	0.112	(0.137)
	2	-0.109	(0.106)	0.02	(0.110)	-0.286*	(0.133)
	3	-0.033	(0.108)	-0.043	(0.111)	0.358**	(0.134)
Public	1	0.192*	(0.097)	0.499***	(0.100)	0.088	(0.121)
	2	-0.153	(0.111)	-0.143	(0.114)	-0.056	(0.141)
	3	-0.104	(0.098)	0.461***	(0.103)	0.04	(0.125)
Hansard	1	0.042	(0.077)			0.213*	(0.098)
	2	-0.033	(0.080)			0.024	(0.101)
	3	0.037	(0.078)			-0.118	(0.099)
Committees	0	-1.083	(1.094)			-0.916	(1.346)
	1	0.308	(1.122)			-0.359	(1.373)
Govt Bills	0	-0.342	(0.341)			-0.825 ^a	(0.439)
	0	0.253	(0.343)			1.282**	(0.437)
Throne Speech	0	0.813**	(0.305)			0.386	(0.387)
	1	-0.154	(0.313)			0.403	(0.396)
Election	-1	0.388	(1.755)	1.968	(1.860)		
	0	1.099	(1.738)	0.448	(1.840)		
	1	3.912*	(1.685)	2.038	(1.844)		
Budget	-1	2.094 ^a	(1.103)			-0.635	(1.392)
	0	0.408	(1.207)			0.955	(1.536)
	1	-1.046	(1.085)			-3.078*	(1.403)
Debt	0	-0.001	(0.001)	0.000	(0.001)	-0.001	(0.001)
Deficit	0	71.344	(46.453)	18.012	(48.413)	66.045	(58.511)
Economy	1	-0.204	(0.279)	0.229	(0.253)	0.478	(0.351)
	2	0.2	(0.267)	0.487*	(0.238)	0.800*	(0.339)
	3	0.450 ^a	(0.261)	0.097	(0.254)	0.171	(0.329)
Sitting	0					-3.441***	(0.764)
R ²		0.403		0.834		0.559	
Q-statistic		18.398		20.424		10.626	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 88:5 to 95:11.

Table E.4
SUR Estimation Results – Environment

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	12.222	(13.351)	-3.405**	(1.069)	-9.114	(7.048)
Media	1	0.273*	(0.114)	0.016*	(0.008)	0.113 ^a	(0.060)
	2	0.153	(0.102)	0.010	(0.008)	0.040	(0.054)
	3	-0.110	(0.101)	-0.002	(0.008)	-0.002	(0.054)
	4	0.119	(0.100)	0.002	(0.008)	0.049	(0.052)
	5	-0.044	(0.095)	-0.005	(0.007)	0.138**	(0.051)
Public	1	-1.037	(1.262)	0.431***	(0.103)	1.267 ^a	(0.660)
	2	0.161	(1.462)	-0.069	(0.118)	-0.795	(0.758)
	3	3.158*	(1.353)	0.398***	(0.112)	-0.152	(0.719)
	4	1.418	(1.408)	-0.005	(0.119)	-2.228**	(0.750)
	5	-0.534	(1.241)	-0.021	(0.098)	0.107	(0.660)
Hansard	1	0.387*	(0.175)			0.239**	(0.087)
	2	-0.117	(0.173)			-0.094	(0.088)
	3	-0.290	(0.181)			-0.195*	(0.095)
	4	-0.353*	(0.181)			0.069	(0.095)
	5	0.196	(0.172)			0.098	(0.091)
Committees	0	0.009	(2.752)			-0.154	(1.495)
	1	-3.994	(2.840)			-2.059	(1.511)
PM Bills	0	6.825 ^a	(3.724)			1.439	(2.029)
	1	-3.434	(4.069)			-2.998	(2.124)
Govt Bills	0	3.208**	(1.202)			-0.886	(0.658)
	1	-1.148	(1.256)			1.156 ^a	(0.675)
Throne Speech	0	-4.497**	(1.343)			-0.144	(0.720)
	1	2.309	(1.473)			0.924	(0.775)
Election	-1	5.261	(12.668)	3.648***	(1.022)		
	0	-0.553	(12.942)	0.833	(1.061)		
	1	-2.551	(12.574)	-0.254	(1.057)		
Budget	-1	17.653**	(6.692)			-3.077	(3.552)
	0	26.179***	(7.289)			-6.810 ^a	(3.998)
	1	5.617	(7.766)			-1.230	(4.090)
Env1	0	0.120	(0.086)	-0.015*	(0.007)	-0.102*	(0.045)
Env2	0	-0.668	(1.295)	-0.280**	(0.106)	-1.515*	(0.693)
Env3	0	-0.068	(0.325)	0.113***	(0.027)	0.247	(0.171)
Env4	0	0.732 ^a	(0.412)	0.109***	(0.031)	0.069	(0.221)
Sitting	0					-15.009***	(2.538)
R ²		0.749		0.940		0.595	
Q-statistic		13.273		11.273		18.028	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 87:8 to 95:11.

