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Predictable and Unpredictable Policy Windows: Institutional and Exogenous Correlates of Canadian Federal Agenda-Setting*

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Policy Windows and Policy Theory

Whether there is a systematic pattern through which issues become subjects for government action is of critical importance to students of the policy process and to policy actors both inside and outside government. Interest groups, think tanks, political parties and other non-governmental actors must all operate and plan their activities in accordance with some notion of which issues are likely to emerge on government agendas and which are not. Governments at all levels, from the subnational to the international, must also be able to recognize which issues are likely to move successfully from social to official agendas, and vice versa, if they are to have any hope of dealing with the problems of modern governance in a systematic and managed fashion.

Both governmental and nongovernmental actors act in accordance with assumptions they make about the factors and variables which drive agenda-setting. Interest groups may, for example, adhere to broad general notions of popular democracy in which they expect issues which gain a high public profile to gain access automatically to official agendas.[1] Politicians, on the other hand, may subscribe to a set of process-related beliefs which provide a much larger role for administrative

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1   See Roger W. Cobb and Charles D. Elder, *Participation in American Politics: The Dynamics of Agenda-Building* (Boston: Allyn and Bacon, 1972).

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discretion and bureaucratic politics in preventing popular issues from obtaining serious consideration.[2] Whether an interest group expends its funds on legal challenges to administrations, or on public education and media campaigns, for example, will depend on the nature of the assumptions it makes about the actual process of agenda-setting characterizing the contemporary policy process.

Whether these assumptions about agenda politics are accurate, therefore, is a critical question and, in the hope of providing a better understanding of this stage of the policy cycle, students of public policy processes have developed several models which attempt to describe, explain and predict agenda-setting behaviour.[3] Many early models focused on the nature of the actors involved in the process, and the general characterization of agenda-setting "styles" in typical relationships of power and influence existing between significant actors.[4] These studies tended to support the view that agenda-setting in democratic states is largely a matter of governments responding to social pressures, and focused their attention on how the activities of interest groups could facilitate this process. Other studies, however, pointed to a much larger role played by government agencies and a variety of "boundary-spanning" organizations, such as the media, in blocking, filtering or otherwise affecting the development of public concerns, thus undermining the notion that agenda-setting was a relatively simple, one-way transmission process.[5]

A wide variety of analysts from a disparate range of fields have endorsed a model of agenda-setting first put forward by John Kingdon in his 1984 work on the operation of the federal legislative system in the United States.[6] This model deals with the question of state and non-

2   See Graham T. Allison and Morton H. Halperin, "Bureaucratic Politics: A Paradigm and Some Policy Implications," *World Politics* 24 Supplement (1972), 40-79.
3   On the policy cycle see M. Howlett and M. Ramesh, *Studying Public Policy: Policy Cycles and Policy Subsystems* (Toronto: Oxford University Press, 1995).
4   See R. Cobb, J. K. Ross and M. H. Ross, "Agenda Building as a Comparative Political Process," *American Political Science Review* 70 (1976), 127-136. More recently see David A. Rochefort and Roger W. Cobb eds., *The Politics of Problem Definition: Shaping the Policy Agenda* (Lawrence: University of Kansas Press, 1994).
5   See, for example, the critical article by Anthony Downs, "Up and Down with Ecology—The 'Issue-Attention Cycle,' " *The Public Interest* 28 (1972), 38-50. On the application of this model to Canada see Michael Howlett, "Issue-Attention Cycles and Punctuated Equilibrium Models Re-Considered: An Empirical Examination of Agenda-Setting in Canada," this JOURNAL 30 (1997), 5-29; and Michael Howlett, "Agenda-Setting in Canada: Evidence from Six Case Studies," paper presented at the annual meeting of the British Columbia Political Studies Association, 1996. See also Brian W. Hogwood, *Ups and Downs: Is There an Issue-Attention Cycle in Britain?* No. 89 (Glasgow: Strathclyde Papers in Government and Politics, 1992).
6   John W. Kingdon, *Agendas, Alternatives and Public Policies* (Boston: Little, Brown, 1984).

Abstract. This article addresses the question of the applicability of John Kingdon's theory of agenda-setting to Canadian political life. It examines the extent to which agenda-setting in Canadian governments is routine or discretionary, predictable or unpredictable, and the extent to which it is influenced by events and activities external to itself. The study uses time series data collected on issue mentions related to Native affairs, the constitution, drug abuse, acid rain, the nuclear industry and capital punishment in parliamentary debates and committees between 1977 and 1992. It compares these series to other time series developed from media mentions, violent crime rates, unemployment rates, budget speeches and speeches from the throne, elections and first ministers' conferences over the same period in order to assess the impact of such events on public policy agenda-setting.

Résumé. Cet article aborde la question de l'applicabilité de la théorie de John Kingdon portant sur l'établissement des priorités dans la vie politique canadienne. Il examine dans quelle mesure l'établissement des priorités dans les gouvernements canadien est routinié ou discrétionnaire, prévisible ou imprévisible et dans quelle mesure ce processus est influencé par les événements ou les activités qui lui sont extérieurs. Cette étude utilise des données sérielles sur des enjeux reliés aux questions autochtones, à la constitution, à l'usage abusif des drogues, aux pluies acides, à l'industrie nucléaire et aux débats parlementaires et dans les comités portant sur la peine de mort entre 1977 et 1992. Cet article compare ces séries à d'autres développées à partir de mentions dans les média, les niveaux de crimes violents, les niveaux de chômage, les discours sur les budgets et les discours du trône, les élections et les conférences des premiers ministres au cours de la même période dans le but d'évaluer l'impact de ces événements sur l'établissement des priorités dans les politiques publiques.

state influences on agenda-setting by focusing on the role played by policy entrepreneurs both inside and outside government in taking advantage of agenda-setting opportunities—*policy windows*—to move items onto formal government agendas. It suggests that the characteristics of issues (the *problem stream*) combine with the characteristics of political institutions and circumstances (the *politics stream*) and the development of policy solutions (the *policy stream*), leading to the opening and closing of opportunities for agenda entrance. Such opportunities can be seized upon or not, as the case may be, by policy entrepreneurs who are able to recognize and act upon them.

Kingdon's model of agenda-setting is now considered the standard in policy studies. Among other subjects, it has been used to describe and assess the nature of US foreign-policy making;[7] the politics of privatization in Britain, France and Germany;[8] the nature of US domestic anti-drug policy;[9] the collaborative behaviour of business and

7   B. Dan Woods and Jeffrey S. Peake, "The Dynamics of Foreign Policy Agenda-Setting," *American Political Science Review* 92 (1998), 173-84.
8   See Nikoloas Zahariadis, *Markets, States, and Public Policy: Privatization in Britain and France* (Ann Arbor: University of Michigan Press, 1995); and Nikoloas Zahariadis and Christopher S. Allen, "Ideas, Networks, and Policy Streams: Privatization in Britain and Germany," *Policy Studies Review* 14 (1995), 71-98.
9   See Elaine B. Sharp, "Paradoxes of National Anti-Drug Policymaking," in David A. Rochefort and Roger W. Cobb, eds., *The Politics of Problem Definition: Shaping the Policy Agenda* (Lawrence: University Press of Kansas, 1994), 98-116.

environmental groups in certain anti-pollution initiatives in the US and Europe;[10] and the overall nature of the reform process in Eastern Europe.[11] Somewhat surprisingly, however, none of these efforts has subjected Kingdon's model to empirical analysis. Despite the fact that Kingdon's own work focuses exclusively on the federal level in the United States, many of these studies simply assume that the model can be applied cross-nationally.

Utilizing time series data collected on issue mentions related to Native affairs, the constitution, drug abuse, acid rain, the nuclear industry and capital punishment in federal parliamentary debates and committees over the period 1977-1992, this article tests the applicability of Kingdon's model to the Canadian case. In so doing, it first refines the notion of a policy window in order to aid the operationalization of this concept. It then tests for their existence in Canada by comparing the record of issue-mentions in Parliament to other time series developed from media mentions, violent crime rates, unemployment rates, budget speeches, speeches from the throne, elections and first ministers conferences in order to assess the impact such events have upon the agenda-setting process.

Analytical Components of the Policy Streams Model

In order to examine empirically the existence, nature and influence of policy windows in Canada, one must be able to clarify exactly what this concept entails. In this context, it is important to note that different types of windows were identified by Kingdon and are implicit in his work. The elements of each is set out below, and a taxonomy given to help organize the differences.

The General Policy Streams Model

In his study of US agenda-setting, Kingdon argued that this process could best be conceived as one in which more or less fleeting opportunities arose for issues to enter government debate. In the right circumstances, policy windows could be seized upon by key players in the political process in order to gain entrance for particular issues. Policy entrepreneurs play a key role in this process by linking, or "coupling," policy solutions and policy problems with political opportunities.[12]

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10   Douglas J. Lober, "Explaining the Formation of Business-Environmentalist Collaborations: Collaborative Windows and the Paper Task Force," *Policy Sciences* 30 (1997), 1-24.
11   John T. S. Keeler, "Opening the Window for Reform: Mandates, Crises and Extraordinary Policy-Making," *Comparative Political Studies* 25 (1993), 433-86.
12   Kingdon, *Agendas, Alternatives and Public Policies*, esp. chaps. 7 and 8.

