

How Big Is a Policy Network? An Assessment Utilizing Data From Canadian Royal Commissions 1970–2000

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Abstract

The subsystem approach to policy studies is now well established in theory. Despite many applications to empirical cases, however, many elements of the operationalization of this approach have remained problematic, prompting some critics to reject it as “unscientific.” Although the approach has been defended as “more than a metaphor,” it is certainly apparent that additional work is required to address fundamental aspects of the model and ensure that its application to specific cases is done in such a way as to meet basic methodological prerequisites of consistency and replication. This article builds on earlier work by one of the authors attempting to address some of these concerns. Specifically, it addresses issues surrounding the methods through which subsystem membership can be identified and attempts some preliminary conclusions with respect to the estimation of average subsystem size in contemporary advanced liberal democracies.

Background: Policy Subsystems and Their Theoretical and Practical Significance to Policy Studies and Public Management

Policy network analysis is now a significant component of both public policy research and public management practice.¹ Due to the analyses of Paul Sabatier and Hank Jenkins-Smith, David Knoke, R.A.W. Rhodes and David Marsh, Patrick Le Gales and Mark Thatcher, William Coleman and Grace Skogstad, and Bernd Marin and Renate Mayntz in the early 1990s in the United States, Britain, France, Canada, and Germany, respectively, the network approach is well established in the policy sciences (Coleman & Skogstad, 1990; Knoke, 1987; Le Gales & Thatcher, 1995; Marin & Mayntz, 1991; Marsh & Rhodes, 1992; Sabatier & Jenkins-Smith, 1993). And, following this lead, managerial practice in the public service has answered the call of scholars such as Brinton Milward, Hans de Bruijn and Ernst ten Heuvelhof, and Evert Lindquist in Europe and North America who from the early 1990s onward argued that public administration in the post-Keynesian, “New Public Management” era should concentrate more on the development and management of policy communities and networks, than upon the direct delivery of services to the public (de Bruijn & ten Heuvelhof, 1995; Howlett, 2000; Lindquist, 1992, 1996; Milward & Walmsley, 1984).

However, to a certain extent, administrative practice may now have outstripped network theory. A recent review of the literature on public network management, for example, suggests that the only problems remaining for researchers are those linked to practical or implementation concerns. Agranoff and McGuire (2001) write that the only key issues remaining for network analysts are: “seven metaquestions that address the nature of network management tasks, group process in collaboration, flexibility of network, self-responsibility and public agency accountability, the cohesive factor of networks, power and its effect on group problem resolution and the results of network management” (p. 295; see also Agranoff & McGuire,

1999). This is quite a different research agenda from that found in the policy sciences, however, where the very notion of the utility of network analysis as the basis for theorization has been called into question (Dowding, 1995; Kassim, 1994; Thatcher, 1998). Despite many applications to empirical cases (Bressers, O'Toole, & Richardson, 1995; Knoke et al., 1996; Marsh, 1998), key elements of the operationalization of this approach have remained problematic, prompting some critics to reject it as "unscientific" (Bressers, O'Toole, & Richardson, 1995; Knoke et al., 1996; Marsh, 1998). In general, as Duke (2002) has argued: "Although the policy network approach has moved to the forefront of the debates around the formulation and development of policy, there is a paucity of methodological and reflexive literature which explores how policy networks and actors within these arenas are actually studied" (p. 39).

Thus, while the policy network approach has been defended as "more than a metaphor" and a legitimate basis for theorization and modeling (Pappi & Henning, 1998; Peters, 1998) it is certainly apparent that additional work is required to address fundamental aspects of the network model and ensure that its application to specific cases is done in such a way as to meet basic methodological prerequisites of consistency and replication (Howlett, 2002). This article aims to contribute to this methodological and theoretical development by investigating one critical issue in policy network analysis, that of network size.

The Problem of Size in the Operationalization of Policy Network Analysis

One of the most significant problems limiting or restricting the application of network analysis to administrative practice and policy theory is the difficulty faced by researchers in identifying network or subsystem boundaries and consequent problems faced in sampling and survey research methods (Laumann, Marsden, & Prensky, 1983). This is an issue of which researchers have been aware for some length of time (Erickson & Nosanchuk, 1983; Erickson, Nosanchuk, & Lee, 1981; Granovetter, 1977), and one that has colored the acceptance of the results of the largest studies undertaken in the field (Heinz et al., 1990, 1993; Laumann & Knoke, 1987; Moore, 1979).²

Current thinking on the subject distinguishes between two major approaches to the boundary specification problem: the "*realist*" approach, which "focuses on actor set boundaries and membership as perceived by the actors themselves," and the "*nominalist*" approach "based on the theoretical concerns of the researcher" (Wasserman, 1994, pp. 31–32). The former approach risks overextending network membership and boundaries, possibly including irrelevant or extraneous links, and tends to bias the analysis toward notions of large, diffuse, networks. The latter approach, of course, suffers the reverse problem: tending to artificially restrict network membership and possibly miss important links and relationships. Regardless of which strategy is chosen, however, as Wasserman argues: "Many naturally occurring groups of actors do not have well-defined boundaries. However all methods must be applied to a specific set of data which assumes not only finite actor set size(s), but also enumerable set(s) of actors. Somehow, in order to study the network, we must enumerate a finite set of actors to study" (p. 32).

