Assessing Instrument Mixes through Program- and Agency-Level Data: Methodological Issues in Contemporary Implementation Research

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Abstract

Theories of policy instrument choice have gone through several "generations" as theorists have moved from the analysis of individual instruments to comparative studies of instrument selection and the development of theories of instrument choice within implementation "mixes" or "governance strategies." Current "next generation" theory on policy instruments centers on the question of the optimality of instrument choices. However, empirically assessing the nature of instrument mixes is quite a complex affair, involving considerable methodological difficulties and conceptual ambiguities related to the definition and measurement of policy sector and instruments and their interrelationships. Using materials generated by Canadian governments, this article examines the practical utility and drawbacks of three techniques used in the literature to inventory instruments and identify instrument ecologies and mixes: the conventional "policy domain" approach suggested by Burstein (1991); the "program" approach developed by Rose (1988a); and the "legislative" approach used by Hosseus and Pal (1997). This article suggests that all three approaches must be used in order to develop even a modest inventory of policy instruments, but that additional problems exist with availability and accessibility of data, both in general and in terms of reconciling materials developed using these different approaches, which makes the analysis of instrument mixes a time-consuming and expensive affair.

Introduction

Theories of policy instrument choice have gone through several "generations" (Goggin, Bowman, Lester, & O'Toole, 1990; O'Toole, 2000) as theorists have moved from the analysis of individual instruments (Salamon, 1981, 2002) to comparative studies of instrument selection (Bemelmans-Videc, Rist, & Vedung, 1998; Howlett, 1991; Peters & Van Nispen, 1998; Varone, 2000) and the development of theories of instrument choice (Hood, 1986; Linder & Peters, 1989; Trebilcock & Hartle, 1982).

In so doing theorists and practitioners have moved well beyond simple dichotomous zero-sum notions of instrument alternatives—like "market vs. state" or "carrots vs. sticks"—which characterized earlier studies (Howlett, 2004). Theorists, administrators, and politicians have expanded the menu of government choice to include both substantive and procedural instruments and a wider range of options of each, and to understand the important context-based nature of instrument choices (Howlett, 2000). "Next generation" instrument choice theory has now moved beyond tool selection, per se, to address a series of concerns involved in designing and adopting optimal "mixes" of instruments in complex decision-making and implementation contexts (Bressers & O'Toole, 2005; Eliadis, Hill, & Howlett, 2005).

Current "next generation" theory on policy instruments, such as that owing its origins to Gunningham's work on "Smart Regulation," thus now centers on the question of the "optimality" (Campbell, Johnson, & Larson, 2004; Grabosky 1995; Gunningham, Grabosky, & Sinclair, 1998; Howlett & Rayner, 2004) or "coherence"

of instruments (Bressers, Fuchs, & Kuks 2005; May, Jones, Beem, Neff-Sharum, & Poague, 2005) within the mixes of tools that comprise governance strategies. Scholars need more empirical analysis of instrument mixes, however, in order to test their models and provide better advice to governments about the process of tool selection and how to better match tools to the job at hand. However, empirically assessing the nature of instrument mixes is quite a complex affair, involving considerable methodological difficulties and conceptual ambiguities related to the definition and measurement of instruments and their interrelationships and the nature of the data that must be collected in order to assess the components of an instrument mix.

Using materials generated by Canadian governments, this article examines the practical utility and drawbacks of three techniques used in the literature to inventory instruments and identify the instrument components of governance ecologies: the orthodox "policy domain" approach (Burstein, 1991); the "program" approach developed by Rose (1988a), and the "legislative" approach used by Hosseus and Pal (1997). This article suggests that all three approaches must be used in order to develop a reasonable inventory of policy instruments, but that additional problems exist with availability and accessibility of data, both in general and in terms of reconciling materials developed using these different approaches, that makes the analysis of instrument mixes a much more time-consuming and expensive affair than many investigators would anticipate.

Studying Instrument Mixes

Policy instruments are techniques of governance that, one way or another, involve the utilization of state resources, or their conscious limitation, in order to achieve policy goals. They are the "tools of government," the mechanisms and techniques used to implement or give effect to public policies (Salamon, 2002). The study of these tools properly falls within both the domain of political science and studies of public administration and law but also, since their use affects the behavior of individuals in society as they go about their daily tasks, within the realm of economics. Not surprisingly, therefore, the study of policy instruments has long been characterized by the existence of two virtually independent disciplinary streams of literature (Howlett, 1991). There is the study of policy instruments undertaken by economists and the study of policy instruments undertaken by political scientists and students of its cognate disciplines, and the two approaches have differed substantially both in terms of general orientation and methodology (for sharp contrasts in early work on the subject see Edelman, 1964 and Kirschen et al., 1964).

Both sets of early investigators were guilty of oversimplifying instrument use and selection. "First generation" economists studying the tools of government were concerned largely with the study of business–government relations, and with the effects of state regulation and economic policy formation on business efficiency. Although internecine debates between neoclassical and welfare economists over the concept were sharp, first generation instrument choice economists concentrated their efforts upon identifying the market failures that would justify government intervention in market exchange and the possible governance techniques that could

"correct" those failures (Bator, 1958; Breyer, 1979; Zeckhauser & Schaefer, 1968; Zerbe & McCurdy, 1999).

