

# Goal Ambiguity in U.S. Federal Agencies

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## ABSTRACT

Observations that government organizations have particularly high levels of organizational goal ambiguity, and that this goal ambiguity has major influences on their other characteristics, abound in the literature on public bureaucracy. Few researchers, however, have developed quantified measures of goal ambiguity and tested these frequent assertions with large samples of government organizations. We develop measures of four dimensions of goal ambiguity: mission comprehension ambiguity, directive goal ambiguity, evaluative goal ambiguity, and priority goal ambiguity. Confirming hypotheses developed from the literature on public organizations, the last three variables show relations to organizational age, financial publicness (proportion of funding from government allocations), competing demands, policy problem complexity, and regulatory status. The success of the measures of goal ambiguity demonstrates the feasibility of measuring the concept and conducting empirical tests of observations that are often repeated without such testing, and will support further theoretical and methodological development of this important topic.

In the literature on the distinctive characteristics of public organizations and their management, the most frequently repeated observation concerns the greater vagueness of their goals, as compared to the goals of private business firms, and the greater difficulty that public organizations face in assessing goal achievement (e.g., Allison 1983; Dahl and Lindblom 1953; Downs 1967; Drucker 1980; Lowi 1979; Lynn 1981; Wildavsky 1979; Wilson 1989). Although scholars and expert observers further contend that this goal ambiguity has many serious consequences, mostly dysfunctional ones, conceptual analysis and empirical research on the topic have been quite limited. We present a new way to conceptualize and measure organizational goal ambiguity and then test a set of propositions about the construct's relation to variables that we hypothesize to be antecedent to it, using data on a sample of 115 U.S. federal agencies. We suggest a definition of organizational goal ambiguity and introduce four dimensions of the construct. These are mission comprehension ambiguity (How understandable is the mission statement?), directive goal ambiguity (measured by a "rules to law" ratio), evaluative goal ambiguity (as indicated by a coding scheme for the agencies' performance

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doi:10.1093/jopart/mui001

Journal of Public Administration Research and Theory, Vol. 15, no. 1

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objectives), and priority goal ambiguity (the number of goals and performance objectives that an agency states).

A few previous studies have sought evidence about goal ambiguity by asking managers in government agencies and private business firms to respond to questions about the clarity or ambiguity of their organization's goals. In spite of the ubiquity of the claim that government agencies have greater goal ambiguity, these studies usually found no difference, or little difference, between the responses of the government and business managers. These findings prompted Rainey and Bozeman (2000, 451) to conclude that "everyone says that public agencies have greater goal ambiguity than business firms except the public managers who have responded to surveys."<sup>1</sup>

This situation also prompts the concern that we need much better measures of organizational goal ambiguity than questions about it on surveys. Conceptual and methodological complexities have plagued the analysis of organizational goals for decades (Hall 2002; Hannan and Freeman 1977; Perrow 1961; Scott 2003; Simon 1964; Van de Ven and Ferry 1980), and one should expect developing better measures to be very challenging. Nevertheless, the conceptualization and objective measures of goal ambiguity presented in this study offer progress toward doing so.

In addition, previous research has often concentrated on comparing public and private managers and organizations. Mandates for public agencies appear to vary significantly along the ambiguity dimension (Lerner and Wanat 1983; Lowi 1979; Matland 1995; Meier 2000; Ripley and Franklin 1991; Sabatier and Mazmanian 1979; Wilson 1989), so it is just as important to analyze those variations as it is to assess public versus private differences. The antecedent variables that we use to analyze these variations include financial publicness (the proportion of financial resources from governmental sources), competing demands from constituencies, type of policy responsibility, policy problem complexity, organizational age, organizational size, and institutional location.