One important aspect of policy network analysis then, concerns network *size*. Many aspects of research methodology are related to this criterion. At a very basic level, for example, if networks are large, then a research strategy based on sampling and utilizing survey techniques might be appropriate. However, if networks are small, then a strategy based on interviews might be a better research technique (Wasserman, 1994, pp. 32–35). Similarly, efforts at visualizing network structures and relationships are more likely to yield meaningful results if the networks are smaller and have fewer links than large, dense ones (Brandes et al., 1999; Raab, 2002). Arriving at a preliminary assessment of the average size and range of network memberships, then, is a key question facing network analysts and practitioners.

Drawing on the work of Dion, Peters and Barker, and Sherrif among others (Barker & Peters, 1993; Dion, 1973; Sheriff, 1983) this article argues that relatively open-ended public inquiries can serve as useful entry points into the assessment of subsystem membership and size. Specifically, the article argues that, in British Parliamentary systems, consultation exercises such as major Royal Commissions and task forces (Chapman, 1973; Clokie, McDowall, & Robinson, 1969; Doern, 1967; Pross, Innis, & Yogis, 1990; Salter & Slaco, 1981) serve as focal points and “magnets” for subsystem participants. Hence, the article argues, although somewhat idiosyncratic with respect to occurrence and time, a survey of such inquiries can be used as an inexpensive method to obtain useful information on subsystem membership in specific issue areas and policy sectors.³

The article presents evidence gleaned from a survey of Canadian federal and provincial royal commissions and task forces over the period 1970–2000 to demonstrate the utility, and limitations, of this method. In so doing, it also generates empirical data on several important questions raised by students and critiques of subsystems, including, importantly, their average size.

The Literature on Subsystem Size

Much of the literature on policy subsystems is drawn from the political science “institutionalist” tradition and does not deal with measurement problems directly. It simply assumes the existence of subsystems, whose behavior is usually assessed through elite interviews with members of government or nongovernmental organizations (NGOs) directly concerned with the issue at hand. This is true, for example, of the herein-cited works of Coleman and Skogstad, Le Gales and Thatcher, and Rhodes and Marsh, which do not contain any statistical information on network membership and which follow an implicit “nominalist” strategy in their investigations. It is this kind of work which, unfairly, has been criticized by Dowding and others as “unscientific” when, in actuality, it is only a literature somewhat unreflective of its methodological presuppositions.

Network investigators working in the behavioral tradition in political science, however, do tend to focus more closely on methodological issues. These authors tend to follow a more explicit “nominalist” approach to the estimation of subsystem boundaries. This is true, for example, of the works cited earlier by Paul Sabatier and his coauthors in the United States, as well as those by many German

authors working in the same tradition. Works drawn more from the sociological orientation of “sociometry” also tend to focus closely on empirical issues, but follow a more “realist” approach. This is true for example, of the works of Laumann and Knoke and their colleagues mentioned above. What have adherents of these latter approaches discovered in their investigations of subsystem membership?

Work following an explicitly nominalist approach have presented a consistent picture of relatively small networks. Hence, when looking at off-shore energy policy making in the United States over the period 1969–1987, for example, Jenkins-Smith and St. Clair (1993) found only 13 organizations to have been active in hearings into this sphere of government policy over the time-period in question: four major oil companies, four government agencies, and five environmental groups (p. 154). And only 350 individual testimonies were uncovered during this time period. On a broader issue, but at the local level, involving environmental policy making relating to Lake Tahoe on the California–Nevada border, Sabatier and Brasher found a more complex subsystem but one that was not all that much larger—comprised of 14 groups and 189 individual briefs presented by 141 people over the period 1964–1985 (Sabatier & Brasher, 1993, p. 185). Howlett’s examination of actors in the fields of air transport, free trade, postsecondary education, and banking in Canada over the period 1990–2000 also found small numbers of individuals and organizations involved, respectively, 108, 122, 116, and 142 actors in each sector (Howlett, 2002, p. 256). Dorner’s study of network activity in the Internet sector in Canada in 1995 found only 7 NGOs and 7 government actors heavily involved out of a total of 20 organizations cited by actors as significant players in the field (Dorner, 2002).

Similar findings arise in the Marin and Mayntz collection on European networks. Volker Schneider and Raymund Werle, for example, found only a very small network active in the German telecommunications sector over a 50-year-period. As they put it: “At the beginning of the 1950s, only a handful of actors participated in the discussion of the PTT Administration Act; approximately 15 years later, the debate on the reform of this act activated approximately 10 associations (including two workers unions) outside the official circle of political actors (government officials, political parties etc.) and about a dozen experts” (1991, p. 106). By the mid-1980s, they estimated the total population of organizations in this area to be 140, of which they estimated only 40 were “most influential” (p. 111). In their study of network activity surrounding superconductivity research in Germany in 1986, Dorothea Jansen (1991) found only 27 organizations to be active; including 4 companies and 17 universities and technical institutes.