First generation political scientists and their colleagues in related disciplines rejected this deductive approach to instrument choice, preferring to develop their theories inductively from the empirical record of actual government decision-making processes. Welfare models were viewed as deriving rationales for policy instrument choice based on the discussion of what governments ought to do, rather than on the basis of empirical investigations into what they actually do. Political scientists, as a result, rarely assumed that policymakers chose governing instruments in order to fine-tune the economy, but attributed political rationales—such as ideological propensities, partisan electoral calculations, or credit-claiming and blame-avoidance behavior, and others—to instrument selection (Majone, 1989; Salamon, 1981; Weaver, 1986). Although it was acknowledged that, in some circumstances, governments might well choose particular instruments based on their technical efficiency and theoretical appropriateness, it was argued that this was likely to occur only in very specific circumstances when more political considerations could be held constant or at bay; such as when economists controlled the decision-making process and had a relatively free hand in so doing—as occurred occasionally, for example, in areas such as fiscal and monetary policymaking (Markoff & Montecinos, 1993). First generation studies of policy instruments conducted by political scientists thus tended to be motivated precisely by the desire to understand what economists simply assumed: the "rationale for policy instrument choice." Public policymakers were not generally thought to be driven by questions of theoretical purity—especially when, as is the case with economic theory, the theory is contested—but rather by a more overt political calculus (Lowi, 1966; Trebilcock & Hartle, 1982; Wilson, 1974).

These currents in early, first generation work often led to simplistic, cleaver-like, recommendations for tool selection, tending to promote a Manichean or zero-sum view of instrument options (Balch, 1980). This was especially true for economists, as most neoclassical accounts considered many governing instruments to be inherently inefficient on technical grounds since they were viewed as distorting production and consumption decisions in the marketplace. As a result, many early economistic accounts restricted governments to a very limited set of "legitimate" policy tools; notably the direct provision of pure public goods through government departments and agencies (Wolf, 1987, 1988; Le Grand, 1991). Although the recommendations of political scientists were less sure, they too tended to caution against the use of "too much" government authority, which was feared could yield diminishing, unpredictable, or counterproductive behavioral responses in target groups (Schneider & Ingram, 1990, 1993, 1994) and expressed a definite preference for the use of "less coercive" instruments (Doern & Phidd, 1988; Hood, 1983). Both these kinds of early instrument analyses had three problems. First, they tended to promote a misleading view of either the purely technical or purely political nature of instrument choices. Second, they tended to portray instrument choices in stark, "good and evil" terms, embracing, for example, "good" pro-market choices and "evil" nonmarket ones (Woodside, 1986). And third, they contributed to a growing gap between complex administrative practices on the ground and overly simplistic theoretical discussions and inquiries.

Not all early studies shared these characteristics, of course, and some analysts presented more complex and nuanced models and analyses of instruments and instrument choices (see, for example, Bressers & Klok, 1988; Hood, 1986). Building on the base of case studies and insights developed in these works, "new" or "second generation" students of instrument choice attempted to develop more nuanced and relevant models of instrument selection processes (Bressers & O'Toole, 1998; de Bruijn & Hufen, 1998; Van Nispen & Ringeling, 1998). Recent work on instruments in this vein has attempted to synthesize some elements of the earlier approaches to the subject—for example, applying different models of economic thinking such as transaction cost theory to instrument choices (Wood & Bohte, 2004)—and to assess the question of policy instrument mixes and the potential to develop optimal policy instrument designs in complex multi-instrument settings (Grabosky, 1994; Gunningham & Young, 1997). This latter work represents an effort to correct many of the flaws of first generation thinking and to correct the disjuncture between administrative practice and instrument analysis toward which it led.

A very important difference between first and second generation instrument theory in this respect concerns the fact that while early students of instrument choices focused on decisions to adopt *individual* instruments, administrative practice usually involves the use of *multiple* tools in policy instrument mixes (Gunningham et al., 1998; Gunningham & Sinclair, 1999; Gunningham & Young, 1997). The nature of these mixes or "governance strategies" remains understudied, however, and questions about appropriate instrument choices in these contexts remains much less well understood than are choices to select specific types of instruments in abstract or relatively simple situations (Eliadis et al., 2005).

Moving from a focus on single instruments, second generation analysts look instead at complementarities and conflicts within instrument mixes and adopt a much more flexible and less Manichean view of instrument use. Moving well beyond considerations of "good and evil," second generation scholars have emphasized the need to design appropriate instrument mixes. As the concept has evolved, second generation theory has come to focus on a small number of key precepts that embody current thinking about the "scalpel" approach to instrument use:

1. The importance of designing policies that employ a mix of policy instruments carefully chosen to create positive interactions with each other and to respond to particular, context-dependent features of the policy sector.

2. The importance of considering the full range of policy instruments when designing the mix rather than assuming that a choice must be made between regulation and markets.

3. In the context of continuing pressures on governments to do more with less, to suggest the increased use of "alternative" tools such as incentive-based instruments, various forms of self-regulation by industry, and policies that can employ commercial and noncommercial third parties to achieve compliance, such as suppliers, customers, and a growing cast of auditors and certifiers.

4. Finally, the importance of the search for new network-appropriate procedural policy instruments such as information instruments, and various techniques of network management such as the use of advisory committees and public consultations are seen as particularly important to meet the challenges of governance (Howlett & Rayner, 2004).

Identifying the Elements of a Policy Mix

Second generation instrument scholars stress the importance of context in understanding instrument choices and designing optimal, or at least noncounterproductive instrument mixes (Bressers & O'Toole, 2004). For second generation scholars the key question is no longer so much "why do policymakers utilize a certain instrument?" as it was for their first generation counterparts, but "why is a particular combination of procedural and substantive instruments utilized in a specific sectoral context?"

However, answering this question is not simple. It requires, foremost, the ability to identify and inventory the instruments used in existing mixes in order to see how they interrelate, if any tools are missing, and which might be counterproductive or synergistic in their effects (Webb, 2005). That is, it must be possible to construct a "profile" of a governance strategy in order to assess questions of the optimality of instrument design. However, this is much easier to propose than to accomplish. In this section the basic elements of such a profile are identified and the problems involved in their operationalization are addressed as a first step toward assessing the practical difficulties associated with constructing policy inventories required for the analysis of complex instrument mixes.