Table E.5
SUR Estimation Results – Inflation

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	4.393**	(1.485)	0.020	(0.182)	-0.184	(0.195)
Media	1	0.409***	(0.087)	0.011	(0.010)	0.011	(0.011)
	2	-0.055	(0.097)	-0.002	(0.010)	0.020	(0.013)
	3	0.203*	(0.085)	0.003	(0.010)	-0.002	(0.011)
	4	0.076	(0.087)	-0.010	(0.010)	-0.007	(0.011)
	5	-0.076	(0.083)	-0.002	(0.010)	-0.003	(0.011)
Public	1	0.749	(0.757)	0.980***	(0.087)	-0.097	(0.100)
	2	0.901	(1.057)	-0.230 ^a	(0.120)	0.090	(0.139)
	3	-1.533	(1.032)	0.100	(0.122)	-0.112	(0.138)
	4	0.289	(1.021)	-0.018	(0.122)	-0.186	(0.135)
	5	-0.379	(0.712)	0.112	(0.087)	0.226*	(0.094)
Hansard	1	0.860	(0.745)			0.131	(0.097)
	2	-1.616*	(0.682)			-0.023	(0.088)
	3	-0.186	(0.580)			-0.036	(0.074)
	4	0.928a	(0.558)			-0.030	(0.072)
	5	-0.097	(0.521)			0.168*	(0.069)
Throne Speech	0	0.565	(5.440)			3.560***	(0.712)
	1	2.345	(5.375)			2.025**	(0.701)
Election	-1	4.250	(3.246)	0.424	(0.393)		
	0	-3.365	(3.178)	-0.157	(0.381)		
	1	-1.576	(3.181)	-0.020	(0.381)		
Budget	-1	8.073***	(1.599)			0.472*	(0.211)
	0	-3.199 ^a	(1.725)			0.090	(0.227)
	1	-0.694	(1.744)			-0.128	(0.229)
CPI	0	0.339	(1.373)	0.113	(0.164)	-0.113	(0.182)
	1	1.519	(1.363)	0.522**	(0.161)	0.423*	(0.181)
	2	-1.488	(1.485)	0.084	(0.166)	-0.099	(0.198)
	3	2.225	(1.472)	-0.310 ^a	(0.165)	1.388***	(0.195)
Sitting	0					-0.126	(0.144)
R ²		0.445		0.926		0.629	
Q-statistic (16)		14.588		6.912		21.456	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:5 to 95:11.

Table E.6
SUR Estimation Results – National Unity

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	5.601	(3.687)	0.573	(0.679)	-1.276	(2.250)
Media	1	0.532***	(0.094)	0.055**	(0.017)	0.120*	(0.054)
	2	0.151	(0.103)	0.002	(0.019)	-0.006	(0.059)
	3	0.151	(0.093)	-0.022	(0.018)	0.205***	(0.053)
Public	1	0.841	(0.460)	0.424***	(0.089)	0.545*	(0.264)
	2	0.598	(0.521)	0.336**	(0.103)	-0.238	(0.300)
	3	-0.991*	(0.429)	0.054	(0.087)	-0.374	(0.246)
Hansard	1	-0.235	(0.155)			-0.147 ^a	(0.088)
	2	-0.219	(0.165)			-0.017	(0.095)
	3	-0.182	(0.166)			-0.127	(0.094)
Committees	0	4.116	(6.104)			3.206	(3.472)
	1	-16.014**	(6.120)			-0.015	(3.588)
PM Bills	0	-2.374	(4.806)			1.730	(2.773)
	1	2.576	(4.761)			-5.725*	(2.699)
Govt Bills	0	-2.273	(1.882)			1.369	(1.078)
	1	4.887**	(1.874)			1.732 ^a	(1.058)
Throne Speech	0	-0.630	(0.858)			-0.599	(0.488)
	1	0.186	(0.840)			-0.022	(0.479)
Election	-1	-10.900	(13.792)	-2.324	(2.931)		
	0	5.473	(13.529)	-0.907	(2.929)		
	1	4.358	(13.494)	-0.973	(2.921)		
Budget	-1	6.625	(6.883)			8.132*	(3.932)
	0	0.726	(6.884)			3.523	(3.952)
	1	17.455*	(7.151)			6.780 ^a	(4.130)
Que. Ref.	-1	2.675	(20.019)	11.432**	(4.198)	93.522***	(11.484)
	0	44.369 ^a	(24.731)	23.551***	(4.290)	96.819***	(14.218)
	1	17.224	(29.018)	-3.263	(4.728)	104.794**	(16.744)
Nat'l Ref	-1	0.414	(22.357)	5.961	(4.532)	13.462	(12.771)
	0	20.587	(22.025)	-10.510*	(4.430)	-18.698	(12.641)
	1	-34.410	(22.020)	-11.618**	(4.426)	-15.137	(12.613)
Sitting	0					-7.462**	(2.724)
R ²		0.567		0.770		0.708	
Q-statistic (16)		11.107		18.968		19.130	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:6 to 95:11.