In Laumann and Knoke’s sociometrical work, a more “realist” methodology was followed, albeit one with significant “nominalist” components. Here, usually, newspaper subject indexes were consulted to establish the population of organizations involved in the “domain.” This list was then culled by focusing only on multiple repeat mentions. The subsequent subset then served as the population of the network, which was then sampled through intensive elite interviews, sometimes using a “snowball” technique in which interviewees were allowed to nominate additional sample subjects.⁴

Interestingly, use of this realist technique also generated consistent reports of fairly small numbers of network members. Pappi and Knoke (1991), for example,

found only 124 German and 111 American network actors to be influential in these countries' labor policy domains in the period 1983–1988. For the period 1977–1980 in the United States Laumann and Knoke (1987, pp. 97–99) found 1,300 organizations active in the energy domain and 900 in health, but these were narrowed down to only 217 “key” organizations in energy and 156 in health.⁵ In an extension of this study covering 1977–1982, they found 8,664 organizations to be active in the United States federal energy, health, labor, and agricultural policy domains, but only 76, 81, 74, and 80 “key” actors, respectively. In the labor domain, Knoke, Pappi, Broadbent, and Tsujinaka (1996) in the mid-1980s found only 117, 127, and 130 central organizational actors active in the labor domain in the United States, Germany and Japan, respectively.

These nominalist and realist estimates of network size are compiled in Table 1.

Estimating Network Size: Methodological Issues

As the figures in Table 1 show, the average size of the networks of influential organizations found in these disparate studies is 92, with a median of 84, and a range of 13 to 217. However, these studies have provided data from a variety of different time-periods, and use a number of different definitions of policy communities and networks, as well as very different notions of the units of analysis—the policy sector, or domain—examined. This requires more systematic evaluation of the question of network size if average size and range figures are to be generated that result in some confidence as to their accuracy.

Snapshot Versus Multiyear Time Periods—It is generally agreed in the literature that a multiyear time period is required to analyze subsystem membership (Sabatier, 1993). However, it is worth noting that these studies have focused on policy change and have urged examination of a long time-period precisely because subsystem membership is expected to be stable over a long period of time, at least a decade. This is because in most sectors the structure of a subsystem provides certain actors with the ability to veto or block change in the sector, sometimes by creating “critical subsectors” with special abilities or resources vis-à-vis other subsectors (Rayner et al., 2001). Existing key policy actors can prevent new members from entering into policy debates and discourses and Rhodes, Schaap and van Twist, and Baumgartner and Jones and many other analysts have argued that all subsystem actors attempt to construct “policy monopolies” in which the interpretation and general approach to a subject is more or less fixed (Baumgartner & Jones, 1993; Rhodes, 1997; Schaap & van Twist, 1997).

Hence the danger in using short time periods is that they might capture only infrequent changes and miss the overall patterns of stability characteristic of most periods of network behavior. To use the terminology of punctuated equilibrium theory, the danger in using a short time period is that it might only capture “punctuations” rather than “equilibria” (Gersick, 1991), and hence present an inaccurate picture of “typical” subsystem size. While using short time periods does not necessarily result in inaccurate estimations of network size, this danger is present in the exclusive use of such measures. A research strategy designed to systematically

Table 1. Estimates of Policy Network and Policy Community Size in the Literature

Source	Domain	Time Period	Policy Community Size	Policy Network Size
Jenkins-Smith & St. Clair	United States Offshore Oil and Gas	1969–1987	na	13 organizations 350 individuals
Sabatier & Brasher	Lake Tahoe Environmental Planning	1964–1985	na	14 organizations 141 individuals
Howlett	Canadian Air Transport	1990–2000	na	108 organizations
Howlett	Canadian Trade Policy	1990–2000	na	118 organizations
Howlett	Canadian Post-Secondary Education	1990–2000	na	84 organizations
Howlett	Canadian banking	1990–2000	na	122 organizations
Dorner	Canadian Internet Security	1995	na	20 organizations
Schneider & Werle	German Telecommunications	1985	140 organizations	40 organizations
Jansen	German Superconductivity Research	1986	na	27 organizations
Pappi & Knoke	German Labor Policy	1983–1988	na	124 organizations
Pappi & Knoke	United States Labor Policy	1983–1988	na	111 organizations
Laumann & Knoke	United States Energy Policy	1977–1980	1,300 organizations	217 organizations
Laumann & Knoke	United States Health Policy	1977–1980	900 organizations	156 organizations
Knoke, Pappi, Broadbent, Tsujinaka	United States Labor Policy	1981–1987	na	117 organizations
Knoke, Pappi, Broadbent, Tsujinaka	German Labor Policy	1983–1988	na	127 organizations
Knoke, Pappi, Broadbent, Tsujinaka	Japanese Labor Policy	1982–1988	na	130 organizations
Heinz, Laumann, Nelson, Salisbury	United States Agriculture	1977–1980	*8,664	80 organizations
Heinz, Laumann, Nelson, Salisbury	United States Health	1977–1980		81 organizations
Heinz, Laumann, Nelson, Salisbury	United States Energy	1977–1980		76 organizations
Heinz, Laumann, Nelson, Salisbury	United States Labor	1977–1980		74 organizations
AVERAGE				91.95

*total for four domains examined.