## **CONCEPTUALIZING GOAL AMBIGUITY IN ORGANIZATIONS**

We define *organizational goal ambiguity* as the extent to which an organizational goal or set of goals allows leeway for interpretation, when the organizational goal represents the desired future state of the organization. Feldman (1989, 5), in her analysis of decision making in government agencies, defined *ambiguity* as "the state of having many ways of thinking about the same circumstances or phenomena." Since *interpretation* is "the process of giving meaning," according to Feldman, the presence of "many possible ways of perceiving" means that there are "competing interpretations" (1989, 7). Therefore, an organizational goal loses clear meaning and becomes ambiguous when it invites a number of different interpretations. This definition of organizational goal ambiguity (or clarity) is also consistent with some previous conceptions of the construct (DiMaggio 1987; Kelemen 2000; Locke et al. 1989).<sup>2</sup>

The four dimensions of goal ambiguity mentioned above reflect our conception of it as a multidimensional construct, thus treating the level of leeway for interpretation as a

1 Baldwin's survey (1987) found a moderate public-private difference in perceived goal ambiguity.

2 There has been little clarification of the relations among such goal attributes as goal vagueness, specificity, complexity, multiplicity, conflict, tangibility, and measurability. The relationships among these ambiguity-like constructs remain ambiguous themselves. A focus on the level of interpretive leeway involves conceiving goal ambiguity as a general concept incorporating these seemingly interrelated goal attributes.

higher-order abstraction that includes these goal attributes or dimensions.<sup>3</sup> The leeway for interpretation that an organizational goal or a set of organizational goals allows is manifested by at least these four dimensions, which refer to communicating the reason for the existence of an organization, directing organizational activities, evaluating organizational performance, and making decisions about organizational priorities. At the institutional and top management levels, organizational goals are often expressed in a mission statement that attempts to express the organization's *raison d'être* (Campbell and Nash 1992). Broader, higher-level organizational goals, however, need to be refined into directives and guidelines for day-to-day decisions and actions, especially for middle management and lower levels (Daft 2004; Scott 2003). For evaluators and stakeholders, on the other hand, organizational goals become performance criteria for assessing the results of organizational activities (Daft 2004; Richards 1986). Organizational members also have to make decisions about which goal should take precedence over the others at a given time. The extent to which competing interpretations exist in each of these observable dimensions represents a different manifestation of the same latent construct, organizational goal ambiguity.

*Mission comprehension ambiguity* refers to the level of interpretive leeway that an organizational mission allows in comprehending, explaining, and communicating the organizational mission (Daft 2004; Dess and Miller 1993; Thompson 1997). Organizational leaders often promulgate mission statements to enhance the organization's legitimacy, and in turn to enhance members' commitment (Gable 1998; Richards 1986; Scott 2003) and "sense of mission" (Campbell and Nash 1992; Wilson 1989). Researchers analyzing mission statements have used the concept of *mission statement clarity* to refer to the degree to which the mission statement is easy to read and understand (Campbell and Nash 1992; Weiss and Piderit 1999). Consistent with these previous approaches, we conceive mission comprehension ambiguity as referring to the understandability of the mission statement. When the mission statement is easier to understand, explain, and communicate, there will be less leeway for interpretation and more shared agreement about its meaning.

*Directive goal ambiguity* refers to the amount of interpretive leeway available in translating an organization's mission or general goals into directives and guidelines for specific actions to be taken to accomplish the mission (Dess and Miller 1993; Moore 1995; Scott 2003). Other scholars have treated the room for interpretation in translating organizational missions into concrete activities and behaviors as an important facet of goal ambiguity (Ginger 1998; Lowi 1979). For example, Lerner and Wanat's (1983) concept of "fuzzy mandates" of public bureaucracy taps the same construct as directive goal ambiguity when they point out that fuzzy terms in legislation provide too little guidance for crisp implementation of the legislative mandates. As administrative interpretation of the political mandates codified in legislation becomes increasingly common in modern governments, this dimension of goal ambiguity has been a subject of growing interest for both political scientists (Sharkansky 1999) and public administration scholars (Ginger 1998; Spicer and Terry 1996). In addition, role ambiguity researchers such as Kahn et al. (1964) and Sawyer (1992) have also paid special attention to role ambiguity in means-ends relationships. They differentiate clarity in specifying "paths" and guiding procedures from other dimensions of role ambiguity.