Table E.7
SUR Estimation Results – Taxes

Independent Variables	Lag	Dependent Variables			
		Media (Crime)		Media (Drugs)	
		B	SE(b)	B	SE(b)
Constant	-	0.779	(0.677)	-13.589**	(4.406)
Media (Crime)	1	0	(0.099)		
	2	0.296**	(0.087)		
	3	0.148 ^a	(0.086)		
	4	0.481***	(0.082)		
		-0.046	(0.082)		
Media (Drugs)	1			0.475***	(0.115)
	2			0.008	(0.127)
	3			-0.192	(0.125)
	4			-0.049	(0.127)
				0.13	(0.092)
Public	1	-0.216*	(0.105)	2.194**	(0.673)
	2	-0.144	(0.133)	0.974	(0.800)
	3	0.168	(0.127)	-0.045	(0.794)
	4	-0.213 ^a	(0.122)	1.198	(0.787)
		0.296**	(0.111)	1.129	(0.782)
Hansard	1	0.007	(0.022)	0.269*	(0.117)
	2	0.016	(0.019)	-0.17	(0.104)
	3	-0.011	(0.019)	-0.204 ^a	(0.106)
	4	-0.006	(0.020)	-0.181 ^a	(0.108)
		-0.022	(0.019)	-0.115	(0.114)
Committees	0	0.403	(0.519)	1.849	(2.942)
	1	-0.013	(0.506)	3.752	(2.719)
PM Bills	0	0.457	(0.344)	1.558	(1.867)
	1	0.022	(0.332)	0.214	(1.810)
Govt Bills	0	-0.018	(0.125)	-0.32	(0.690)
	0	-0.19	(0.122)	-0.302	(0.672)
Throne Speech	0	4.633***	(0.641)	-4.36	(3.582)
	1	3.344***	(0.797)	-6.615 ^a	(3.699)
Election	-1	1.351	(1.597)	2.491	(9.128)
	0	-0.171	(1.585)	-4.161	(9.053)
	1	1.795	(1.577)	2.417	(9.037)
Budget	-1	0.733	(0.925)	0.535	(5.187)
	0	-1.717 ^a	(0.959)	1.635	(5.469)
	1	-0.835	(0.920)	0.31	(5.128)
Inc. Taxes	0	65.857	(56.040)	-840.899*	(333.301)
Cons. Taxes		130.404	(226.852)	4311.199*	(1372.87)
Sitting	0				
R ²			0.668		0.821
Q-statistic			15.992		12.304

Continued next page...

Table E.7 continued...

Independent Variables	Lag	Dependent Variables			
		Public		Policy	
		B	SE(b)	B	SE(b)
Constant	-	-0.198	(0.694)	-2.877	(3.241)
Media (Crime)	1	0.08	(0.081)	1.552***	(0.404)
	2	0.071	(0.079)	-0.309	(0.358)
	3	0.043	(0.080)	0.122	(0.342)
	4	0.066	(0.078)	-0.289	(0.322)
		0.1	(0.080)	0.669*	(0.343)
Media (Drugs)	1	0.016	(0.020)	0.07	(0.082)
	2	0.021	(0.022)	0.086	(0.087)
	3	-0.051*	(0.021)	-0.182*	(0.088)
	4	-0.004	(0.022)	-0.181 ^a	(0.093)
		0.029 ^a	(0.016)	0.142*	(0.064)
Public	1	0.445***	(0.117)	1.374**	(0.499)
	2	-0.082	(0.135)	0.217	(0.607)
	3	0.313*	(0.130)	-0.154	(0.611)
	4	-0.087	(0.139)	0.114	(0.570)
		0.201	(0.136)	0.900	(0.555)
Hansard	1			-0.133	(0.088)
	2			-0.075	(0.077)
	3			0.200*	(0.079)
	4			-0.001	(0.083)
				0.132	(0.087)
Committees	0			0.689	(2.204)
	1			-1.33	(2.027)
PM Bills	0			-1.289	(1.441)
	1			-2.106	(1.310)
Govt Bills	0			0.986 ^a	(0.546)
	0			-0.064	(0.496)
Throne Speech	0			3.834	(2.675)
	1			-5.047	(3.272)
Election	-1	-0.639	(1.705)		
	0	0.026	(1.692)		
	1	-0.685	(1.684)		
Budget	-1			-7.339 ^a	(3.995)
	0			-5.179	(4.061)
	1			-9.597*	(3.870)
Inc. Taxes	0	8.968	(63.311)	-786.027**	(253.593)
Cons. Taxes		-24.279	(206.716)	570.088	(989.286)
Sitting	0			-12.529***	(2.516)
R ²			0.686		0.732
Q-statistic			11.824		17.036