Sources: See above

measure network size should therefore either use long time periods or, at minimum, multiple cases, if a single time period snapshot is used.

Size and Definition of a Policy Sector or Domain—Prima facie, one would think that a significant concern lies with the range of variation in the size of networks and whether this is real, or simply a function of the definition of the subsystem used in the analysis. The data in Table 1, for example, shows that the networks examined range from a low of 13 organizations (United States Offshore oil and gas) to a high of 217 (United States energy policy). A key question, however, is whether these

studies examined the same type or level of policy subsystem. Important differences exist between networks constructed to deal with single issues, for example, and those that deal with multiple, linked ones (Bursten, 1991; Knoke & Laumann, 1982). And the “domains” or “fields” used to describe multiple issue areas—such as economic policy, or health policy, and so on—also vary in terms of the number and type of issues, and therefore presumably the number and type of actors they contain. As Benson (1982) put it, a policy sector is “an arena in which public policies are decided and implemented. Such arenas are conventionally bounded by substantive policy names—health care, welfare, manpower, natural resources and so on. These units are commonly held typifications that are part of the stock of knowledge held by politicians, bureaucrats, lobbyists, and others” (pp. 147–148). That is, the issues contained in each domain are conventions and therefore can vary substantially from investigator to investigator.

In order to deal with the enhanced institutional and organizational complexity of contemporary policymaking, sectors are usually divided into a number of subsectoral or issue niches in which more specialized but clearly related policymaking takes place (Hosseus & Pal, 1997). As Rayner et al. (2001) have argued, a field or sector is divisible into producer subsectors, geographical subsectors, and even subsectors organized around enduring issues. The structure and membership of subsectoral policy networks may substantially overlap with, or be quite distinct from, each other. These sectors can be divided even further into specific issue subsectors, and the relationship between sectors and subsectors is an important one for understanding processes of policy change (see also Cavanagh, Marsh, & Smith, 1995; Jordan, Maloney, & McLaughlin, 1994).

Although they often do not make such distinctions overtly, the studies mentioned in Table 1 differ quite dramatically in their basic unit of analysis. Some, like Jansen, focus on a specific issue sector. Others like Jenkins-Smith and St. Clair, on a subsector, or Laumann and Knoke on very broadly conceived policy sectors. There is some evidence in Table 1 that sectors are larger than subsectors. However, generally speaking, while it is to be expected that within the same policy domain or thematic area aggregated units such as sectors would be larger than subsectors and, in turn, subsectors larger than issue-sectors, it might also be the case that such units might exist in a nested, pyramidal, form, with actors “filtered” between levels in a complex division of labor, resulting in smaller networks as the domain broadens. There is not enough overlap in existing studies to determine the accuracy of either of these possibilities. However, a more systematic study of subsystem size can take this into account by carefully distinguishing between networks at different levels and the relationships existing between them in terms of size.

Size and Definition of Policy Communities and Policy Networks—A third important methodological issue relating to network size centers on a controversial issue in the policy sciences concerning the relationship existing between policy networks and policy communities (Howlett & Ramesh, 1998; Howlett & Rayner, 1995, 2003).

Students of the policy sciences have developed the concept of a *policy universe*, thought of as a fundamental unit containing all possible international, state, and social actors and institutions directly or indirectly affecting a specific policy area. From these potential members, a subset is drawn which comprises a sectoral *policy*

subsystem.⁶ As discussed above, the policy subsystem is a space where relevant actors discuss policy issues and persuade and bargain in pursuit of their interests. During the course of their interaction with other actors, they often give up or modify their objectives in return for concessions from others. These interactions, however, occur in the context of various institutional arrangements surrounding the policy process, which affect how the actors pursue their interests and ideas and the extent to which their efforts succeed.⁷

This notion of a policy subsystem is a broad category that includes both actors who are intimately involved in a policy process through their occupation of key institutional sites, as well as others who are only marginally so. Hence actors who participate more often and more directly in the policy process are often said to belong to “*policy networks*,” distinguishing them from those involved to a lesser degree who are said to belong only to “*policy communities*.”⁸ While the exact relationship existing between these two subsets of actors, and the language used to describe them, is controversial, using these definitions, in terms of size, it is expected that the community will never be smaller than the network and will usually be much larger (Howlett, 2002; see also Bulkley, 2000). Some evidence of this is found in the “realist” works cited earlier, such as Heinz et al.’s (1993) finding that of 8,664 individuals and organizations cited as significant in the four sectors they examined, only 311 organizations were ultimately found to be “influential.” While most analysts have focused on network size, it is also important to try to get a sense of community size and the relationship, if any, existing between the two.