Linking these three streams together is a necessary, but not a suf-
ficient, condition for issue entrance. That is, something else is required:
the opening of a policy window. Kingdon suggested that while window
openings were sometimes governed by certain fortuitous happenings—
including seemingly unrelated external "focusing events," crises or
accidents, or the presence or absence of policy entrepreneurs both
within and outside governments—at other times they were affected by
institutionalized events, such as elections or budgetary cycles.
As Kingdon noted:

Sometimes, windows open quite predictably. Legislation comes up for re-
newal on schedule, for instance, creating opportunities to change, expand or
abolish certain programs. At other times, windows open quite unpredictably,
as when an airliner crashes or a fluky election produces unexpected turnover
in key decision-makers. Predictable or unpredictable, open windows are small
and scarce. Opportunities come, but they also pass. Windows do not stay open
long. If a chance is missed, another must be awaited.[13]

Ultimately, Kingdon suggested that two principle types of window
exist: the "problem" and "political" windows. As he argued, "Basi-
cally a window opens because of change in the political stream (for
example, a change of administration, a shift in the partisan or ideologi-
cal distribution of seats . . . or a shift in national mood); or it opens
because a new problem captures the attention of governmental officials
and those close to them."[14] To this initial distinction Kingdon added
the idea that windows would also vary in terms of their predictability.
While arguing that random events are occasionally significant, he
stressed the manner in which institutionalized windows dominate the
US agenda-setting process.[15] As he put it: "there remains some degree
of unpredictability. Yet it would be a grave mistake to conclude that the
processes . . . are essentially random. Some degree of pattern is evi-
dent."[16] In fact, he argued that many windows open on a more or less
predictable, cyclical, pattern: "Windows sometimes open with great
predictability. Regular cycles of various kinds open and close windows
on a schedule. That schedule varies in its precision and hence its pre-
dictability, but the cyclical nature of many windows is nonetheless evi-
dent."[17]

13   Ibid., 213.
14   Ibid., 176.
15   Other authors, of course, argue that agenda-setting is a much more random pro-
      cess. See Frank R. Baumgartner and Bryan D. Jones, *Agendas and Instability in
      American Politics* (Chicago: University of Chicago Press, 1993).
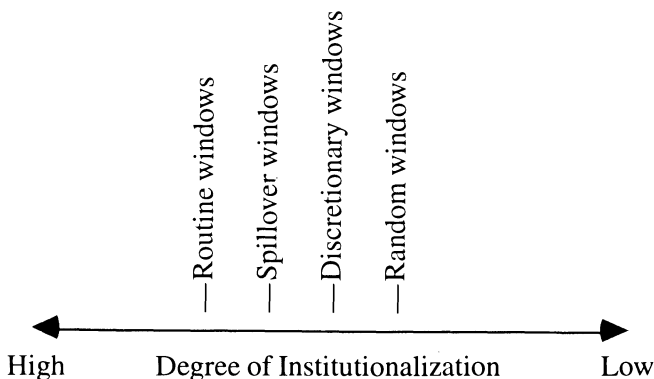16   Kingdon, *Agendas, Alternatives and Public Policies*, 216.
17   Ibid., 193.

Hence the general model established by Kingdon suggests the existence of four possible window types based on the relationship existing between the origin of the window—political or problem—and their degree of institutionalization. Although Kingdon did not provide a specific nomenclature to describe the four window types, the general outline of each type is discernible from an examination of his work and several of his key sources.[18] The four principle window types identifiable in Kingdon's work are: *routine political windows*, in which institutionalized procedural events dictate predictable window openings; *discretionary political windows*, in which the behaviour of individual political actors lead to less predictable window openings; *spillover problem windows*, in which related issues are drawn into an already open window; and *random problem windows*, in which random events or crises open unpredictable windows.

These basic types of windows and their relationship are set out in Figure 1. In this model, it is the level of institutionalization of a window type which determines its frequency of appearance and hence its predictability. That is, a testable hypothesis related to policy windows is that the most institutionalized types will occur more frequently than the least and hence will have the highest degree of predictability.

FIGURE 1

A MODEL OF POLICY WINDOW TYPES

In the discussion below, Canadian data are examined in order to assess the frequency of appearance of different types of policy windows. This allows (1) an assessment to be made of the extent to which Kingdon's model can transfer cross-nationally; (2) a determination to be made of the types of variables which typically affect Canadian agenda-setting and (3) an assessment of the extent to which federal agenda-setting is predictable or unpredictable. The results of this analysis have significant implications for both the theory and practice of agenda-setting in Canada. That is, they not only provide an empirical examination of Kingdon's model, but also information of use to both government and nongovernmental policy actors in Canadian agenda-setting.

Policy Windows in Canada: Empirical Evidence

The development of a taxonomy of policy window types and the generation of a testable hypothesis related to the frequency of window occurrence allows an empirical examination of Kingdon's model to be made against the evidence of the actual pattern of issue occurrence in Canada.

In this section, tests are constructed and carried out in order to determine the existence and frequency of occurrence of routine, spill-over, discretionary and random policy windows in Canada. These examinations rely upon time series data collected on issue mentions in the Canadian federal parliament and how these mentions correlate with each other, with a variety of institutionalized parliamentary procedures, with media mentions of those same issues and with "objective" or exogenous measures of social and economic performance.

For this purpose, issue series were collected for three pairs of related policy areas. Environmental (acid rain and nuclear power), jurisdictional (Native and constitutional) and social (capital punishment and drug use) issues were selected. The series measured mentions in parliamentary debates, in parliamentary committees and in newspapers and periodicals. Series on the occurrence of significant parliamentary events were generated for budget speeches, speeches from the throne, first ministers conferences and elections. Finally, two series measuring exogenous social and economic conditions were collected: one containing unemployment rates and the other rates of violent crime throughout the country.

The sources used for each series are set out in Appendix 1. The time series generated were analyzed using a variety of procedures in SYSTAT and SPSS TRENDS 6.1.[19] Case plots of the basic issue and institutionalized series are contained in Appendices 2-4.

19   See Leland Wilkinson, MaryAnn Hill and Erin Vang. *SYSTAT: Statistics, Version 5.2. Edition* (Evanston: SYSTAT, 1992); and SPSS, *SPSS Trends 6.1.* (Chicago: SPSS, 1994).

Random Policy Windows in Canada

Spectral analysis techniques were used to test for the existence of random windows in Canada.[20] These techniques reconstruct time series data so as to identify the magnitude and frequency of cyclical oscillations. After correcting for possible trend and substituting for missing cases, each time series is transformed using Fourier equations to change patterns of high and low occurrences into fluctuations of magnitude and frequency. A periodogram or similar graphical display is then developed which compares the square of the magnitude to frequency. Sharp spikes at various frequencies reveal cyclical behaviour in the series. For example, a single sharp spike at a low frequency is typical of a more-or-less regular sinusoidal wave. A tendency towards a flat line (discounting the initial spike at frequency "0" reflecting the general harmonic of the entire series with itself—the "fundamental" frequency) is typical of a random or "white noise" pattern.

If the windows in federal parliamentary institutions for the six issues were in fact unpredictable and random, one would expect a spectral analysis of such mentions to be extremely irregular, approaching a "white noise" pattern. Smoothed logarithmic displays of the periodograms—or "spectral density" plots—for each of the six issue series reveal the shapes in Figures 2-7. These figures reveal that although the magnitude of the cycles vary, each of the six series exhibited fairly strong cyclical behaviour. Acid rain mentions had an annual and semi-annual cycle; capital punishment a 30-month and five-month cycle; constitutional issues a semi-annual cycle; drug issue mentions a six- and eight-month cycle; and both Native and nuclear issues a four- and six-month cycle. Spectral analyses of committee mentions reveal similar cyclical activity.

All these figures display the low frequency spikes characteristic of modified sinusoidal cycles, and not the flat line one would expect if issue mentions were random. Therefore, none of these cases provides evidence of the existence of a white noise or random series. While this does not rule out the existence of random windows existing in other areas, it does lend support to the contention that such occurrences are rare.

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20   On these techniques see C. Chatfield, *The Analysis of Time Series: An Introduction* (London: Chapman Hall, 1989); and John M. Gottman, *Time Series Analysis: A Comprehensive Introduction for Social Scientists* (Cambridge: Cambridge University Press, 1981). See also M. B. Priestley, *Spectral Analysis and Time Series*, Vol. 2: *Multivariate Series, Prediction and Control* (New York: Academic Press, 1981); and Tony Thrall and Laszlo Engelman, "Univariate and Bivariate Spectral Analysis," in W. J. Dixon, ed., *BMDP Statistical Software Manual*, Vol. 2 (Berkeley: University of California Press, 1988), 971-1012.