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 87:8 to 95:11.

Table E.8
SUR Estimation Results – Unemployment

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	4.311***	(1.223)	-0.452	(1.202)	4.705	(3.285)
Media	1	0.323**	(0.096)	0.077	(0.077)	0.420 ^a	(0.252)
	2	-0.017	(0.090)	0.013	(0.078)	0.140	(0.236)
	3	0.106	(0.087)	0.057	(0.074)	-0.202	(0.228)
Public	1	0.236**	(0.087)	0.239**	(0.086)	0.368 ^a	(0.224)
	2	-0.067	(0.088)	0.322***	(0.085)	-0.280	(0.226)
	3	-0.086	(0.085)	0.365***	(0.087)	0.029	(0.219)
Hansard	1	-0.041	(0.035)			-0.008	(0.091)
	2	0.004	(0.035)			0.079	(0.091)
	3	0.010	(0.036)			0.201*	(0.094)
Committees	0	-1.681	(2.390)			-6.456	(6.297)
	1	-2.336	(2.146)			-12.562*	(5.650)
PM Bills	0	3.486**	(1.038)			1.870	(2.737)
	1	1.354	(1.105)			0.718	(2.898)
Govt Bills	0	0.421	(0.550)			-0.127	(1.462)
	1	-0.428	(0.545)			-1.162	(1.392)
Throne Speech	0	1.810***	(0.390)			2.386*	(1.029)
	1	-0.815 ^a	(0.440)			-3.386**	(1.162)
Election	-1	4.811	(3.126)	7.569*	(3.413)		
	0	-2.453	(3.127)	0.785	(3.473)		
	1	0.425	(2.987)	2.093	(3.367)		
Budget	-1	-2.622	(2.216)			3.594	(5.839)
	0	2.549	(2.397)			-6.798	(6.309)
	1	-0.859	(2.031)			6.808	(5.395)
Unemp't	0	-0.515	(0.965)	-0.997	(0.818)	-5.539*	(2.493)
	1	0.596	(0.947)	2.055**	(0.791)	7.008**	(2.490)
	2	2.711*	(1.141)	0.848	(0.801)	-1.733	(2.959)
	3	0.589	(1.030)	0.371	(0.842)	8.342**	(2.835)
Sitting	0					-9.843***	(2.728)
R ²		0.505		0.867		0.458	
Q-statistic (16)		6.593		15.915		16.235	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:6 to 95:11.

Table E.9
SUR Estimation Results – Inflation, 91:10 to 95:12

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		B	SE(b)	B	SE(b)	B	SE(b)
Constant	-	13.620***	(3.511)	-0.001	(0.322)	0.656 ^a	(0.383)
Media	1	0.065	(0.144)	0.016	(0.011)	0.012	(0.015)
	2	-0.182	(0.147)	0.020 ^a	(0.011)	-0.035*	(0.016)
	3	-0.005	(0.141)	0.011	(0.011)	0.013	(0.015)
	4	-0.139	(0.138)	-0.001	(0.012)	-0.036*	(0.015)
	5	-0.125	(0.138)	-0.018	(0.012)	-0.007	(0.014)
Public	1	2.280	(1.630)	0.116	(0.127)	0.111	(0.173)
	2	2.792	(1.786)	-0.136	(0.129)	0.322 ^a	(0.189)
	3	-3.056*	(1.261)	0.352**	(0.111)	-0.047	(0.140)
	4	0.215	(1.495)	0.075	(0.118)	-0.244	(0.160)
	5	0.646	(1.328)	0.158	(0.107)	0.022	(0.140)
Hansard	1	2.655*	(1.273)			0.030	(0.131)
	2	-0.050	(1.241)			-0.054	(0.128)
	3	-2.573*	(1.162)			0.017	(0.119)
	4	0.250	(1.118)			-0.017	(0.115)
	5	-0.937	(0.847)			-0.049	(0.088)
Throne Speech	0						
	1						
Election	-1	0.455	(3.384)	0.069	(0.311)		
	0	-3.865	(3.254)	-0.188	(0.305)		
	1	-4.091	(3.375)	-0.378	(0.314)		
Budget	-1	7.254***	(2.011)			0.350 ^a	(0.215)
	0	-5.513*	(2.254)			-0.277	(0.233)
	1	-1.947	(2.380)			-0.143	(0.241)
CPI	0	0.162	(2.245)	-0.359 ^a	(0.212)	0.114	(0.237)
	1	0.139	(2.192)	0.168	(0.212)	0.810**	(0.236)
	2	-1.637	(2.379)	0.208	(0.203)	0.204	(0.257)
	3	-0.844	(2.329)	0.042	(0.203)	-0.355	(0.257)
Sitting	0					-0.385**	(0.135)
R ²		0.493		0.712		0.442	
Q-statistic (16)		11.633		17.697		13.700	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 91:10 to 95:12.