Elements of a Systematic Survey of Policy Network Size in Canada

Hence a more systematic evaluation of subsystem size is required, one that covers all units, such as issues, subsectors, and sectors, and that deals with the issue of consistent time-periods by employing either long durations or multiple cases, and, if possible, one that also provides some information on both network and community size. As shall be argued below, a preliminary analysis involving the construction of a database from records of actor participation in open-ended government inquiries addresses many of these issues and can provide a reasonable estimate of subsystem size. Constructing such a database from the records of the activities of such commissions which, in effect, bring together policy communities and networks, over sometimes extended periods of time, allows us to assess many elements of network size, although, as we will see, it sheds little light on the third issue of policy community size, which requires other techniques in order to be accurately gauged.

Royal Commissions, Task Forces, and Public Inquiries as Surrogate Measures of Subsystem Size

All governments establish ad hoc and temporary bodies to compile existing information into useable form, or to bring together disparate actors in the policy process in the hope of finding an acceptable consensus on policy definition or implementation (Wilson, 1971). Foremost among these is the *ad hoc inquiry, commission, or task force*. These agencies exist in many different forms in different countries and are

often established to deal with new or particularly troubling policy problems. They often attempt to provide a forum that combines specialized academic research and more generalized public input into the definition of, and potential solution to, policy problems; generating information that becomes available to all participants in the policy process and altering their knowledge, or epistemic, base (Chapman, 1973; Sheriff, 1983; Wraith & Lamb, 1971). They are usually quite specific in their focus and conduct different types of hearings and “stakeholder” consultations. Ad hoc task forces and similar bodies provide a venue for organized and unorganized interests to present their views and analyses on pressing contemporary problems, or to frame or reframe issues in such a way that they can be dealt with by governments (Owens & Rayner, 1999).

These bodies provide an excellent source of data on subsystem membership. This is because they serve to bring actors in policy subsystems at all levels—issue, subsectoral, and sectoral—together, providing a snapshot of network size and composition at a specific point in time. This feature means they are suitable tools for measuring subsystem size at a variety of levels. That having been said, constructing a database of multiple task forces and inquiries suitable for this assessment is not without difficulties. The steps in this process are set out here.

Constructing the Database

In order to undertake a study of inquiries in Canada, the possible universe of such bodies was narrowed down specifically to commissions of inquiry held between 1971 and 1996. The reasons for this are twofold. First, the federal Inquiries Act came into force in 1971. Before this time public inquiries were mandated at the federal level under Letters Patent. With the passage of the Inquiries Act, commissions of inquiry became structured in a more rigid way. Inquiries were still given much leeway in terms of their scope and investigatory powers—although this leeway is usually a function of funding (see Anthony & Lucas, 1985).

The Inquiries Act, however, did serve to further constrain the nature of inquiries to some degree. Section I of the Inquiries Act outlines the format of public inquiries in Canada, which includes *commissions of inquiry* and *royal commissions*. As well, Section II of the Inquiries Act makes a further distinction between *commissions* and *departmental investigations*. The section covers investigations with regard to: “the state and management of the business, or any part of the business, of the department, either in the inside or outside service thereof, and the conduct of any person in that service, so far as the same relates to the official duties of the person.” Section IV of the Act is dedicated specifically to international commissions and tribunals. This further differentiated domestic commissions of inquiry from those at the international level. With this, the Inquiries Act made a clear distinction possible between *types* of inquiries, which had not been made explicit under the Letters Patent System (D’Ombrain, 1997; Pross, Innis, & Yogis, 1990). This allowed for easier selection of cases in our study, and also dictated the early end of the time period about which we would inquire.

The second reason behind choosing this time period is the lack of consolidated governmental records for any period after 1996. At the provincial level, only one bibliographic reference exists that outlines commissions of inquiry in Canada

(Maillet, 1991). This reference stops at 1991, hence, provincial cases in our study are limited to the time-period of 1970 to 1991. At the federal level, a similar situation allowed us to have a complete list of all commissions of inquiry only up to 1996 (Government of Canada, 1996).

With a time-period defined, the study then moved on to coding of the information garnered from reports of commissions of inquiry at the federal level and also from Ontario, Alberta, and Saskatchewan. The choice of cases from only three provincial jurisdictions stemmed from time, funding, and data limitations that precluded inclusion of data from all 10 provinces. These three jurisdictions were chosen for having the most complete records during the period in question.

The process for assigning values to variables in each case required analysis of multiple individual commission reports identified in the overall survey documents. Each commission report was examined to determine (1) whether the commission was an investigatory or a policy/sectoral commission; and, most importantly, (2) the number and nature of witnesses appearing before a commission—both individuals and organizations and the number of briefs submitted. Several other characteristics of commissions were also evaluated in order to assess their impact on organizational and individual representation. These included (3) the duration of the commission, which was expected to be positively related to higher numbers of presentations and witnesses; (4) whether the commission had a single or many commissioners, with larger, multicommissioner commissions expected to be positively correlated with higher numbers of witnesses; and (5) whether or not the commission traveled in the course of its inquiries, a facet of commission life also expected to be correlated with higher numbers of briefs and, hence, a more accurate depiction of subsystem membership.