FIGURE 2

SPECTRAL DENSITY OF ACID RAIN MENTIONS

Frequency: Tukey-Hamming (5)
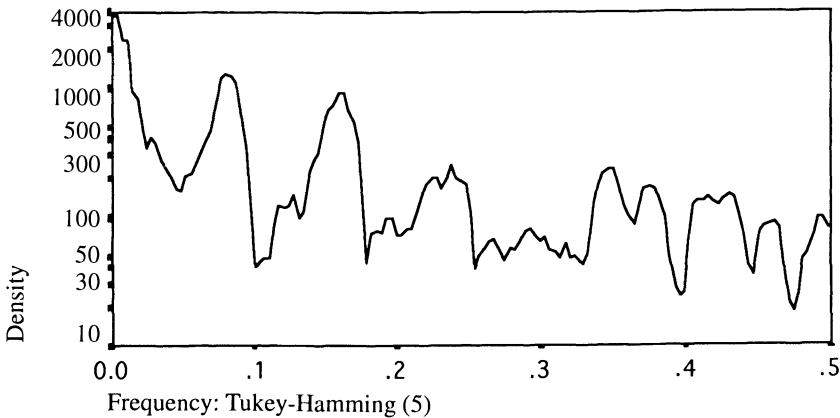
FIGURE 3

SPECTRAL DENSITY OF CAPITAL PUNISHMENT MENTIONS

Frequency: Tukey-Hamming (5)
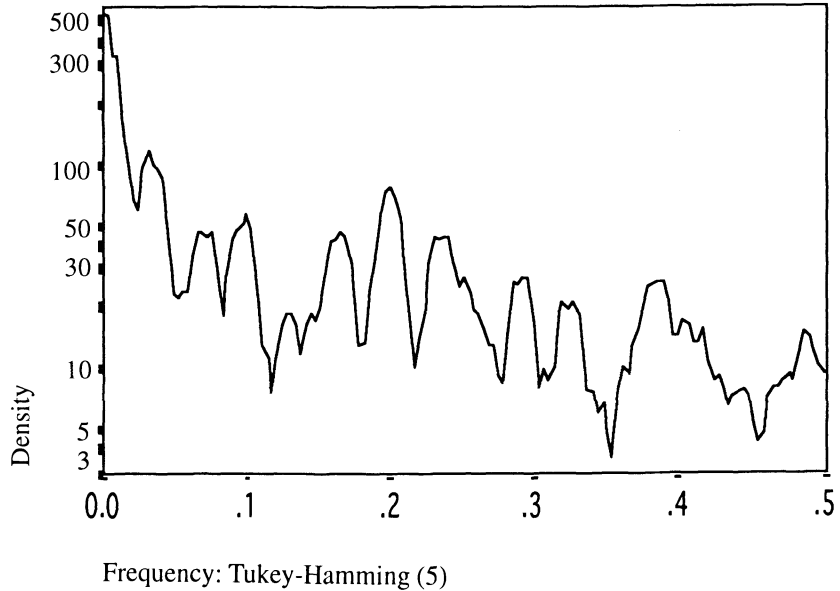
FIGURE 4

SPECTRAL DENSITY OF CONSTITUTIONAL MENTIONS

Frequency: Tukey-Hamming (5)
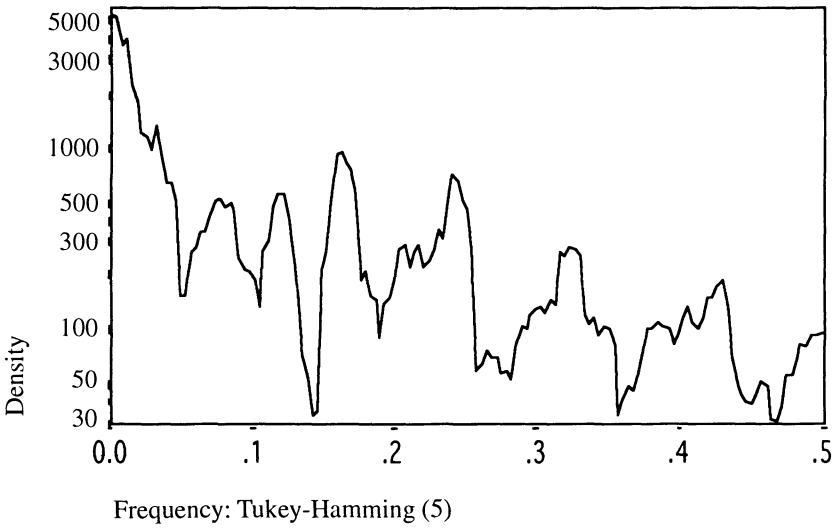
FIGURE 5

SPECTRAL DENSITY OF DRUG MENTIONS

Frequency: Tukey-Hamming (5)
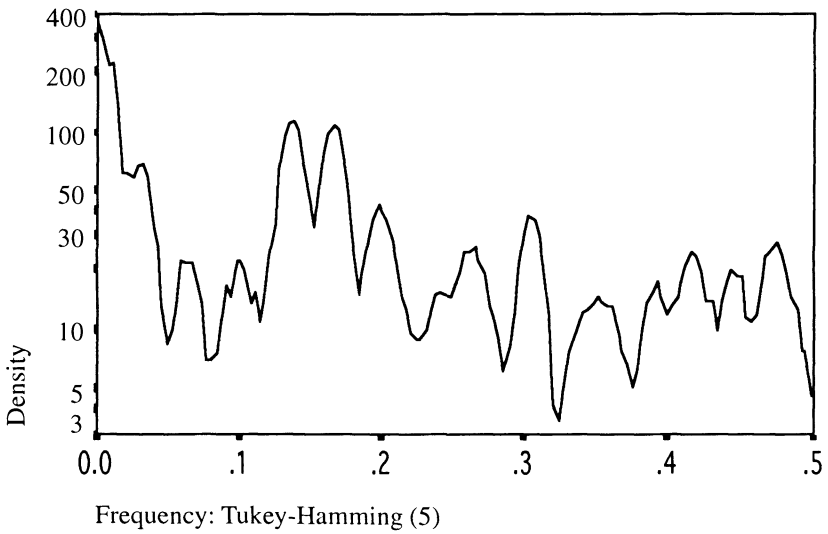
FIGURE 6

SPECTRAL DENSITY OF NATIVE MENTIONS

Frequency: Tukey-Hamming (5)
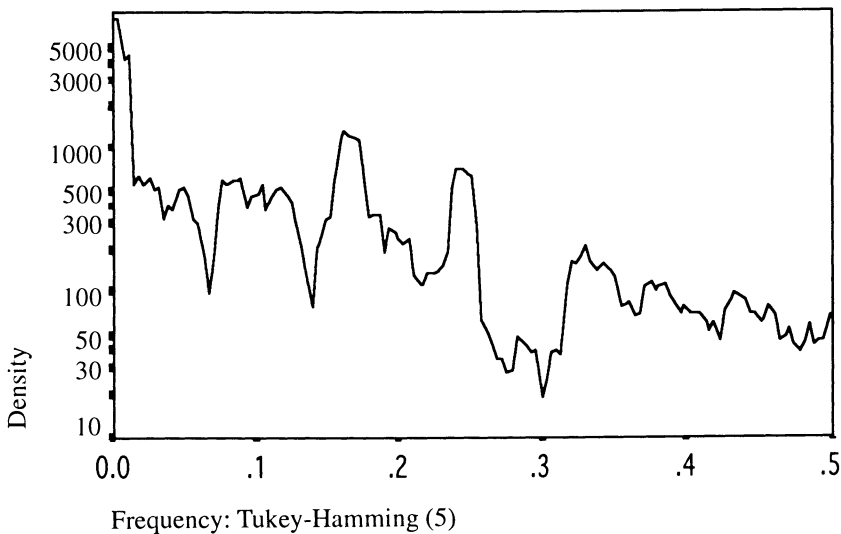
FIGURE 7

SPECTRAL DENSITY OF NUCLEAR MENTIONS

Frequency: Tukey-Hamming (5)
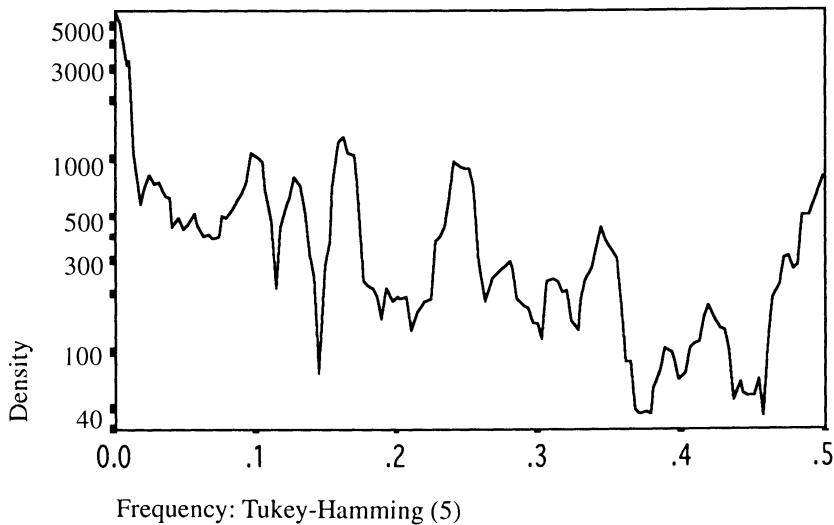
Discretionary Policy Windows in Canada