Table E.10
SUR Estimation Results – Unemployment, 86:8 to 89:12

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	3.210*	(1.479)	-2.938 ^a	(1.771)	-9.792*	(4.249)
Media	1	0.356*	(0.138)	0.156 ^a	(0.090)	0.635	(0.430)
	2	0.105	(0.081)	0.039	(0.088)	0.797**	(0.242)
	3	0.158	(0.102)	0.085	(0.093)	0.950**	(0.302)
Public	1	0.349**	(0.125)	0.490**	(0.171)	0.130	(0.326)
	2	-0.357**	(0.131)	0.156	(0.174)	-0.301	(0.355)
	3	0.081	(0.104)	0.294*	(0.149)	0.259	(0.300)
Hansard	1	-0.099*	(0.048)			-0.349*	(0.152)
	2	-0.003	(0.038)			-0.173	(0.121)
	3	-0.036	(0.053)			-0.387*	(0.156)
Committees	0	-0.252	(3.286)			15.180	(10.446)
	1	3.076	(2.541)			-11.637	(7.945)
PM Bills	0	-0.595	(2.945)			6.102	(9.646)
	1	5.964	(4.915)			-18.806	(15.517)
Govt Bills	0	0.342	(0.373)			0.311	(1.175)
	1	0.924*	(0.394)			-0.680	(1.024)
Throne Speech	0	4.332***	(0.410)			4.708***	(1.290)
	1	-0.538	(0.686)			-1.590	(2.116)
Election	-1	-4.851 ^a	(2.962)	11.965***	(3.328)		
	0	-0.283	(2.462)	-6.251 ^a	(3.803)		
	1	4.552 ^a	(2.376)	5.867	(3.702)		
Budget	-1	-3.070	(2.540)			2.650	(8.536)
	0	-12.595**	(3.765)			5.985	(11.083)
	1	-4.539 ^a	(2.715)			13.211 ^a	(8.060)
Unemp't	0	-4.660**	(1.342)	-0.670	(1.384)	-2.618	(3.766)
	1	-0.345	(1.172)	1.806	(1.226)	6.547 ^a	(3.439)
	2	5.181***	(1.324)	1.368	(1.094)	0.982	(3.871)
	3	0.906	(1.083)	-0.791	(1.223)	-2.345	(3.181)
Sitting	0					-6.383*	(2.883)
R ²		0.899		0.935		0.779	
Q-statistic (16)		10.677		13.525		9.235	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 86:8 to 89:12.

Table E.11
SUR Estimation Results – National Unity, 85:6 to 92:3

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	9.208a	(5.291)	0.361	(0.868)	0.121	(3.266)
Media	1	0.476***	(0.125)	0.065***	(0.018)	0.109	(0.074)
	2	0.317*	(0.144)	-0.006	(0.021)	-0.055	(0.084)
	3	0.124	(0.125)	-0.024	(0.020)	0.216**	(0.074)
Public	1	0.542	(0.727)	0.446***	(0.115)	0.821 ^a	(0.424)
	2	0.836	(0.778)	0.489***	(0.133)	-0.678	(0.459)
	3	-0.863	(0.656)	-0.133	(0.113)	-0.165	(0.391)
Hansard	1	-0.287	(0.199)			-0.177	(0.116)
	2	-0.498*	(0.214)			0.053	(0.128)
	3	-0.270	(0.214)			-0.080	(0.124)
Committees	0	2.918	(9.346)			5.171	(5.423)
	1	-32.266**	(9.895)			2.345	(5.888)
PM Bills	0	-5.920	(5.747)			0.662	(3.404)
	1	2.831	(5.798)			-5.929 ^a	(3.364)
Govt Bills	0	-3.712	(2.869)			0.267	(1.684)
	1	9.444**	(2.979)			1.468	(1.643)
Throne Speech	0	-0.427	(1.040)			-0.781	(0.607)
	1	0.225	(1.005)			-0.170	(0.585)
Election	-1	-27.769	(22.531)	-2.580	(4.167)		
	0	0.526	(20.869)	-1.357	(4.150)		
	1	-13.465	(20.756)	-2.430	(4.125)		
Budget	-1	3.484	(9.476)			11.406*	(5.482)
	0	-0.872	(10.304)			6.681	(5.973)
	1	23.903*	(10.650)			6.820	(6.224)
Que. Ref.	-1						
	0						
	1						
Nat'l Ref	-1						
	0						
	1						
Sitting	0					-8.093*	(4.072)
R ²			0.557		0.761		0.381
Q-statistic (16)			9.414		12.205		18.154