Types of Policy Instruments

First generation efforts to systematically study policy instrument use quickly generated a large academic literature. Studies in Canada and elsewhere generated useful taxonomies (Tupper & Doern, 1981; Vedung, 1997), and shed light on significant subjects such as the reasons behind shifts in patterns of instrument choices associated with the waves of privatization and deregulation that characterized the period (Howlett & Ramesh, 2003).

Most early first generation studies, however, focused exclusively upon "substantive" instruments, that is, those that directly affect the production and delivery of goods and services in society. These included the construction and establishment of regulatory and other political and administrative agencies and enterprises; traditional financial inducements, and the "command-and-control" measures adopted by administrative agencies. Much less attention was paid by first generation scholars to the systematic analysis of their "procedural" counterparts, that is, to those instruments like interest group funding, judicial review, and other activities designed to affect policy processes and, only indirectly, policy outcomes. Nevertheless, a great deal of conceptual progress has occurred over the past two decades, which can be generalized to all types of instruments. Taxonomies, for example, have been provided by many authors, one of the most well-known being that devel-

Table 1. A Taxonomy of Eight Basic Policy Instrument Components of a Policy Mix

(Cells provide examples of instruments in each category.)			
	Nodality	Principal Governing Authority	Resource Used Treasure	Organization
Substantive	Advice	Regulation	Grants	Administration
General Purpose of	Training	Self-Regulation	User Charges	Public Enterprises
Instrument Use	Reporting	Licences	Loans	Policing
	Registration	Census-taking	Tax Credits	Consultants
			Polling	Record-Keeping
Procedural	Information provision/ withdrawal	Treaties Advisory committees/ commissions	Interest group funding/ creation	Conference Commissions of Inquiry Government Re-organizations

Source: Adapted from Hood (1986), pp. 124–125, and Howlett (2000), pp. 412–431.

oped by Christopher Hood (1986; see also Anderson, 1977). In this scheme, instruments are grouped together according to whether they rely upon the use of "nodality" (or information), authority, treasure, or the organizational resources of government for their effectiveness. This scheme can be used to classify both substantive and procedural instruments and provides a good template of the eight basic types of instruments of which any policy mix will be composed (Howlett, 2000). A taxonomy of policy instruments based on Hood's schema, which can be used as an overall template for assessing the potential components of any policy instrument mix, is presented in Table 1.

This taxonomy generates a set of eight basic types of instruments from which any policy mix is constructed. An assessment of the adequacy, coherence, or optimality of instrument choices within an instrument mix thus requires that the specific features of particular mixes can be identified and the various cells in an issue or sectoral profile can be filled in.

While this sounds straightforward, in fact many issues arise with respect to data availability and provenance which make it very difficult to complete this inventory. The approaches generally taken to assessing the instrument components of a policy mix are discussed next. Another section applies these to four issues areas in Canada and assesses their strengths and weaknesses.

Three Methods for Studying Instrument Mixes

The question posed by this article is: if one were to completely describe the range of policy instruments for policy domain x, what would one have to do in methodological terms in order to do so? Is there a simple, easily generated, general inventory methodology that could be derived and applied across policy domains in any single jurisdiction (or across the same policy domain in different jurisdictions) to arrive at a comprehensive inventory that can serve as the foundation for further inquiries into design issues such as optimality and coherence?

Three techniques applied over the past 15 years to assess the instrument components of governance strategies are set out below.

The Conventional Approach: Instrument Use in Policy Domains—Conventional practice on the part of policy scholars entails deductive assessments of the implicit boundaries and categories that define a policy sector based on functional assumptions and logic (Knoke, 2004). In this approach, an effort is made to isolate instruments on a sectoral domain basis, using general categories of policy sectors or "fields" such as health policy, energy policy, social policy, and so on (Burstein, 1991). Hence, for example, transportation policy is about moving people and objects through space. Thus, transportation policy is mainly defined by policy statements with the word "transportation" or "shipping" or similar synonyms in them and the boundaries of this domain extend to any government decisions or actions outlined in those statements. The contours of a policy or issue domain then are defined by the initial choice of policy rubric and the contents of the domain filled out by searching government documents for keyword entries that highlight decisions and actions taken under that rubric.

The choice of initial rubric in this approach, therefore, is crucial, but remains at best conventional and at worst idiosyncratic, meaning that different investigators often describe domains differently, arriving at different interpretations of their contours and contents. The social construction of domain descriptors leads to problems of accuracy and replicability, among others. These problems can be offset by attempting a more inductive effort to identify domain boundaries with actor behavior through an analysis of policy network structure. That is, domain boundaries can be linked to patterns of activity on the part of key policy actors, with the boundary of actor networks assumed to be coterminous with that of a domain (Knoke & Laumann, 1982). However, the need for extensive analysis of policy community and network structure makes this technique extremely time-consuming and expensive and does not necessarily overcome the problem with initial domain definitions, which plague the less expensive content analysis technique (Heinz, Laumann, Salisbury, & Nelson, 1990; Knoke & Laumann, 1982). These concerns for accuracy, time, and expense using conventional domain approaches led to two other approaches—the "program" approach advocated by Richard Rose (1988a), and the similar "legislative" approach utilized by Pal and Hosseus (1997)—that attempted to be less subjective in their definition of the fundamental units to be examined for instrument use. Both argued that utilizing existing governmental domain definitions could result in an easily obtained, inexpensive, and accurate, representation of activity within a domain.

The Program Method: Discerning Instrument Use from Public Accounts—One method of overcoming these methodological and operational issues in conventional domain-based research was suggested by suggested by Rose (1988a, 1988b), who advocated using government programs as the basis for domain definitions. In this approach records of government programs are scoured to see how governing resources, especially financial or treasury resources, are used. This technique involves the examination of formal government organizational charts, public accounts, and other such records, to discern patterns of government activity in program areas. Programs can be clustered into domains associated with formal government organizations, allowing a more "objective" and replicable set of domains to be identified and analyzed.