The second type of unpredictable policy window is the discretionary (nonspillover) window. In this type, politicians attempt to set the agenda to deal with an idiosyncratic issue, normally selected from among matters already of some public concern. In devising a test for this in Canada, or elsewhere, issue mentions can be correlated with exogenous factors such as media coverage, or more "objective" measures of increasing problem severity—such as increasing unemployment or crime rates, measures whose own causal structure is unrelated to the political process. That is, a test can be developed for the presence of this type of window by examining the relationship between issue mentions and various "objective correlates" of their status as "pressing problems."[21]

TABLE 1

AUTO-CORRELATION OF ISSUE AND
CORRELATE SERIES

	Durbin Watsons	First order ACFs
Hansard		
Nuclear issues	1.327	0.333
Native issues	1.139	0.428
Drug abuse issues	1.281	0.358
Acid rain issues	0.985	0.506
Constitutional issues	1.016	0.491
Capital punishment issues	1.033	0.482
Media		
Nuclear issues	1.088	0.439
Native issues	0.630	0.683
Drug abuse issues	1.604	0.198
Acid rain issues	1.008	0.493
Constitutional issues	0.548	0.722
Capital punishment issues	0.867	0.566
Exogenous		
Unemployment rates	0.100	0.948
Crime rates	0.079	0.945

21   For similar analyses see Janice A. Beecher, Robert L. Lineberry and Michael J. Rich, "Community Power, the Urban Agenda, and Crime Policy," *Social Science Quarterly* 62 (1981), 630-43; and Gary King and Michael Laver, "Party Platforms, Mandates and Government Spending," *American Political Science Review* 87 (1993), 744-50.

In this case, given the high rates of auto-correlation in the series of issue mentions and their "objective correlates" (see Table 1) ARIMA time series methods[22] should be used.[23] In order to control for problems of within-series auto-correlation, ARIMA models were identified and a transfer function estimated for each series. After being fitted, the residuals from the modeled series were then cross-correlated.[24] On the basis of an analysis of the auto-correlation functions (ACF) and partial auto-correlation functions (PACF) taken for each series, the MA, trend and AR parameters for each series were estimated and the models set out in Table 2. Cross-correlations functions (CCFs) for the series residuals are in Tables 3 and 4.

TABLE 2

ARIMA MODEL IDENTIFICATION

	ARIMA parameters		ARIMA parameters
Hansard		*Media*	
Nuclear issues	0,1,0	Nuclear issues	1,0,0
Native issues	0,1,0	Native issues	1,0,0
Drug abuse issues	2,0,0	Drug abuse issues	0,1,0
Acid rain issues	0,1,0	Acid rain issues	0,1,0
Constitutional issues	1,0,0	Constitutional issues	1,0,0
Capital punishment		Capital punishment	
issues	1,0,0	issues	1,0,0
Exogenous		*Exogenous*	
Crime rates	1,0,0	Unemployment	1,0,0

22 See Richard McCleary and Richard A. Hay, *Applied Time Series Analysis for the Social Sciences* (Beverly Hills: Sage, 1980); Charles W. Ostrom, *Time Series Analysis: Regression Techniques* (Beverly Hills: Sage, 1990), 29; Walter Vandaele, *Applied Time Series and Box-Jenkins Models* (New York: Academic Press, 1983); and C. Chatfield, *The Analysis of Time Series: An Introduction* (London: Chapman Hall, 1989).

23 Because the first order correlations are high for all series, ARIMA methods should be utilized rather than an ordinary least squares method (since the significant auto-correlation in the series violate crucial assumptions in OLS analysis). See McCleary and Hay, *Applied Time Series Analysis*.

24 On this technique see ibid., 240-43; Lon-mu Liu, "Box-Jenkins Time Series Analysis," in W. J. Dixon, ed., *BMDP Statistical Software Manual*, Vol. 1 (Berkeley: University of California Press, 1988), 429-82; and Vandaele, *Applied Time Series and Box-Jenkins Models*, 286-91.

TABLE 3

CROSS-CORRELATIONS: ISSUES WITH MEDIA
CORRELATES—HANSARD AND NEWSPAPERS[a]

Lag	Nuclear	Acid rain	Consti-tution	Capital punish-ment	Native	Drugs
−7	0.024	0.069	0.031	−0.032	0.131	0.066
−6	0.102	−0.006	0.041	0.116	−0.043	−0.170
−5	0.093	−0.060	0.069	−0.011	−0.168	0.038
−4	0.009	−0.143	0.085	0.040	−0.044	−0.028
−3	0.062	0.107	0.035	−0.024	0.169	−0.002
−2	−0.048	0.019	−0.033	0.336	−0.021	0.026
−1	0.100	−0.012	0.217	−0.077	0.036	−0.031
0	−0.037	0.100	0.429	0.232	0.009	0.037
1	−0.092	0.097	0.015	−0.135	−0.046	−0.031
2	0.031	−0.033	−0.218	0.006	−0.095	0.110
3	0.099	−0.048	0.119	0.017	−0.036	−0.008
4	−0.009	−0.027	0.033	−0.025	0.111	−0.016
5	−0.008	−0.093	0.040	−0.092	0.061	−0.043
6	−0.034	0.062	0.017	0.107	0.045	0.012
7	−0.018	−0.029	−0.048	0.021	−0.197	−0.054

a   Significance level = 0.063.

The figures in Table 3 provide some evidence that media mentions correlate with issue mentions, but not for all issues, and, most often, not in the direction necessary for media-influenced discretionary windows to exist. For nuclear issues, for example, there is some evidence that Hansard mentions lag newspaper mentions at six-, five- and one-month intervals, but these CCFs are very weak. There is also weak evidence that rather than lag newspapers, Hansard mentions lead newspapers at three-month intervals. There is only weak evidence of Hansard mentions of Native issues lagging newspaper mentions at seven and three months. As was the case with nuclear issues, there is also weak evidence that Hansard mentions do not lag, but lead newspaper mentions at four months. No evidence of Hansard mentions of drug issues lagging newspapers exists, and only a weak Hansard lead at two months is displayed. Acid rain mentions also display Hansard mentions lagging media mentions at three and zero months. Similarly, the highest correlation of all six issue areas (.429) is found with mentions of the constitution and media coverage, at a 0 lag. A substantial Hansard lead of three months also exists. The only significantly strong

correlation showing the required media lead over parliamentary mentions required to establish the existence of a discretionary window is found in the capital punishment series at two (.336) months, with a sizable correlation also at zero (.232) months.

Table 4 presents the results of CCFs calculated with the "objective correlates" of crime and unemployment rates. Given the nature of the issue series and these exogenous measures, only four variations were examined. These related crime rates to the two social issues of drug and capital punishment mentions; and nuclear and acid rain mentions with unemployment rates—in anticipation of some evidence of a jobs-environment trade-off. The data in Table 4 show some evidence of the anticipated relationship between crime rates and drug issue mentions, with drug mentions lagging the crime rate by seven and two months. The links between acid rain and nuclear industry mentions and unemployment are, however, weak, and mostly insignificant, as are those for capital punishment and violent crime rates. Tests on committee mentions also revealed no significant correlations.

TABLE 4

CROSS-CORRELATIONS: SELECTED ISSUES
WITH OBJECTIVE CORRELATES[a]

Lag	Drug issues with crime	Capital punishment with crime	Nuclear issues with unemployment	Acid rain issues with unemployment
−7	.213	−.175	.069	.020
−6	−.238	−.092	−.039	−.044
−5	.034	.013	−.012	−.026
−4	.010	.040	−.051	.028
−3	−.058	−.037	.106	.012
−2	.122	.008	−.099	.051
−1	.053	−.062	−.004	−.070
0	.031	.082	−.030	.035
1	−.053	−.003	.011	−.030
2	−.055	.038	.053	.031
3	.115	−.042	.002	.002
4	−.013	.100	−.042	−.019
5	−.043	−.062	.009	−.029
6	.016	−.062	.082	.061
7	−.110	.064	.010	−.042

a   Significance level = 0.063.

These results suggest that discretionary windows may exist in some of the six issue areas but certainly not all. Only capital punishment showed significant media leads over parliamentary mentions, while "objective" exogenous correlates had only a weak influence on drug mentions. These findings support the idea that discretionary windows in which parliamentarians introduce issues of current public concern exist in Canada but are infrequent.

Spillover Windows in Canada

A test for spillover windows can be devised by examining the manner in which mentions of broadly similar issues correlate. In order to conduct this test, cross-correlation functions of series residuals were used to assess the manner in which the three pairs of related issue series covaried with each other. CCFs for two jurisdictional issues—Natives and the constitution; for both environmental issues—acid rain and nuclear issues; and for both social issues—drugs and capital punishment—were calculated. The CCF graphs for these three pairs of series are presented in Figures 8 to 10.