In coding whether a commission was investigatory or policy/sectoral, an important methodological question arose. Put simply, the problem was how to treat commissions of inquiry that were set up initially to investigate a specific event, yet which had far-reaching policy implications. This question became evident when coding commissions such as the federal government's inquiry into the death of a prisoner under the control of the Canadian Armed Forces in Somalia which prompted a general review of government peace keeping efforts and goals. In order to deal with such cases, it was decided that investigatory commissions with policy implications would be treated in the same way as those commissions that were originally created for broad policy purposes. Investigative commissions of inquiry (such as the Somalia Inquiry) that had policy implications were thus coded in the same manner as commissions that, in their incarnation, were focused on large policy matters. This decision, based on more qualitative evidence than quantitative, created a dichotomous variable that measured whether or not a commission had policy implications. The result is often fundamentally different from the original investigatory policy envisioned at the outset of a commission's work. This is because, as D'Ombrain's "Public Inquiries in Canada" (1997) suggests, a commission of inquiry may be created in order to fulfill a specific goal, yet it is often the case that the commissioner(s) will steer the investigation in a direction other than that intended by the founding government.

In many other instances assigning values to cases was also made difficult due to the inconsistent manner in which commissions reported their final findings. Often, seemingly simple information such as the date a commission began its delibera-

tions was not reported. While it was possible to assign a commission's termination date by recording the date a commissioner submitted the final report to Parliament or a provincial legislature, many commissions failed to include the date the commission was created. In a similar manner to the lack of reporting a commission's inception date, many final reports also failed to mention the commissioners who sat on the commission. This made the reporting of the number of commissioners difficult. In many cases, even a thorough reading of the final report failed to mention the names of the commissioners. Instead final reports were formatted to state that witnesses were "questioned by *the commission*," or "*the commission* found that. . . ." Whether or not a commission traveled was also difficult to ascertain in some circumstances. In many cases it was determined that a commission did or did not travel by looking to the list of witnesses—which were, more often than not, listed by the location of the hearing.

Finally, the largest difficulty in the study of commissions of inquiry as proxies for policy networks was the lack of reporting of witness lists in the majority of commission reports. Final reports of commissions of inquiry are not standardized in any way and many commissions failed to list many characteristics that were important to this study. While some final reports contained appendices listing all witnesses of a commission, many others did not.

Though the universe of possible cases of commissions in the three provinces and the federal level for the time period specified was $N = 115$, when investigatory commissions and those that fell into neither category were selected out, the number of valid cases dropped to $N = 59$ (see Table 2). This makes up over half of the commissions listed in our dataset. Commissions labeled as *missing* were those for which assigning a value would require in-depth study of the commission—and due to time restrictions, this in-depth analysis was not possible.

Furthermore, when the dataset was truncated in order to include only those cases where full data was available with regard to briefs and organizational and individual witness sizes, the number of applicable cases dropped to 24. This truncation is due to the method by which commissions report their findings. The complete list of these commissions is included in Table 3.

Analysis

Some initial conclusions can be drawn from commission composition concerning the size of policy networks. First, overall, and most importantly, as Table 4 shows, the average number of organizations that provided witnesses or briefs to these 24

Table 2. Total Commissions Examined 1971–1996

Sectoral/Policy or Specific Investigative Issue		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	sectoral/policy	59	51.3	64.1	64.1
	investigation/	33	28.7	35.9	100.0
	specific issue				
	Total	92	80.0	100.0	
Missing	99	23	20.0		
Total		115	100.0		

Table 3. List of Commissions Examined in Detail

	Commission Name	polinv	datstart	durmonth	singmany	travel	briefs	orgs	indiv	jurisd
1	Commission of Inquiry Concerning Certain Matters Associated with the Westbank Indian Band	2	Aug-86	21	1	0	13	5	9	Fed.
2	Commission of Inquiry into the Facts and Allegations of Conflict of Interest Concerning the Honourable S.M. Stevens	2	May-86	2	1	3	12	80	N/A	Fed.
3	Commission of Inquiry into the Hinton Train Collision	2	Feb-86	11	1	0	0	0	150	Fed.
4	Royal Commission on Seals and the Sealing Industry in Canada	1	Sep-84	17	1	4	127	55	50	Fed.
5	Royal Commission on the Economic Union and Development Prospects for Canada	1	Nov-82	33	1	1	1,309	550	60	Fed.
6	Commission of Inquiry on the Pharmaceutical Industry	1	Apr-84	12	1	3	158	38	5	Fed.
7	Commission of Inquiry on Equality in Employment	1	Jun-83	14	1	1	274	260	20	Fed.
8	Commission of Inquiry into the Toronto Islands	1	Jun-80	8	1	3	134	15	45	Ont.
9	Royal Commission Inquiry into Discounting and Allowances in the Food Industry in Ontario	1	Feb-79	19	1	3	43	108	0	Ont.
10	Commission of Inquiry into Certain Allegations Concerning Commercial Practices of Canadian Dairy Commission	1	May-79	19	1	3	N/A	13	36	Fed.
11	Royal Commission on Financial Management and Accountability	1	Nov-76	3	2	1	7	9	18	Fed.