In advocating this approach, Rose argued:

> The program approach readily lends itself to empirical and quantitative analysis, for it defines the activities of government in terms of concrete concerns of operating agencies and the Ministry of Finance rather than abstractions about never-never land. By definition, programs are located in public sector organizations. Since public agencies are good record-keepers, there is a host of information available, even if not always in readily useable form, about public employment (. . .) as well as program expenditure. Laws too are indexed, if not codified, under a variety of program-relevant heads (. . .). Programs of major resource significance are usually the responsibility of a particular ministry and receive careful attention in public budgets and other official statistics (Rose 1988a, pp. 223–224)

This approach has been argued to provide a useful method for assessing government size and the dynamics of government growth (Rose, 1988b) and this "program approach" has also been applied usefully to the study of policy tools by, among others, Bressers and Honigh (1986) and Landry (1991). Although Rose clearly intended his method to involve more than just a search of public expenditures, in practice, as this technique has been applied by Landry and others, it has mainly involved scouring public accounts to see what instrument types can be discerned from the government's plans, or actual records of expenditures (Landry, 1991) and involves the "translation" of program expenditure items into instrument categories.

The Legislative Method: Discerning Instrument Use from Laws and Regulations—As Rose had noted, "To see the activities of government in program terms incorporates public expenditure data, but it does not assume that the multiplicity of government's activities can be reduced to a single money measure. The laws that authorize programs and the public employees who carry them out are also taken into account by the program approach" (Rose, 1988a, p. 222). In their 1997 work on Canadian shipping policy, Pal and Hosseus made inroads toward refining Rose's admonition, creating a systematic method for defining a given "policy space" through the systematic inventory of policy instruments listed or identified in legislation and regulations. They began with the program framework established in a policy domain (transportation), then examined key legislation in the area for instances of policy tools related to a subdomain (shipping). They argued that the content of the shipping subdomain and its boundaries could be discerned from an examination of the nature of the instruments of which it was comprised, as set out in legislation and regulations adopted toward the subsector. Although their effort was intended to arrive at an objective definition of a domain or subdomain boundary, their work can be "reversed" to supply a third method for instrument inventory based on the analysis of the policy space created by legislation and regulations. That is, the content of laws and regulations selected on the basis of keyword searches, as Rose suggested, can be used to identify the tools they create to implement policy. These tools can then be grouped together to provide an inventory of the instrument mixes found in a policy space, complementing the analysis of public accounts taken under the more traditional program approach.

An Empirical Examination of Four Canadian Cases: Project Design

The discussion above highlights the need to at least combine the latter two methods in order to provide an inventory of governing tools in a policy domain using a program/legislative approach. That is, using Hood's categories from Table 1, the "program approach" utilizing public accounts may generate a reasonable list of treasury-based and possibly organizational instruments, but probably not low- or no-cost procedural ones, nor information and authoritative tools. Similarly, Pal and Hosseus's legislative technique may generate some additional insights into some procedural and authoritative tools, but probably not informational or others such as financial tools, which do not require legislated government mandates (Pal & Hosseus, 1997, p. 408).

An obvious first step in the attempt to develop an inventory of policy instruments in a policy mix or space, then, is to combine these two techniques since they complement each other in terms of eliminating some of the gaps present in each approach. However, even here it is clear that this combination will generate only a partial inventory of tools used in a sector, domain, or policy "space" and must be complemented by other tools such as document content analysis and interviews with key officials in order to capture the entire range of tools present in a sector. In what follows, these techniques will be used in four test cases of Canadian policymaking to see how extensive an inventory they can provide and if, in fact, this method can substitute for the more expensive and time-consuming conventional actor-based domain boundary specification technique.

The Choice of Cases

Both the program and legislative approaches to instrument inventories rely on the association of government agencies and programs to define a policy domain. However the relationship between a domain and an agency and program is not one-to-one. That is, multiple possibilities exist for the kinds of policy spaces that can exist given specific configurations of programmes and agencies. These are set out in Table 2.

To assess the utility of the program and legislative approaches to inventory assessments, it is necessary to control for the diverse range of policy spaces that exist in governments. To assess the usefulness of these approaches, they were applied to four cases chosen from the activities of the federal government of Canada, each of which represents a distinct type of policy space. The simple policy space was represented by the issue area of *pharmaceutical drug pricing* because this area involves only one agency (the Patent Medicines Review Board) and one basic program (drug price setting). The cross-bureaucratic policy space was represented

Table 2. Types of Policy Space by Program and Agency

		Number of Agencies	
		Single	**Multiple**
Number of Programs	**Single**	Simple Policy Space	Cross-Bureaucratic Policy Space
	Multiple	Intra-Bureaucratic Policy Space	Complex Policy Space

Table 3. Case Selection by Type of Policy Space

		Number of Agencies	
		Single	**Multiple**
Number of Programs	**Single**	Simple Policy Space *Pharmaceutical drug pricing*	Cross-Bureaucratic Policy Space *Endangered species protection*
	Multiple	Intra-Bureaucratic Policy Space *Marine shipping*	Complex Policy Space *Inland water resources*

by the federal policy on *endangered species*, which involves multiple agencies (Environment Canada, Natural Resources Canada, Fisheries and Oceans Canada) dealing with a single program (species-at-risk legislation). The intrabureaucratic policy space was represented by the federal policy on *marine shipping,* which involves a dominant single agency (Transport Canada), but multiple programs in areas such as safety, pollution prevention, harbor and navigation management, and security, among others. The complex policy space was represented by the federal policy on *inland water resources,* which involves multiple agencies (Environment Canada, Health Canada, Natural Resources Canada, the International Joint Commission, Aboriginal Affairs, Fisheries and Oceans, and others) and multiple programs in areas such as pollution control, water and sewage infrastructure, food safety regulation, and others. The fit between the cases and domain types is set out in Table 3.