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:6 to 92:3.

Table E.12
SUR Estimation Results – AIDS, with New York Times

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>	<i>B</i>	<i>SE(b)</i>
Constant	-	17.460***	(3.984)	0.003	(0.031)	0.837*	(0.380)
Media	1	0.071	(0.102)	-0.001	(0.001)	0.010	(0.010)
	2	0.093	(0.100)	0.001	(0.001)	0.002	(0.010)
	3	-0.093	(0.098)	0.000	(0.001)	0.000	(0.010)
US Media	1	-0.660*	(0.330)	0.001	(0.003)	-0.068*	(0.032)
	2	-0.128	(0.331)	0.000	(0.003)	-0.049	(0.033)
	3	0.926**	(0.324)	0.002	(0.003)	0.045	(0.033)
Public	1	15.467	(11.874)			-0.453	(1.137)
	2	1.362	(19.570)			3.445 ^a	(1.879)
	3	-10.596	(11.256)			-2.124 ^a	(1.114)
Hansard	1	0.082	(0.950)			-0.152 ^a	(0.095)
	2	-0.061	(0.966)			-0.086	(0.097)
	3	0.474	(0.848)			-0.080	(0.086)
Committees	0	10.865	(11.105)			0.671	(1.118)
	1	4.920	(10.439)			0.487	(1.059)
PM Bills	0	-0.664	(10.365)			-0.980	(1.047)
	1	1.863	(10.443)			0.791	(1.051)
Throne Speech	0	5.760	(34.305)			2.225	(3.457)
	1	-25.682	(34.151)			-4.112	(3.441)
Election	-1	-14.186 ^a	(7.359)	1.602***	(0.095)		
	0	5.249	(7.580)	-0.915***	(0.158)		
	1	10.101	(8.082)	0.255**	(0.090)		
Budget	-1	-0.828	(3.886)	0.020	(0.061)	-0.331	(0.392)
	0	-2.244	(4.098)	-0.233***	(0.063)	-0.290	(0.421)
	1	-6.499	(4.324)	-0.052	(0.066)	0.688	(0.444)
AIDS cases	0	0.019	(0.012)	0.000	(0.000)	-0.001	(0.001)
Sitting	0					-0.567*	(0.272)
R ²		0.375		0.972		0.285	
Q-statistic (16)		18.340		10.294		11.584	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 87:6 to 95:11.