FIGURE 8

CROSS-CORRELATION FUNCTIONS OF NATIVE AND
CONSTITUTIONAL HANSARD ISSUE MENTIONS
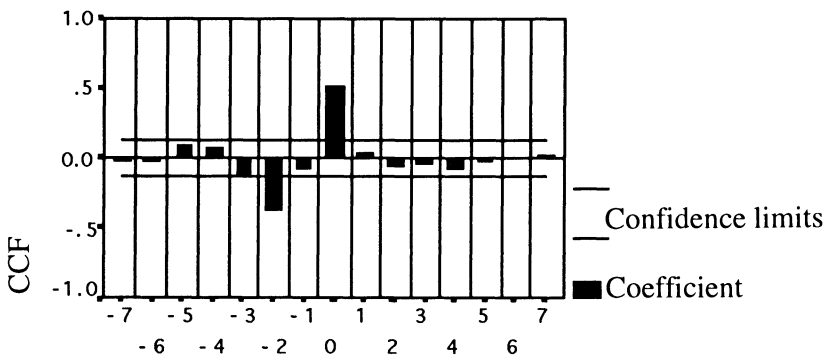
These figures reveal a significant spillover effect in Native and constitutional issues, with a substantial CCF of .523 at lag 0. A weaker correlation exists for the two environmental issues, nuclear and acid rain mentions, with a CCF of .103 at lag 0. Drug issues and capital punishment did not display any spillover at lag 0. This latter finding, however, should not be surprising given the finding in the previous section that each of these issues had displayed evidence of the existence of a discretionary window over the period examined.

FIGURE 9

CROSS-CORRELATION FUNCTIONS OF NUCLEAR
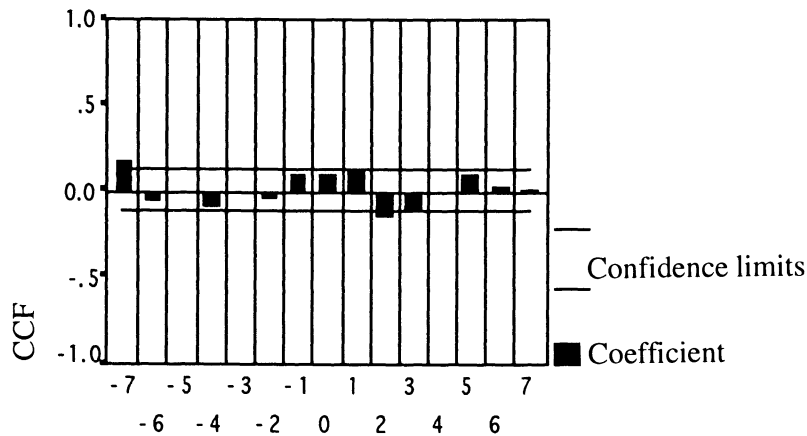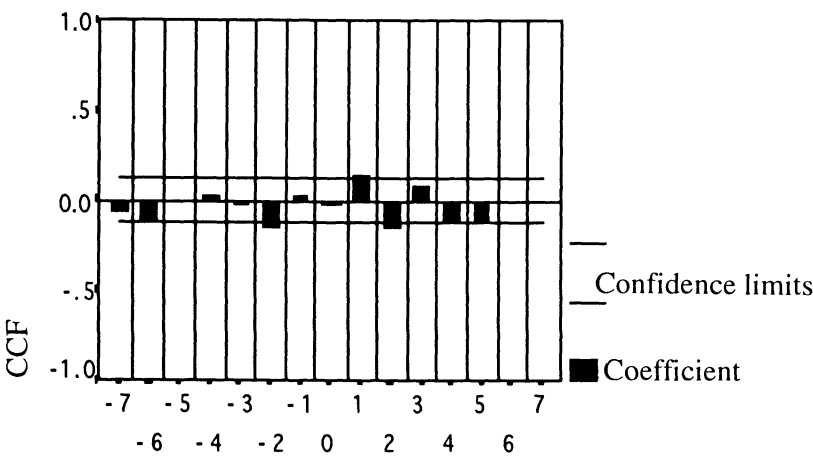AND ACID RAIN HANSARD ISSUE MENTIONS

FIGURE 10

CROSS-CORRELATION FUNCTIONS OF DRUG AND CAPITAL
PUNISHMENT HANSARD ISSUE MENTIONS

Routine Windows

Finally there is the question of fully institutionalized or routinized windows. In order to test for the existence of such windows, the covariance of the six issues with four institutional series—elections, throne speeches, first ministers conferences and budgets—was examined. Table 5 shows the diagnostics developed for these latter series. Since the series for budgets, conferences and throne speeches display no significant auto-correlation, the original series rather than their residuals were used for in these tests. Although the election variable displayed some auto-correlation, the most difficult problem associated with assessing its effect on issue mentions is that parliament is not in session during the federal election campaign. Since the campaign period extends over 40 days and overlapped with three monthly periods, an alternative measure to a cross-correlation function is needed.

TABLE 5

INSTITUTIONAL SERIES DIAGNOSTICS

Series	Durbin Watson	First order ACFs
Budget	1.818	0.089
Conference	1.453	0.273
Throne	1.714	0.143
Election	0.903	0.548

TABLE 6

CROSS-CORRELATION FUNCTIONS OF ISSUES
AND INSTITUTIONS[a]

| Issue	Throne (lag −1)	Conference (lag 0)	Budget (lag 0)
Natives	0.216	0.116	0.176
Constitution	0.140	0.272	0.146
Nuclear	0.171	0.037	0.095
Drugs	0.117	0.140	0.025
Capital punishment	0.150	0.098	0.238
Acid rain	0.122	0.035	0.200

a   Significance level = 0.072.

Results of CCFs for issue mentions in Hansard and the three non-auto-correlated institutional variables are presented in Table 6. The CCFs for the conference and budget series are for lag 0. The CCFs for

the throne speech variable are listed for lag −1 since the House of Commons is not in session for all of the 30-day period included at lag 0. These data provide evidence of institutional correlates of all issues: all correlate with throne speeches, all except nuclear and acid rain with first ministers' conferences and all except drug issues with budgets.

The impact of elections can be assessed by examining the coherence[25] of election cycles with those of issue mentions. Rather than examine all six issues separately, a composite measure—issue "density"—was used.[26] The case plot of this new "density" variable—the sum of all six issue mentions—is shown in Figure 11.

FIGURE 11

CASEPLOT OF ISSUE DENSITY
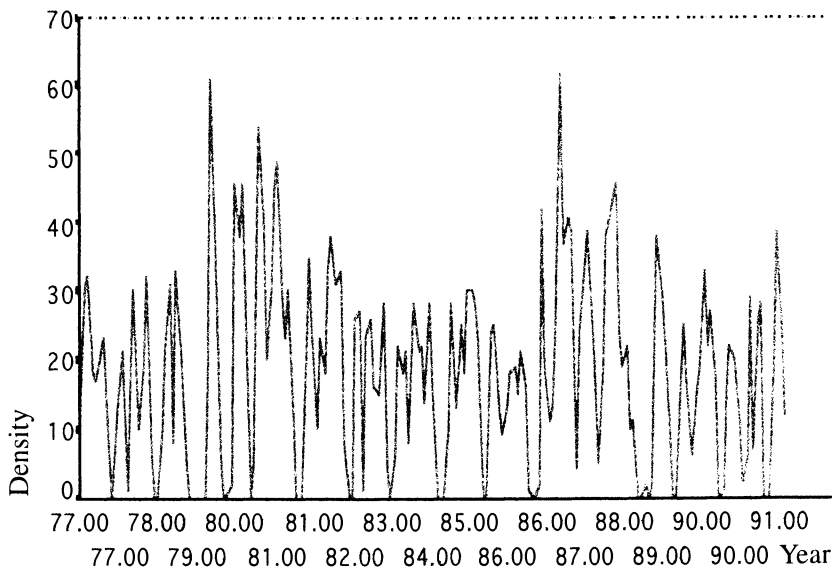
Note: Double mention of some years is caused by representation of monthly data in annual graphical format.

25 Coherency "measures the linear correlation between two series at each frequency and is analogous to the square of the ordinary product-moment correlation coefficient." See Chatfield, *The Analysis of Time Series*, 147.
26 Beecher et al. have argued that the key effect to watch for is "agenda-density," or how many issues are on the agenda at one time. See Beecher et al., "Community Power, the Urban Agenda, and Crime Policy," 630-43.

Given the federal elections in 1979-1980 and 1984, which coincide closely with the peaks in the caseplot, there is anecdotal evidence that issue density appears to vary with elections. More formally, the coherency graph contained in Figure 12 shows that the covariance of the two series is quite striking. It also shows very strong covariation at frequencies of .13 (12 months) and .33 (four months) between the two series, although the direction of these relationships is not revealed by this measure. An examination of the CCFs for the two series, however, reveals a .253 lead of density with elections at six months and a .213 lag, suggesting a strong pattern of large issue-mentions in the run-up to an election and in the immediate post-election period.