Following the tenets of the program and legislative approaches, each domain space was examined looking at such sources as public accounts, legislation, and regulations for one year—2002—in the attempt to fill in the "boxes" in the modified Hood table of substantive and procedural policy instruments listed in Table 1. The possible outcomes of these searches in terms of inventory construction for the four cases under examination are set out in Table 4.

Table 4. Possible Inventory Outcome by Completeness of Data

I. When Data is Available

		Data Availability for *All* Cases	
		Full	**Partial**
Data Completeness for *Each* Case	**Full**	*Successful* Inventory Construction	*Partially Successful* Inventory Construction
	Partial	*Limited Successful* Inventory Construction	*Partially Failed* Inventory Construction

II. When No Data is Available—*Failed* Inventory Construction

Information Sources Utilized

The information sources used in the study are listed in Table 5. These combine public accounts and legislative records with other information available in government databases and documents and through personal interviews with government officials.

Table 5. Primary Information Sources by Instrument Type Using Program/Legislative Methods

	Substantive	Procedural
Nodality	Public accounts—advertising expenditures by agencies or programs; Department plans and priorities; Department annual reports; Treasury board departmental performance reports; Interviews	Freedom of Information request databases (CAIRS) for extent of requests and response times; Annual reports for attitudes toward FOI by agencies
Authority	Web-based departmental records of legislation and regulations by domain and agency keywords; Also Department of Justice central database	Annual reports of advisory committees; Private databases of advisory committees; Interviews with government officials
Treasure	Public accounts; Departmental/agency annual reports; Treasury board departmental performance reports; Auditor General reports Interviews	Statistics Canada surveys of funding sources of voluntary and nonprofit groups in Canada
Organization	Civil Service handbooks; Telephone books Organization charts	Annual reports of key agencies; Civil Service handbooks; Telephone books; Organization charts

An Empirical Examination of Four Canadian Cases: Case Results by Instrument Category

Substantive Nodality

The search started with a survey of the Internet-accessible 2002 Canadian federal government Public Accounts. Although an expenditure amount was provided under the heading "Information" (see Vol. 2, Part 1, pp. 17–18), the dollar amount provided is an aggregate figure of total departmental expenses related to information instruments and thus could only provide information on single program agencies such as the Patent Medicines Review Board.

Departmental documents were then searched for any mentions or highlights of informational instrument use in 2002 by the departments and agencies concerned. These included surveys of department plans and priorities, department annual reports, and treasury board departmental performance reports. Again, no information at a disaggregated level existed that could be linked to the specific agencies and programs under examination.

The search for substantive informational instruments linked to a specific policy issue hence proved to be very difficult. The federal government does not actively or consciously collect data related to informational instrument use in three of our investigation's four policy issues.

Subsequently, phonecalls were made to federal departmental information officials and treasury board employees in the attempt to locate data or sources for each of the four policy areas under investigation. No data or leads could be provided by these officials who were concerned with the political sensitivity of advertising expenditures given a major investigation under way in 2004–2005 into the possibility of kickbacks from such expenditures into the coffers of the governing party during the period under examination ("sponsorgate"). As stated by one departmental official, much of this inventory data may require filing multiple specific access-to-information requests to government, asking for specific searches related to each of the four policy areas investigated to be undertaken by

government officials at some costs and expense in terms of time and resources expended.

Substantive Authority

The federal government's departmental Internet web sites offer the downloadable text of all acts and regulations for which the minister is responsible or partially responsible. Another important resource was the federal Department of Justice, which serves as a central depository containing all federal acts, statutes, and regulations. The department's web site provides users with a search interface allowing download capability and access to various acts and regulations specific to departments and agencies. As Pal and Hosseus had done, these were examined to investigate specific issue areas and adequate information was generated to allow a reasonable inventory to be collected in each of the four issue areas examined. However, several caveats and limitations exist with respect to the quality of results in the different policy spaces.

   The first immediate concern was whether our placement of the authority instrument into our initial policy areas would provide an exhaustive inventory of all relevant statutes and regulations related to those areas. The federal government's departmental web sites categorize and present their statutes and regulations under their own particular organizational schemes. For example, the two policy issues we investigated for environment (e.g., endangered species protections—"species at risk"—and water resource management) coincided with the way Environment Canada lists their legislation online. Environment Canada's website outlines the relevant authoritative instruments found in these two policy issue areas. As a result, the inventory of instruments in these two policy spaces appeared to be relatively simple. However, since both issue areas cut across multiple agencies, it was not clear whether the list was exhaustive since additional acts under other department or agency jurisdictions are not necessarily included in the Environment Canada database. The governmental departments generally list only those acts and regulations that they are solely responsible for, and therefore, do not necessarily to list how other related department's statutes may coincide with their program. Hence, concerns over "spillovers" of other authority instruments from other departments were not systematically mitigated. Interviews with departmental officials (depending on the policy issue under investigation) could help mitigate these concerns, as they would help assist in confirming the completeness of lists.

   This was less of an issue with single agency spaces, however. The Pharmaceutical Manufacturers Pricing Review Board (PMPRB) under Health Canada is responsible for the policy logistics surrounding the issue of drug patent pricing. The PMPRB's web site clearly lists which authority instruments they use. Although Health Canada's own web site lists the same authority instruments as those used by the PMPRB, the online statutory lists that Health Canada provides are amalgamated collections that are not clearly demarcated as to which agency is responsible for which authority instrument. The policy issue of shipping had already been demonstrated by Pal and Hosseus to be reasonably confidently inventoried using this methodology. Hence, the results in this area varied by issue area with single-

agency cases being relatively successful and multiple-agency cases somewhat less so due to the possibility of unresolved jurisdictional spillovers. However, this could be corrected by interviews.