12	Royal Commission on Corporate Concentration	1	Apr-75	34	2	1	197	90	39	Fed.
13	The Royal Commission on the Northern Environment	1	Oct-77	14	1	1	70	207	180	Ont.
14	Commission of Inquiry Concerning Certain Activities of the Royal Canadian Mounted Police	1	Jul-77	46	1	1	0	0	196	Fed.
15	Commission of Inquiry into Newfoundland Transportation	99	Mar-77	24	2	1	102	85	17	Fed.
16	West Coast Oil Ports Inquiry	1	Mar-77	12	1	0	21	12	210	Fed.
17	Public Inquiry into the Ronto Development Company	2	Apr-77	3	1	3	0	0	29	Ont.
18	The Royal Commission on Petroleum Products Pricing	1	Aug-75	11	1	1	26	19	1	Ont.
19	Royal Commission to Inquire into the Affairs of the Alberta Housing Corporation	2	Feb-74	11	1	4	0	0	0	Alta.
20	Commission of Inquiry into the Marketing of Beef and Veal	1	Jan-75	7	2	3	77	85	46	Fed.
21	The Royal Commission on the Conduct of Police Forces at Fort Erie on the 11th of May, 1974	1	Jun-74	8	1	0	0	0	96	Ont.
22	Royal Commission on Bilingualism and Biculturalism	1	Jul-63	61	1	1	402	N/A	N/A	Fed.
23	Royal Commission on the Health and Safety of Workers in Mines	1	Sep-74	19	1	1	N/A	34	36	Ont.
24	The Commission of Inquiry on Crow Benefit Payment	1	Apr-84	12	2	3	38	38	0	Fed.
AVERAGE								74		

Table 4. Average Number (of Organizations Serving As) Witnesses for Both Research and Investigatory Commissions

	Briefs— <i>Total</i>	Individuals— <i>Total</i>	Organizations— <i>Total</i>
Valid N	23	23	24
Mean	131	59	71
Minimum	0	0	0
Maximum	1,309	210	550

Valid N (listwise) = 21.

Table 5. Number of Organizations Serving As Witnesses—Research Commissions

	Briefs— <i>Research</i>	Individuals— <i>Research</i>	Organizations— <i>Research</i>
Valid N	17	18	18
Mean	170	85	63
Minimum	0	0	0
Maximum	1,309	210	550

Valid N (listwise) = 16.

Table 6. Number of Organizations Serving As Witnesses—Investigatory Commissions

	Briefs— <i>Investigatory</i>	Individuals— <i>Investigatory</i>	Organizations— <i>Investigatory</i>
Valid N	5	5	6
Mean	5	47	17
Minimum	0	0	0
Maximum	13	150	80

bodies was 71. This is very close to the figure of 92 found in Table 1 and provides additional evidence that most policy networks, in fact, are quite small. Table 4 also shows that the average number of individuals presenting briefs is also quite small (59). While it is difficult to assess the relationship between the individuals and organizations involved, which often overlap, this again suggests that the average policy network is quite small.

Tables 5 and 6 show that this average does vary considerably by type of commission, in an expected direction, as the average of 63 organizations involved in each research commissions (see Table 5) is substantially higher than the average of 17 found in single purpose investigatory commissions (Table 6).

Similarly, inspection of the data in Table 3 also shows that research commissions with broad multisectoral mandates (such as the Royal Commission on the Economic Union and Development Prospects for Canada) tend to involve much larger numbers of organizations than sectoral commissions such as the Royal Commission on Seals and the Sealing Industry in Canada. This suggests, of course, that issue, subsectoral, and sectoral subsystems tend to be aggregative in nature, although these latter subsystems also must feature considerable membership overlap since the overall sectoral or multisectoral network remains relatively small in size.

Table 7. Correlation of Duration of Commission and Number of Organizations Serving

Correlations		Number of organizations serving as witnesses	Duration in months
Number of organization serving as witnesses	Pearson Correlation	1	0.336
	Sig. (2-tailed)	.	0.109
	N	24	24
Duration in months	Pearson Correlation	0.336	1
	Sig. (2-tailed)	0.109	.
	N	24	115

These findings suggest, *prima facie*, that commissions of inquiry may provide good surrogate measures of subsystem composition. However, there remain several questions relating to the different types of such inquiries that must be addressed before it can be concluded that any such investigative body can serve as an accurate measure of network size and composition.

First, there is the question of the impact on representation of the duration of the commission. Not surprisingly, the number of organizations participating in a commission's deliberations increases, as does the duration of the commission, but not a great deal. As Table 7 shows, the correlation between the length of time the commission sits and the number of organizations represented is 0.336. This implies that a longer lasting commission may provide a more accurate picture of subsystem membership than shorter commissions. However given the weak nature of the correlation, even short commissions can be expected to provide fairly accurate assessments. This result was further confirmed through a means comparison, which we undertook in order to address the possibility of a nonrepresentative sampling of cases. In the means comparison the standard deviation from the mean of 71 was high at 121.73.