FIGURE 12

COHERENCY OF DENSITY AND ELECTIONS
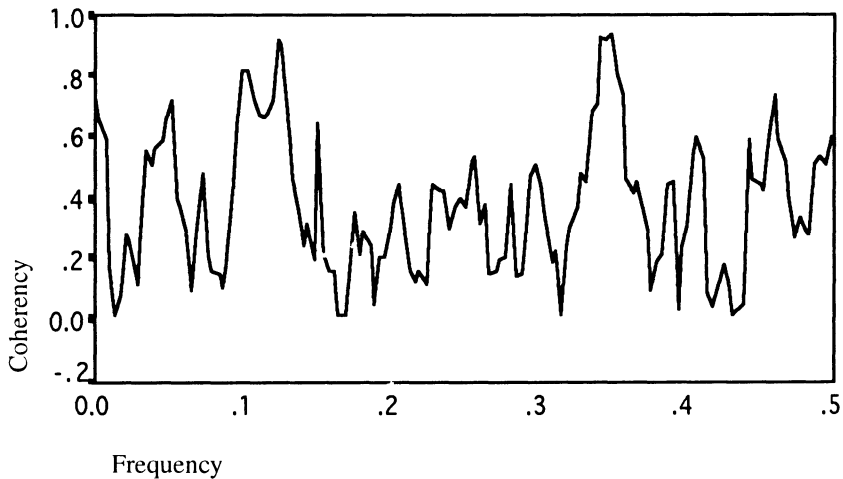
Although many of the institutional correlations are weak, both tests provide evidence of the presence and significance of institutional windows in Canada.

Conclusion

This article uses time series ARIMA and Spectral Analysis techniques to evaluate the frequency and occurrence of different types of policy windows in Canada. The tests found evidence that three of the four types of policy windows identified by Kingdon existed in Canada over the period examined, and support for the hypothesized link between level of window institutionalization and frequency of occurrence also existed. Only six cases were used in the study and hence the results

must be interpreted with some care. However, while any conclusions reached must be subjected to further research, the tests revealed that of the four types of policy windows identified at the outset:

- No evidence was found of random windows. This supports the idea put forward by Kingdon that such windows are, in fact, quite rare.
- Some evidence was found that issue mentions of capital punishment in the media led those in parliament, and that increases in crime rates led drug mentions. These findings support the idea that discretionary windows exist but are not frequent occurrences.
- Strong evidence was found that Native and constitutional issue mentions were linked as, to a weaker extent, were acid rain and nuclear issue mentions. This suggests that spillover windows exist and may be quite common.
- Finally, as Kingdon and Walker both suggested, evidence of the impact of institutionalized procedural events was detected in all six issue areas. While this provides evidence of the existence of routine windows, the findings of strong coherence between issue density and elections provided some specific evidence that a pattern of routine openings in the run-up and immediate post-election period exists.

These findings support the appropriateness of the application of Kingdon's theory of agenda-setting to the Canadian context. That is, there is evidence that policy windows of different types exist in Canada, and there is evidence that the frequency of occurrence of the window types varies by level of institutionalization—with the most institutionalized types occurring much more frequently than the least institutionalized. These findings have several implications for both the theory and practice of agenda-setting in Canada.

On a practical level, the finding that Kingdon's model fits Canada provides an alternative model for policy actors to use to guide their behaviour. That is, both government and nongovernmental actors should alter their behaviour to accord with the findings that policy windows vary in frequency. The preponderance of routine windows, for example, means that there is a certain amount of predictability of openings and closings of which government officials and other policy actors should be cognizant when they attempt to influence policy making. Similarly, the finding of high correlations between issues in spillover windows underlines the fact that, in the right circumstances, issue-linkage can provide significant opportunities for policy entrepreneurs. Explicitly analyzing agenda-setting in terms of the windows model means that policy actors can better plan their own efforts to influence policy,[27] than by using implicit or inaccurate models. Window manipu-

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27 On this "traditional" behaviour of policy entrepreneurs, see Michael Mintron, "Policy Entrepreneurs and the Diffusion of Innovation," *American Journal of*

lation and agenda control should become part of the vocabulary of policy design and governance in Canada.[28]

Theoretically, the finding that Kingdon's model carries cross-nationally is significant in itself, and it also suggests several research directions. That cyclical agenda-setting behaviour related to institutionalized policy windows exists, for example, suggests a reassessment of the existence or non-existence of relatively long-term political cycles in Canada, and elsewhere, should be made. That is, most studies testing for the existence or non-existence of such cycles[29] have found little evidence that they exist.[30] However, these studies have all relied on *output* related measures such as increases or decreases in level of public expenditure or public employment to make this assessment.[31]

Political Science 41 (1997), 738-70; and Robert F. Durrant and Paul F. Diehl, "Agendas, Alternatives and Public Policy: Lessons from the U.S. Foreign Policy Agenda," *Journal of Public Policy* 9 (1989), 179-205.

28 See Erik-Hans Klijn, "Analyzing and Managing Policy Processes in Complex Networks: A Theoretical Examination of the Concept Policy Network and Its Problems," *Administration and Society* 28 (1996), 90-119; Robert K. Leik, "New Directions for Network Exchange Theory: Strategic Manipulation of Network Linkages," *Social Networks* 14 (1992), 309-23; and Johan A. de Bruijn and Ernst F. ten Heuvelhof, "Policy Networks and Governance," in David L. Weimer ed., *Institutional Design* (Boston: Kluwer Academic Publishers, 1995), 161-79.

29 See Edward R. Tufte, *Political Control of the Economy* (Princeton: Princeton University Press, 1978); W. Nordhaus, "The Political Business Cycle," *Review of Economic Studies* 42 (1975), 169-90; Douglas A. Hibbs Jr., "Political Parties and Macroeconomic Policy, "*American Political Science Review* 71 (1977), 1467-87; and Douglas A. Hibbs Jr., *The Political Economy of Industrial Democracies* (Cambridge: Harvard University Press, 1987).

30 See especially F. Schneider and Bruno S. Frey, "Politico-Economic Models of Macroeconomic Policy: A Review of the Empirical Evidence," in Thomas D. Willett, ed., *Political Business Cycles: The Political Economy of Money, Inflation and Unemployment* (Durham: Duke University Press, 1988), 239-75, for a review of the many empirical studies which have failed to reveal evidence of the existence of such cycles. For Canada see Richard Johnston, *Public Opinion and Public Policy in Canada* (Toronto: University of Toronto Press, 1986), esp. 119-44; and David K. Foot, "Political Cycles, Economic Cycles and the Trend in Public Employment in Canada," in Meyer W. Bucovetsky, ed., *Studies in Public Employment and Compensation in Canada* (Toronto: Institute for Research on Public Policy, 1979), 65-80.

31 Johnston found that "On balance, the now classic formulation of the political-business cycle finds little support in Canadian attitudinal data. Canadians are not systematically more averse to unemployment than to inflation; if anything the opposite is true. Over time, aversion shifts back and forth sharply, according to whichever of inflation or unemployment yields the worst reading." See Johnston, *Public Opinion and Public Policy in Canada*, 144. Foot argued that "generally, the cyclical economic and political factors at the national level examined in this chapter do not appear to have had a significant impact on the variation in the ratio of 'public' employment to total employment." See Foot, "Political Cycles, Economic Cycles and the Trend in Public Employment in Canada," 79.

This does not, of course, preclude the possibility suggested here that *input* related cycles exist. That is, it is quite possible that many issues are raised which, for various reasons, are never implemented; thus policy cycles may exist at the agenda-setting stage but not be linked to output or "implementation" cycles.

The existence of disjointed agenda-setting and implementation cycles raises interesting questions about the nature of Canadian policy processes in general. Why is it that items and issues appear on government agendas, then disappear prior to implementation? Is this a reflection of the politics of policy formulation, decision making or implementation, or all three? And what does it tell us about the nature of the ideas and actors involved in these processes? Research into these disjointed policy cycles may shed some light on the larger determinants of the overall policy-making process by revealing the nature of the links existing between its various stages.

While most research into the subject has focused on the micro-level in attempting to explain a pattern of blocked policy development,[32] longitudinal research should investigate the linkages which may exist between relatively short-term agenda-setting cycles and larger, and longer-term, sociopolitical cycles in influencing transitions between stages. As Andrew MacFarland and others have noted:

There is a tendency for reform cycles in hundreds of issue areas to proceed in phase. In other words, during a given year the political power of producer groups will be relatively high in many issue areas simultaneously, while in another year the political power of countervailing groups and autonomous government will be relatively high in many issue areas.[33]

While it is beyond the scope of this article to comment in any substantial way on this observation, it would not be too surprising to find that relatively short-term agenda-setting cycles are closely linked to medium- and long-term changes in "policy moods" or "sentiments."[34] Such a

32 See Morris Zelditch Jr., William Harris, George M. Thomas and Henry A. Walker, "Decisions, Nondecisions and Metadecisions," *Research in Social Movements, Conflict and Change* 5 (1983), 1-32; Bryan D. Jones, *Reconceiving Decision-Making in Democratic Politics: Attention, Choice and Public Policy* (Chicago: University of Chicago Press, 1994); and Michael Howlett and Jeremy Rayner "Do Ideas Matter? Policy Subsystem Configurations and Policy Change in the Canadian Forest Sector," *Canadian Public Administration* 38 (1995), 382-410.