Substantive Treasury

Federal documents were searched to see if treasury instruments could be inventoried according to our policy issue categorization scheme. Public Accounts 2002, departmental/agency annual reports (Environment, Transport, Pharmaceutical Manufacturers Pricing Review Board), treasury board departmental performance reports, and Auditor General reports were searched. This initial search failed to inventory the majority of substantive treasury instruments in most of our cases due to definitional conflicts surrounding the way in which the federal government publishes its treasury data. Much of the federal data is provided in an aggregated, general format and not by program, meaning that aggregate figures would be provided for such treasury instruments as grants and subsidies, but would be related to the general department as a whole, rather than to any specific policy issue or program.

Another problem occurred with the government aggregating policy issue areas into programs that did not fit our own categories for these activities. For example, one policy issue we wanted to inventory, species at risk, was reported under Environment Canada's program called "Nature," which contains other policy issues such as the management of migratory birds, wetland management, and freshwater management. Thus, the reporting figures that are given in such documents as Public Accounts 2002 are aggregate figures relating to overall departmental program categories, not to specific policy issues. As a result, many of the budgeting- and treasury-related documents researched proved irrelevant.

Many of the problems occurring with this instrument, as well as with the others, were due to the federal government describing itself in terms of purposes or "fields of concern," which did not match our case specifications and which proved very difficult to "translate" into case terms. This made researching each of our initial policy issues very difficult, both in terms of researching and locating data through publicly available documents.

In addition, phonecalls were made to departmental and treasury board officials in attempting to locate documents that would possibly provide us with some sort of record of substantive treasury instruments used for 2002. Subsequent phone conversations proved fruitless, as departmental officials gave only aggregate data already published in such documents as Public Accounts, which reports along departmental program lines. Phone conversations with departmental and treasury board officials resulted in no leads. Many of these officials commented that no easily (publicly) accessible data or records existed that would provide us with details as to treasury instrument use under each of our specific policy issues. The basic consensus was to go back to Public Accounts and treasury board departmental performance reports, and if the data that was provided there was not specific to our needs, then interviews and Access to Information (ATI) requests would have to be made to each of the departments.

The problem was less acute, of course, in dealing with single agency areas, especially single agency/single program areas such as pharmaceutical pricing. A successful attempt at treasury instrument inventory occurred in the "drug patent" policy issue area. The PMPRB provides general Public Accounts data relating to treasury instruments used in drug patent pricing policy, which coincided with our interest in drug patents as a policy area to inventory. The existence of a departmental agency responsible for the reporting of this single policy area, drug patents, made a basic inventory of treasury instruments possible. The other policy issue areas involved multiple departments reporting on the program level or enveloping multiple, related policy issue areas proved much more difficult to inventory.

Thus, in terms of the initial policy issues areas we wished to inventory, the government did not publicly provide specific information as to which substantive treasury instruments were utilized in 2002 in three of our four cases and this category can be considered a partial failure area in terms of overall inventory construction. Access to information requests in multiagency areas or specific special purpose databases, for example, Revenue Canada tax expenditure accounts, would be required to correct these problems, but, even here, accessing data on complex issue areas might remain highly problematic.

Substantive Organization

Research undertaken to identify examples of organizational instrument components of policy mixes followed a three-fold process. First, an attempt was made to determine whether there was already-published literature in this area that would uncover the organization of relevant policy areas. This investigation involved author, subject, and title catalogue searches in university libraries for Government of Canada staffing manuals and other publicly available work relevant to the project parameters. Second, pertinent ministry, department, and program web sites were searched electronically. And finally, a much broader net was cast where the search parameters were expanded to include other possibilities such as the National Archives and Depository Services documents on government organization.

While the research for the organizational makeup of relevant ministry and department arrangements proved relatively straightforward, a number of challenges impeded progress. For example, it was thought that the federal government, through either Civil or Public Service Commissions, would publish handbooks that described specific departmental and ministry organizational frameworks in detail. Following the protocol outlined above, however, no such specific publications could be found for 2002. Reliance therefore fell upon more general documents surveying the entire government apparatus. The level of detail of these documents was not generally high enough to allow an accurate picture of organizational structures to be developed in most of the cases under study. In the water resource management area, for example, the scope of activities not only covered the geophysical management of large bodies of water like the Great Lakes and many associated river systems, but also related boating and water-based recreational activities, drinking water, waste management, and other matters (such as trade in water resources) that are dealt with by specific branches and sections of

multiple ministries. Without detailed ministerial level data it is difficult to arrive at a complete inventory of these agencies and instruments.

Although we did experience partial success insofar as being able to identify some organizational characteristics of appropriate ministries and departments in simple agency areas, government reporting practices were neither systematic nor consistent enough to cover all issue areas for the year in question. Again, single agency case areas tended to be easier to inventory, with greater confidence in the accuracy of results obtained. In the case of multiprogram and multiagency policy spaces, time-consuming and expensive searches of departmental libraries and telephone books and the identification of key decision makers/bureaucratic players for interviews in relevant government departments could yield more meaningful results, but at a much greater cost in terms of time and effort needed to secure an accurate inventory.

Procedural Nodality

This is a difficult instrument to inventory as it involves identifying tools and propensities of agencies and program officials toward activities such as the release or withholding of program information and agency data. Neither the program (accounts) nor legislative approaches (laws and regulations) will shed much light on these activities. Instead, a database of federal Access to Information requests maintained by the federal Treasury Board, "The Coordination of Access to Information Requests System (CAIRS)," was examined to try to construct a relative score of the level of responsiveness of different agencies to case area Freedom of Information (FOI) requests. Maintained by the Department of Public Works and Government Services, monthly reports from the CAIRS database can obtained from Treasury Board Secretariat web site.