Table E.13
SUR Estimation Results – Environment, with New York Times

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		B	SE(b)	B	SE(b)	B	SE(b)
Constant	-	19.286	(13.382)	-2.997**	(1.041)	-4.351	(6.876)
Media	1	0.208 ^a	(0.122)	0.005	(0.009)	0.013	(0.064)
	2	0.097	(0.105)	0.001	(0.008)	-0.011	(0.055)
	3	-0.089	(0.102)	0.001	(0.008)	-0.027	(0.054)
	4	0.182 ^a	(0.099)	0.005	(0.008)	0.037	(0.052)
	5	-0.033	(0.097)	-0.008	(0.007)	0.162**	(0.051)
US Media	1	0.408	(0.333)	0.033	(0.025)	0.485**	(0.174)
	2	0.024	(0.340)	0.062*	(0.025)	0.288 ^a	(0.173)
	3	-0.185	(0.292)	-0.029	(0.024)	0.066	(0.153)
	4	-0.983**	(0.321)	-0.049*	(0.025)	-0.234	(0.161)
	5	0.081	(0.348)	-0.006	(0.027)	-0.460**	(0.171)
Public	1	-1.313	(1.237)	0.447***	(0.098)	1.147 ^a	(0.641)
	2	0.706	(1.460)	-0.067	(0.113)	-1.049	(0.752)
	3	2.892*	(1.387)	0.381**	(0.111)	0.465	(0.735)
	4	2.335 ^a	(1.409)	0.096	(0.117)	-2.059**	(0.744)
	5	-0.532	(1.224)	-0.048	(0.096)	0.464	(0.649)
Hansard	1	0.444*	(0.187)			0.130	(0.091)
	2	-0.093	(0.174)			-0.143 ^a	(0.087)
	3	-0.122	(0.183)			-0.200*	(0.095)
	4	-0.273	(0.187)			0.109	(0.095)
	5	0.297 ^a	(0.173)			0.086	(0.090)
Committees	0	-0.267	(2.736)			-0.454	(1.466)
	1	-2.514	(2.827)			-1.246	(1.499)
PM Bills	0	6.728 ^a	(3.663)			0.270	(1.971)
	1	-3.388	(4.017)			-2.710	(2.065)
Govt Bills	0	3.203**	(1.163)			-1.080 ^a	(0.629)
	1	-1.421	(1.219)			1.044	(0.648)
Throne Speech	0	-3.486**	(1.330)			0.081	(0.699)
	1	2.513 ^a	(1.462)			0.999	(0.756)
Election	-1	-8.286	(12.729)	2.973**	(0.999)		
	0	-2.785	(13.574)	0.652	(1.043)		
	1	-5.999	(12.370)	-0.339	(1.011)		
Budget	-1	15.572*	(6.539)			-3.179	(3.418)
	0	18.773*	(7.424)			-8.574*	(3.894)
	1	6.016	(7.746)			-3.656	(3.990)
Env1	0	0.202*	(0.094)	-0.010	(0.007)	-0.064	(0.047)
Env2	0	-0.794	(1.230)	-0.305**	(0.102)	-1.742**	(0.656)
Env3	0	-0.243	(0.331)	0.108***	(0.027)	0.208	(0.170)
Env4	0	0.936*	(0.418)	0.117**	(0.035)	0.171	(0.225)
Sitting	0					-15.638***	(2.444)
R ²		0.777		0.947		0.640	
Q-statistic		9.059		13.085		15.732	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 87:8 to 95:11.

Table E.14
SUR Estimation Results – Inflation, with New York Times

Independent Variables	Lag	Dependent Variables			
		Media		Public	
		B	SE(b)	B	SE(b)
Constant	-	2.455	(1.522)	-0.169	(0.178)
Media	1	0.350***	(0.087)	0.001	(0.009)
	2	-0.022	(0.098)	-0.002	(0.009)
	3	0.183*	(0.087)	-0.003	(0.010)
	4	0.077	(0.089)	-0.003	(0.010)
	5	-0.142 ^a	(0.086)	-0.013	(0.010)
US Media	1	0.293*	(0.121)	0.034*	(0.014)
	2	0.053	(0.122)	0.018	(0.014)
	3	-0.068	(0.121)	-0.017	(0.014)
	4	-0.054	(0.125)	-0.016	(0.014)
	5	0.135	(0.125)	0.000	(0.014)
Public	1	0.238	(0.778)	0.859***	(0.087)
	2	0.978	(1.026)	-0.139	(0.112)
	3	-1.828 ^a	(1.018)	0.076	(0.113)
	4	0.324	(1.004)	0.044	(0.114)
	5	0.252	(0.710)	0.096	(0.082)
Hansard	1	0.853	(0.738)		
	2	-1.590*	(0.667)		
	3	-0.156	(0.570)		
	4	1.049 ^a	(0.539)		
	5	0.261	(0.517)		
Throne Speech	0	2.234	(5.429)		
	1	3.692	(5.198)		
Election	-1	5.094	(3.229)	0.505	(0.376)
	0	-2.428	(3.170)	0.111	(0.366)
	1	-1.629	(3.132)	0.327	(0.362)
Budget	-1	7.956***	(1.873)		
	0	-3.711*	(1.696)		
	1	-2.018	(1.752)		
CPI	0	0.953	(1.399)	0.003	(0.158)
	1	2.425 ^a	(1.456)	0.699***	(0.158)
	2	-1.438	(1.603)	0.185	(0.170)
	3	1.913	(1.520)	-0.318 ^a	(0.169)
US CPI	0	-0.056	(1.782)	0.749***	(0.205)
	1	-1.105	(1.954)	-0.046	(0.220)
	2	0.559	(2.085)	0.040	(0.222)
	3	2.405	(2.058)	-0.061	(0.206)
Sitting	0				
R ²			0.490		0.938
Q-statistic (16)			11.605		6.259

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Table E.14 continued...