33 See Andrew S. MacFarland, "Interest Groups and Political Time: Cycles in America," *British Journal of Political Science* 21 (1991), 257-85, 264.

34 Robert H. Durr, "What Moves Policy Sentiment?" *American Political Science Review* 87 (1993), 158-72; James A. Stimson, *Public Opinion in America: Moods Cycles and Swings* (Boulder: Westview Press, 1991); James A. Stimson, Michael B. Mackuen and Robert S. Erikson, "Dynamic Representation," *American Political Science Review* 89 (1995), 543-65; and Michael S. Lewis-Beck, *Economics and Elections: The Major Western Democracies* (Ann Arbor: Uni-

finding would help to continue the development of both the understanding and practice of agenda-setting behaviour in Canada and elsewhere, by adding a substantive dimension to Kingdon's procedural model.

Appendix 1: Data Sources

Issue mentions related to Native affairs, the constitution, drug abuse, acid rain, the nuclear industry and capital punishment in parliamentary debates and committees over the period 1977-1992 were derived from the index to the Debates of the House of Commons (1977-1992) provided directly by the index and reference service of the House of Commons in Ottawa, and from the *Index to Journals of the House of Commons of Canada* (1977-1992).

Institutional series were developed from a variety of sources. Budget and mini-budget dates were obtained from Canada, Department of Finance, *Budgets and Financial Statements since 1963*. Dates for speeches from the throne were obtained from *The Ottawa Letter*, 13 (42), 204; 13 (93), 534; 14 (41), 272; 14 (68), 476; 16 (49), 391; 16 (97), 802; 17 (93), 753; 18 (102), 824; 19 (15), 111; and 20 (19), 168. Election dates were found in Elections Canada, *Canada's Electoral System: How It Evolved and How It Works* (1988). The dates for first ministers' conferences were found in *The Chicago Tribune*, August 29, 1992, 11; Alberta Federal and Intergovernmental Affairs, *Eighteenth Annual Report to March 31, 1991*, Edmonton, Alberta; Alberta Federal and Intergovernmental Affairs, *Fifteenth Annual Report to March 31, 1988*, Edmonton, Alberta; Canadian Intergovernmental Conference Secretariat, *Federal-Provincial First Minister's Conferences, 1906-1986*, Ottawa, Ontario 1986; Canadian Intergovernmental Conference Secretariat, *Federal-Provincial Conferences on the Constitution, September 1978 to March 1987, List of Public Documents*, Ottawa.

Series developed from media issue mentions were derived from the *Canadian Newspaper Index* (1977-1987) covering the *Montreal Star*, *The Globe and Mail* (Toronto), *Toronto Star*, *Vancouver Sun* and the *Winnipeg Free Press*, the *Canadian Business and Current Affairs* (CBCA) computerized index (1987-1992) and the *Canadian Periodical Index*.

The data on violent crime occurrences were obtained as a special series from Statistics Canada, Canadian Centre for Justice Statistics, Ottawa. Missing monthly data for 1982 resulted in the use of the annual average for that year. Unemployment rates were obtained from Statistics Canada, *Labour Force Annual Averages*.

versity of Michigan Press, 1988), 137-52. See also Motoshi Suzuki, "Political Business Cycles in the Public Mind," *American Political Science Review* 86 (1992), 989-96; and Greg D. Adams, "Abortion: Evidence of an Issue Evolution," *American Journal of Political Science* 41 (1997), 718-37.

Where possible, each keyword or event appearance was recorded for each source on a daily basis. These daily totals were summed for every 30-day period over the entire 15-year period to provide a record of 183 "monthly" cases for each series. In the case of "standard" series for violent crime and unemployment, monthly data were used.
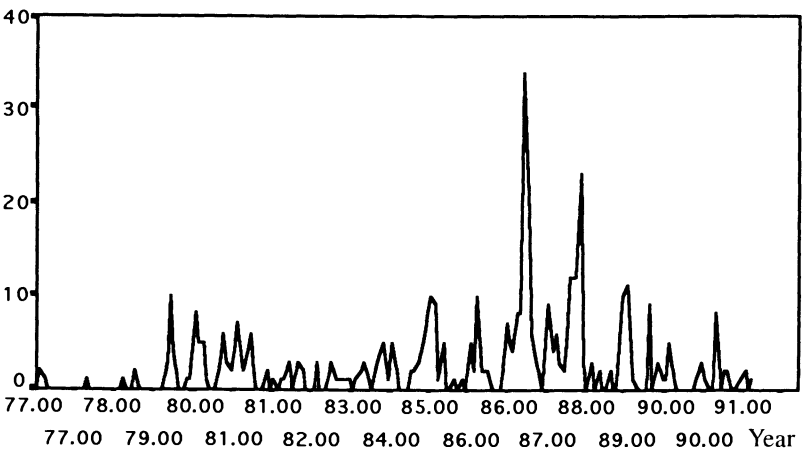
Appendix 2: Caseplots of Issues

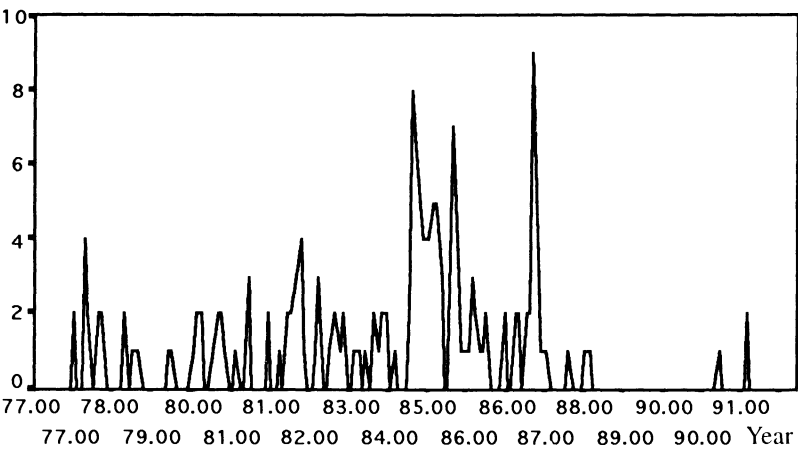Note: Double mention of some years is caused by representation of monthly data in annual graphical format.