The CAIRS database provides monthly-generated lists of Access to Information requests for each department. Yet, the problem here is the data does not directly meet the study needs. The data only provides the federal department responsible for the request, the title of the request, and an abstract line descriptor describing to Treasury Board officials the nature of the request. What is provided does not make it possible to discover how many requests were made under the policy issues of concern. In addition there are concerns with the level of completeness of the database even for single-agency or single-program policy spaces where data might be retrieved. There have been initial implementation problems with CAIRS, as some departments are not providing comprehensive reports listing all Access to Information requests.

Interviews with government Freedom of Information Officers might provide some indications of the types of tools used by specific government agencies but, again, aggregating data for multiagency program areas might prove problematic.

Procedural Authority

This area is also one in which examination of the accounts and laws mandated by the program/legislative approach will yield very limited results as instruments in this category include such notable ones as creating advisory groups for govern-

ments agencies, a process which requires very little expenditure and where in Canada, unlike the United States and some other countries, no mandatory reporting legislation for advisory committees exists.

Although the federal government depository libraries provide online access to catalogues indexing many federal advisory committee reports, it is not apparent prima facie how a particular advisory committee fits into our initial policy issue case study areas. Also, the depositories do not provide an exhaustive collection of committee reports. The main depository for all committee records is stored on microfiche at the National Archives of Canada and can only be examined by hand in Ottawa.

The federal government does not centrally administer advisory committees, nor provide annual reports on these committee activities in a systematic manner across departments. No real systematic recognition is given to the record keeping of these advisory committee activities. Some private databases exist such as the Canadian Research Index, an electronic database containing available advisory committee reports. This database can be accessed only through a university library web site portal, however, and does not have public access.

Interviews with federal departmental officials would have to be made in this area regarding what particular advisory committees were utilized for 2002. Through this technique it should be possible to collect a reasonably complete list of these committees and other instruments in this category but at great time and expense.

Procedural Treasure

This area involves such activities as the provision of funding to interest groups, a subject that should generate reports inventoriable using the program (accounts) approach. Hence, with respect to treasure as a procedural policy instrument, we attempted to find money distributed from the federal government to nongovernmental organizations and nonprofit organizations in the four policy areas in 2002.

Research in this instrument area also followed a three-stage process. Published ministry or department annual reports were searched. Next, the relevant government web sites were consulted in order to locate relevant data sources such as departmental plans and priorities along with actual expenditures to determine whether and what dollar amounts were transferred to what organization. Third, we extended our search parameters to include any other source we thought might assist in our investigation such as Treasury Board and public works performance reports along with applicable parliamentary committees and government publications such as the *Parliamentary Gazette*. This broader search strategy included contacting recognized experts in the field for advice and searching other nongovernment data sources related to our inquiry. This search turned up a major survey of nonprofit group funding conducted in 2002 by Statistics Canada—The National Survey of Non-profit and Voluntary Organizations—along with a consortium of different organizations including the Canadian Centre for Philanthropy, which became available in late September 2004. Unfortunately, however, the data in this report was based on qualitative surveys taken in 2003, was often based on sample sizes too small to be of significant value in the areas we examined, and did

not associate receipt of government funds with specific government agencies or detail the tasks performed by each group in exchange for remuneration.

Similar to our findings with respect to substantive treasury instruments, much of the public information available on the distribution of money to nongovernmental organizations was far too general to be of any significant use. For example, many of the federal and nongovernmental documentation we examined was published in aggregate terms; that is, while general amounts of resource distribution was available that distinguished the type of spending that occurred, such as grants or subsidies, these figures were generally related to a particular department or program, rather than the specific issue area under investigation and did not break down these figures according to the type of recipient. The *Federal Guidebook*, which consisted of 87 different chapters that detailed every major government department and program, for example, provided only a brief summary of departmental objectives, spending estimates, and program and business line structure along with personal and financial requirements from the last fiscal and the upcoming year. Although the numbers are broken down into expenditure area or type, they were too general for our purposes, simply documenting the amount instead of where or what group it went to. It is also the case that several groups or organizations may share the responsibility for expenditures related to different programs which adds to the level of difficulty encountered attempting to inventory this particular instrument type.

This area, then, proved to be an inventory failure in all four areas examined using public accounts data. However, interview with officials in simple agency areas should be able to reconstruct the pattern of expenses in these program areas. Capturing the same data for more complex areas would remain much more problematic, but would be possible in theory.

Procedural: Organization

Similar to the situation with substantive organizational tools, this phase of the project emphasized a specific to an expanded general research strategy searching for examples of government reorganization and innovation for the year 2002 in the case areas under examination. First, we looked for published literature such as civil or public service commission handbooks. Second, electronic searches took place where appropriate departmental, ministry, and program web sites were consulted to document their organizational characteristics from annual departmental and ministry reports. And finally, a much broader search strategy took place where our investigation took us to larger omnibus ministries and departments. In this phase, we examined records from entities such as Public Works, the Treasury Board, the Auditor General, the National Library, the Communications Coordination Services branch, and other communications aspects of the federal government and nongovernmental resources we thought might publish the structural details we sought.

We found that the smaller entities were oftentimes subsumed under the much larger focus of their relevant ministry and that the federal government is not always consistent about the way in which this aspect of their organizational structure is documented. Nor did we find there is a great deal of uniformity across govern-

ment or current public information regarding the availability of literature that documents organizational changes and innovations.

The details of the organizational dynamics we did uncover in most cases were too general for our purposes because the traits were listed at a broad departmental or ministry level, rather than the more subtle agency or program organizational level we required. Thus only small single-program agencies could be accessed at an appropriate level of detail. Greater success may have occurred with a more in-depth study of internal government publications such as department or ministry newsletters. In addition, access to public officials employed in our issue areas via interviews would greatly improve data scope and quality.