Independent Variables	Lag	Dependent Variables			
		Policy		US Media	
		B	SE(b)	B	SE(b)
Constant	-	-0.296	(0.201)	1.589 ^a	(0.949)
Media	1	0.009	(0.011)		
	2	0.022 ^a	(0.013)		
	3	0.002	(0.011)		
	4	-0.007	(0.012)		
	5	-0.003	(0.011)		
US Media	1	-0.008	(0.015)	0.388***	(0.090)
	2	0.026	(0.016)	0.125	(0.097)
	3	0.001	(0.016)	0.122	(0.098)
	4	-0.010	(0.016)	-0.039	(0.097)
	5	-0.024	(0.016)	-0.011	(0.090)
Public	1	-0.120	(0.105)		
	2	0.025	(0.134)		
	3	-0.099	(0.133)		
	4	-0.199	(0.129)		
	5	0.304**	(0.094)		
Hansard	1	0.092	(0.097)		
	2	-0.020	(0.088)		
	3	-0.070	(0.073)		
	4	-0.038	(0.069)		
	5	0.194**	(0.067)		
Throne Speech	0	3.929***	(0.711)		
	1	2.171**	(0.684)		
Election	-1				
	0				
	1				
Budget	-1	0.551*	(0.247)		
	0	-0.086	(0.221)		
	1	-0.236	(0.232)		
CPI	0	-0.088	(0.183)		
	1	0.396*	(0.190)		
	2	-0.097	(0.208)		
	3	1.483***	(0.200)		
US CPI	0	-0.301	(0.232)	1.945	(1.270)
	1	-0.022	(0.266)	0.222	(1.367)
	2	0.176	(0.268)	0.063	(1.374)
	3	0.524 ^a	(0.270)	0.517	(1.296)
Sitting	0	0.026	(0.152)		
R ²		0.676		0.293	
Q-statistic (16)		30.077**		6.653	

^a p < .10, * p < .05, ** p < .01, *** p < .001.

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:5 to 95:11.

Table E.15
SUR Estimation Results – Unemployment, with New York Times

Independent Variables	Lag	Dependent Variables					
		Media		Public		Policy	
		B	SE(b)	B	SE(b)	B	SE(b)
Constant	-	3.479*	(1.429)	0.624	(1.427)	4.870	(3.881)
Media	1	0.316**	(0.095)	0.075	(0.075)	0.418 ^a	(0.252)
	2	-0.013	(0.089)	0.010	(0.077)	0.139	(0.236)
	3	0.096	(0.086)	0.053	(0.073)	-0.206	(0.229)
US Media	1	-0.122	(0.344)	-0.344	(0.343)	-0.217	(0.914)
	2	0.138	(0.334)	-0.604 ^a	(0.341)	-0.020	(0.889)
	3	0.582 ^a	(0.328)	0.204	(0.340)	0.140	(0.874)
Public	1	0.257**	(0.087)	0.234**	(0.085)	0.371 ^a	(0.225)
	2	-0.063	(0.087)	0.328***	(0.083)	-0.279	(0.227)
	3	-0.107	(0.085)	0.366***	(0.086)	0.027	(0.222)
Hansard	1	-0.043	(0.034)			-0.010	(0.092)
	2	0.002	(0.035)			0.080	(0.091)
	3	0.017	(0.036)			0.203*	(0.095)
Committees	0	-1.940	(2.378)			-6.636	(6.347)
	1	-2.454	(2.125)			-12.650*	(5.672)
PM Bills	0	3.442**	(1.041)			1.799	(2.782)
	1	1.625	(1.116)			0.861	(2.968)
Govt Bills	0	0.452	(0.544)			-0.120	(1.465)
	1	-0.368	(0.542)			-1.134	(1.404)
Throne Speech	0	1.821***	(0.386)			2.396*	(1.030)
	1	-0.780 ^a	(0.436)			-3.371**	(1.168)
Election	-1	4.583	(3.091)	7.623*	(3.354)		
	0	-2.728	(3.087)	0.514	(3.418)		
	1	0.665	(2.958)	1.964	(3.315)		
Budget	-1	-2.758	(2.189)			3.619	(5.851)
	0	2.768	(2.385)			-6.766	(6.366)
	1	-1.062	(2.017)			6.661	(5.425)
Unemp't	0	-0.429	(0.962)	-1.026	(0.807)	-5.567*	(2.516)
	1	0.642	(0.948)	1.797*	(0.790)	6.936**	(2.526)
	2	2.972**	(1.136)	0.764	(0.794)	-1.672	(2.984)
	3	0.747	(1.027)	0.567	(0.839)	8.443**	(2.856)
Sitting	0					-9.915***	(2.727)
R ²		0.519		0.871		0.458	
Q-statistic (16)		4.745		13.495		15.904	

^a p < .10, * p < .05, ** p < .01, *** p < .001

Results are based on Zellner-Aitken Seemingly Unrelated Regressions (GLS) estimation, 85:6 to 95:11.