Similarly, commissions that traveled and would thus allow witnesses to appear before it at less cost, would also be expected to promote a better picture of subsystem size. As Table 8 show, this is certainly the case as the correlation between commission travel and the number of organizations appearing is 0.434. However, interestingly, when the commissions did travel, the number of individuals serving as witnesses declined (R -square = -0.338).

With respect to the issue of multiple versus single commissioners, Table 9 shows that this is not a significant indicator of representational activity. The correlation between the number of commissioners a commission has and the number of organizations serving as witnesses is very low (-0.041). Again, we computed a means test, which confirmed that there is no meaningful association between the number of commissioners and the number of organizations serving as witnesses.

Table 10 also reveals that there is very little difference between federal and provincial commissions (-0.165). That is, that policy networks at the provincial level are likely to be quite similar in terms of size to those at the federal level, with provincial commissions only likely to slightly smaller than their federal counterparts.

Table 8. Correlation of Commission Travel and Number of Organizations Serving

Correlations		Number of organizations serving as witnesses	Did the commission travel?
Number of organizations serving as witnesses	Pearson Correlation	1	0.434
	Sig. (2-tailed)	.	0.121
	N	24	24
Did the commission travel?	Pearson Correlation	0.434	1
	Sig. (2-tailed)	0.121	.
	N	14	21

Table 9. Correlation of Number of Commissioners and Number of Organizations Serving

Correlations		One or many commissioners	Number of organizations serving as witnesses
One or many commissioners	Pearson Correlation	1	−0.041
	Sig. (2-tailed)	.	0.849
	N	34	24
Number of organizations serving as witnesses	Pearson Correlation	−0.041	1
	Sig. (2-tailed)	0.849	.
	N	24	24

Table 10. Correlation of Number of Jurisdiction and Number of Organizations Serving

Correlations		Federal or Provincial Commission	Number of organizations serving as witnesses
Federal or Provincial Commission	Pearson Correlation	1	−0.165
	Sig. (2-tailed)	.	0.442
	N	115	24
Number of organizations serving as witnesses	Pearson Correlation	−0.165	1
	Sig. (2-tailed)	0.442	.
	N	24	24

Conclusions

This brief study suggests that the use of bodies such as Royal Commissions is a useful and cost-effective surrogate method for identifying network membership. The study also lends support to the findings of multiple comparative studies that policy networks tend to be quite small, averaging at approximately fewer than 100 organizational participants. This suggests, among other things, that research methods based on interviews and censuses, rather than sampling techniques, are superior techniques to use in their investigation and that even snapshot pictures provided by Royal Commissions and other similar types of commissions of inquiry are likely to provide a reasonable “realist” picture of subsystem membership and composition.

Moreover, with respect to the other two methodological issues raised above, the study reinforces the idea that networks at different levels—issue, subsectoral, and

sectoral subsystems—are related to each other in an overlapping but still aggregate form, rather than existing in a nested, pyramidal relationship.

However, the study also suggests that there are several caveats and limitations that must be placed on this methodology for subsystem analysis. First, the method provides no information whatsoever on the question of policy community–network relations. Such an analysis requires other methods, probably more akin to the mixed realist-nominalist methodology employed by Laumann and Knoke and others (Pollack, 2003). Second, it must also be stressed that investigators must be careful in distinguishing between research and investigative commissions—since only the former provide an accurate picture of subsystem size—and should seek out where they can, commissions that are of long duration and that travel as part of their inquiries. While the study indicated that other variables such as jurisdiction and number of commissioners have very little, or no, impact on measurements and assessments of subsystem size, others such as, travel, duration, and type do, and investigators of network activities should be aware of this in their investigations into network membership and behavior.

Notes

- 1 On this approach, generally, see McCool (1998) and Howlett & Ramesh (1995/2003).
- 2 Problems with their method of defining network boundaries have resulted in the so-called “inner circle” vs “hollow core” debate (see Moore, 1979, and Heinz et al., 1990).
- 3 Task forces of various kinds have also been used in nonparliamentary systems as a basis for network analysis. See, for example, Zafonte & Sabatier (1999).
- 4 On this methodology see Laumann, Knoke, and Kim (1985), Laumann and Knoke (1987, chap. 3), and Knoke et al. (1996, chap. 3).
- 5 This is slightly different from the 228 energy and 157 influential health actors found by Laumann, Knoke, and Kim (1985) during the Carter government period.
- 6 On the origin of this term see Freeman (1955), Cater (1964), and Freeman and Stevens (1987).
- 7 On the definition of a subsystem see Knoke (1993), Laumann & Knoke (1987), Sabatier and Jenkins-Smith (1993), and Marin and Mayntz (1991).
- 8 On this terminology see Jordan (1981, 1990a, 1990b) and Jordan & Schubert (1992).
- 9 Although it was originally created to investigate the actions of the Canadian Armed Forces, the recommendations of the Somalia Inquiry eventually led to the creation of the Military Ombudsman.

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