NUCLEAR ISSUE MENTIONS IN HANSARD
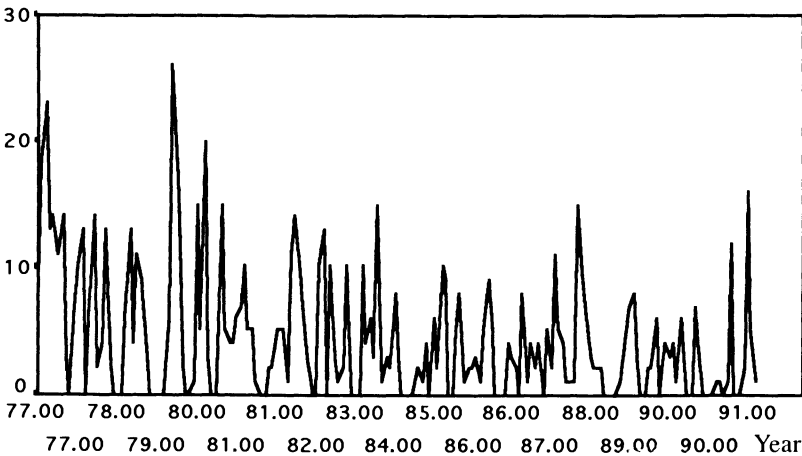
ACID RAIN MENTIONS IN HANSARD

CAPITAL PUNISHMENT MENTIONS IN HANSARD

CONSTITUTIONAL MENTIONS IN HANSARD
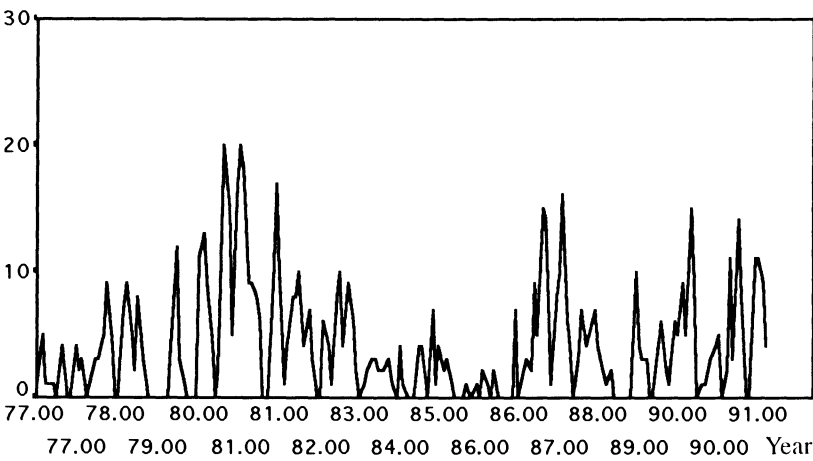
NATIVE ISSUE MENTIONS IN HANSARD
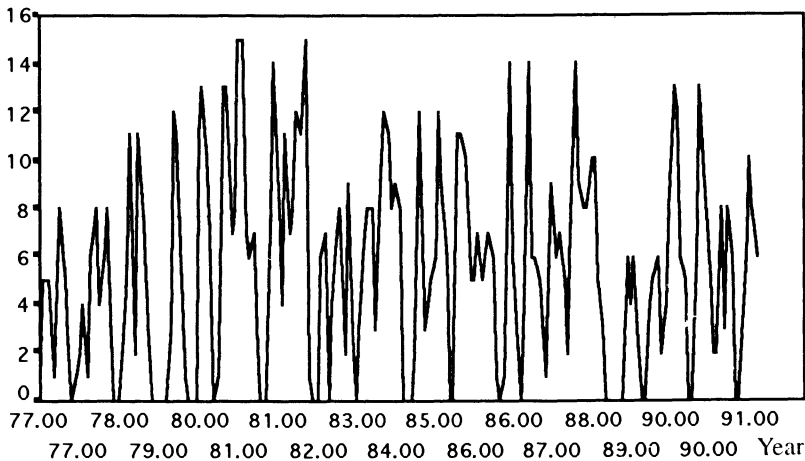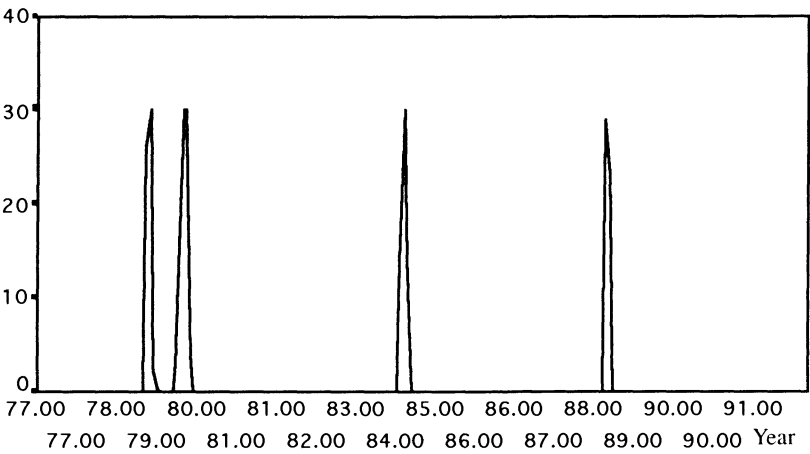

DRUG ISSUE MENTIONS IN HANSARD
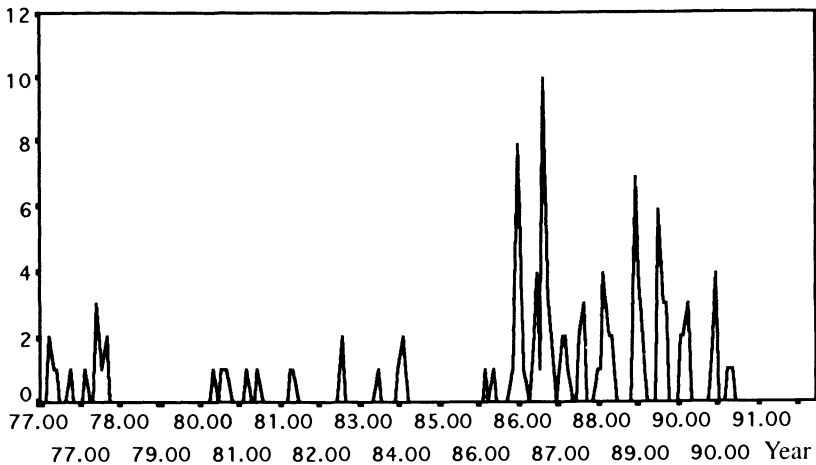
Appendix 3: Caseplots of Institutional Events

Note: Double mention of some years is caused by representation of monthly
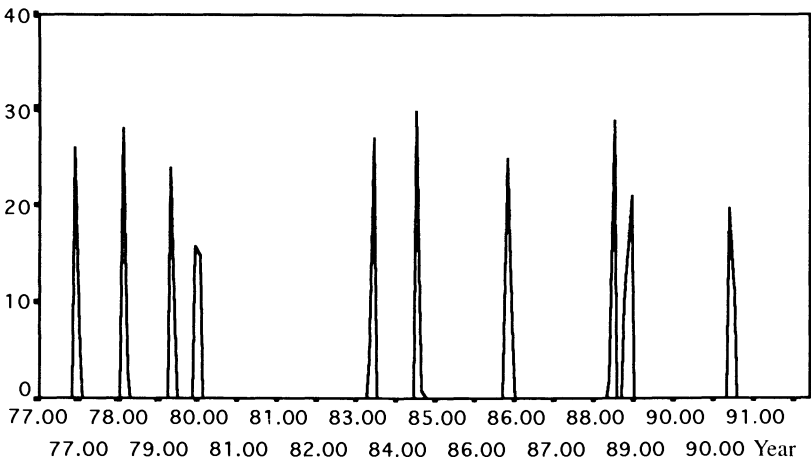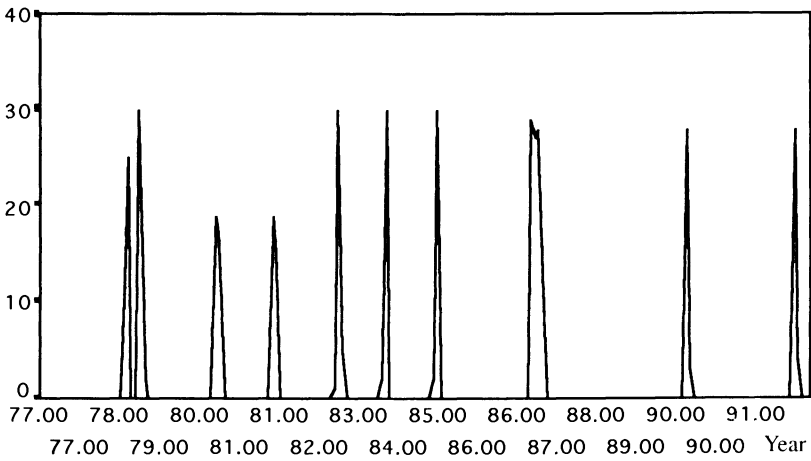   data in annual graphical formal.

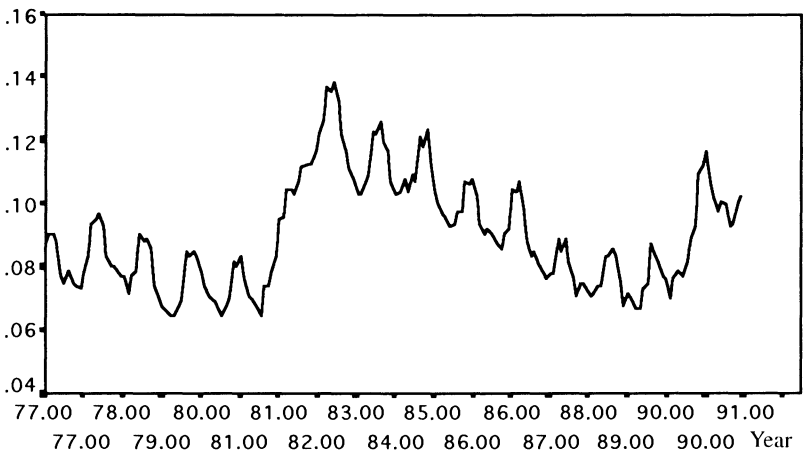BUDGETS AND MINI-BUDGETS
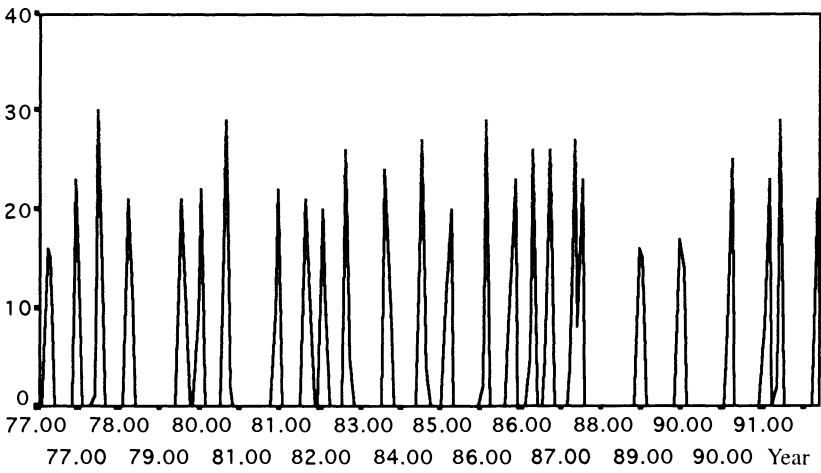
GENERAL ELECTIONS

THRONE SPEECHES

FIRST MINISTERS' CONFERENCES

Appendix 4: Caseplots of Objective Correlates

Note: Double mention of some years is caused by representation of monthly
      data in annual graphical formal.

UNEMPLOYMENT RATE

VIOLENT CRIME RATE