Summary of Findings

The discussion in the previous section revealed that the results of the test inventories were generally poor using just the publicly available, easily accessible public accounts and legislative records and other such information. That is, even with the supplementation of program (accounts)/legislative (laws and regulations) records by other public documents such as organization charts, Statistics Canada special surveys, and Access to Information databases, it was possible to construct a partial inventory of only the simplest policy spaces—the single agency/single program space—with less success in single agency, multiple program spaces and very little success at all in more complex multiagency and multiprogram spaces.

Better, but still incomplete, inventories can be compiled in more complex spaces when these documents are supplemented by extensive large-scale interviews of key government officials, the use of specialized surveys of interest group leaders, and the filing of many specialized Access to Information requests. The data in Tables 6 and 7 reveal the pattern of inventory completeness when program/legislative data is complemented by interview and other more specialized information sources.

Conclusions

Although quite systematic, the legislative method proposed by Pal and Hosseus requires that (1) the record of legislation and regulation is easily available and fully descriptive, and (2) the laws and regulations capture all possible instruments types, including those based on expenditure and information resources which may not require a legislative mandate or regulatory authority. As was discussed above, in the Canadian cases examined these conditions were not met and this approach could not locate specific instruments used below a certain level—for example, when an administrative agency created by law provides a grant or subsidy, this approach would not result in this tool being listed in the inventory. When supplemented by extensive interviews, however, this method might to provide reasonable insight into the use of authoritative and organizational instruments of government in simple and complex agency and program environments.

Similarly, the translation of expenditure items into instrument categories both as proposed by Rose proved problematic in using the program approach to instrument inventories. This approach requires at minimum that (1) all instruments be

Table 6. Summary Results by Instrument Type with Interview Supplemented Program/Legislative Data

	Substantive	Procedural
Nodality	Water—None Drug Patents—Partial Species-at-Risk—None Shipping—None *Partial Failure* **Reason:** Government confidentiality/political sensitivity of advertizing information limits availability even with interviews.	Water—Partial Drug Patents—Full Species-at-Risk—Partial Shipping—Full *Partial Success* **Reason:** Databases identify agency cases but requires extensive fieldwork to link to specific programs in case of single agency spaces.
Authority	Water—Full Drug Patents—Full Species-at-Risk—Full Shipping—Full *Success* **Reason:** Legislative spillovers reduce confidence in exhaustiveness of inventory in multi-agency areas.	Water—Full Drug Patents—Full Species-at-Risk—Full Shipping—Full *Success* **Reason:** Requires detailed survey follow-up of identified organizations to link to specific program/field activities.
Treasure	Water—None Drug Patents—Full Species-at-Risk—None Shipping—None *Partial Failure* **Reason:** Public account expenditure classifications lack precision and are difficult to translate into instrument terms except in single agency/program area.	Water—None Drug Patents—Full Species-at-Risk—None Shipping—None *Partial Failure* **Reason:** Specialized survey data does not break down funding sources of NGOs in enough detail to match with specific programs and agencies.
Organization	Water—Full Drug Patents—Full Species-at-Risk—Full Shipping—Full *Success* **Reason:** Organization charts and annual reports vary in level of detail provided. Only small single agencies reliable.	Water—Full Drug Patents—Full Species-at-Risk—Full Shipping—Full *Success* **Reason:** Organization charts vary in level of detail. Only small agencies reliable. Annual reports inconsistent over time in reporting practices.

Table 7. Summary Results by Completeness of Data

I. Where Data Available or Potentially Available

		Data Availability for *All* Cases	
		All	**Some**
	Full	Success	Partial Success
Data Completeness		*Substantial Authoritative*	*Procedural—Nodality*
For *Each* Case		*Procedural Authoritative*	
		Substantive Organizational	
		Procedural Organizational	
	Partial	Limited Success	Partial Failure
			Substantial Nodality
		None	*Procedural Treasury*
			Substantive Treasury

II. Failure—No Data—None

represented in government books including informational activities and authoritative ones that do not require much expenditure, and (2) that accounts are kept at a suitable level of aggregation to allow program activities to be translated into tools and a comprehensive inventory of instruments to be constructed. As was also discussed above, these conditions were rarely met in the Canadian cases examined, and even with the addition of interviews and other specialized information searches, were unlikely to provide much information on nodality and treasure instruments, except in the case of the most simple, single agency-program cases.

Examination of the four Canadian test cases hence revealed that:

1. Raw, unsupplemented program-agency level data could not provide the basis for adequate instrument inventories even in the case of simple program-agency cases.

2. Even when supplemented by expensive and time-consuming interview and other data-gathering techniques, the inventory that would be constructed would not be complete and would contain major gaps in any complex agency-program setting. Only in the case of the simplest single agency-program instances could such an inventory be constructed with a high degree of assurance of its exhaustiveness and completeness.

3. The main impediments to construction of the kinds of accurate inventories required to advance next generation instrument choice theory were (a) the complexity of agency-program environments in modern governments and (b) jurisdictionally specific limits on disclosure of specific kinds of government activities and methods of presenting government data to the public.

The prospects for rapid advances in second generation instrument theory at present, then, are not good. Suitable instrument inventories are very difficult to construct, and will take a great deal of time and expense, involving extensive interviews and data collection from government officials in order to provide partial results. Moreover, the results will vary by jurisdiction, depending on the level of access to, and manner of preparation of, government program and account information.

A good first strategy then, would be (a) to search for jurisdictions that provide greater amounts of information on larger number of instruments and, (b) at least in the first instance, to target research toward simple single agency-program cases upon which enough information is likely to be available to construct an inventory with a high enough level of confidence to be able to systematically address the questions of optimality and coherence, and others, that motivate second generation instrument research. As it stands, although there is clearly some potential in enhancing our conceptual understanding of instrument mixes, our research tools are not sufficiently advanced for us to make recommendations aimed at improving the nature of instrument mixes and any conclusions reached to date by second generation researchers must be considered tentative, at best.

Note

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