3 For a general discussion about multidimensional constructs, see Law, Wong, and Mobley (1998).

*Evaluative goal ambiguity* refers to the level of interpretive leeway that an organizational mission allows in evaluating the progress toward the achievement of the mission. For performance evaluation, organizational mission should be transformed into performance indicators and targets (Grizzle 1982). Organizations vary in the extent to which performance targets can be precisely described or in the extent to which valid and objective performance indicators are available (Gable 1998; Smith 1999). Some organizations can express their performance targets in an objective and measurable manner that allows a minimal level of interpretive leeway. Other organizations often have no choice other than to describe their performance targets in a subjective and descriptive manner, which leaves a lot more room for interpretation in determining whether or not the performance targets are achieved. Lacking objective and quantitative outcome performance indicators, organizations may use workload or output indicators rather than results or outcome indicators in performance evaluation (Bohte and Meier 2000; Grizzle 1982; Merton 1957).<sup>4</sup>

*Priority goal ambiguity* refers to the level of interpretive leeway in deciding on priorities among multiple goals. To indicate priorities means to make decisions about which goals should take precedence over others at a given time, or to form a goal hierarchy in which the goals are vertically arranged through means-ends relationships (Richards 1986). The presence of multiple goals without any hierarchical arrangement and prioritization leaves much room for interpretation of such priorities and about which goals take precedence. This dimension is similar to several existing constructs in the goal ambiguity literature, such as goal focus (Weiss and Piderit 1999) and goal complexity (Lee, Locke, and Latham 1989).<sup>5</sup>

## CONCEPTUAL FRAMEWORK AND HYPOTHESES

We developed a conceptual framework, including the antecedents described below, based on literature about public bureaucracy and public management from several disciplines. We tested numerous hypotheses but concentrate here on those we consider most important. For example, as described later, the hypotheses about mission comprehension ambiguity led to no significant results, and we omit discussion of them here. One reason to develop the different dimensions of goal ambiguity is that one might expect that these antecedents will relate differently to the dimensions of goal ambiguity in public organizations, and the hypotheses predict such differences. Appendix 1 and Table 1 describe the measures used for all the variables in the study, which a later section will describe in more detail.

4 As with the previous dimensions, evaluative ambiguity is not a new concept in the goal ambiguity literature (Rainey 1993). For example, role ambiguity researchers viewed the lack of information about the consequences of role performance (Kahn et al. 1964) or performance evaluation ambiguity (Dougherty and Pritchard 1985) as one of the multiple dimensions of role ambiguity.

5 For example, Lee, Locke, and Latham (1989, 298) defined goal complexity as “the number of different intended outcomes and their interrelationship.” Whereas goal complexity pertains to interconnections among goals in a general sense, the concept of goal conflict refers only to contradictory relationships among them. Goals can counteract one another at the same hierarchical level as well as at different levels (Behn 1991, 70). Goal conflict at the same level may have two different forms: direct and indirect conflict. Direct conflict among goals represents explicit trade-offs among multiple goals, and indirect goal conflict refers to potential competition between the goals in acquiring resources. Direct goal conflict may occur when achieving one valued goal directly inhibits achieving another desired goal (Lee, Locke, and Latham 1989). In contrast, indirect goal conflict can be observed whenever there are multiple goals at the same hierarchical level since having more goals means having a greater need to split limited resources and thereby exposes more points of potential conflict.

**Table 1**  
Definition and Measures of the Dimensions of Goal Ambiguity in Public Organizations

| Dimension                       | Definition   | Measure  |
|---------------------------------|--|--|
| Mission Comprehension Ambiguity | The level of interpretive leeway that an organizational mission allows in understanding, explaining, and communicating the mission       | Gunning-Fog Index (GFI) of an agency's mission statement: the average sentence length of the mission statement + the percentage of hard words in the statement                   |
| Directive Goal Ambiguity        | The level of interpretive leeway that an organizational mission allows in guiding specific actions to be taken to accomplish the mission | Rules to laws (R/L) ratio: the ratio of the number of pages of administrative rules the agency issued to the number of pages of legislation that were administered by the agency |
| Evaluative Goal Ambiguity       | The level of interpretive leeway that an organizational mission allows in evaluating the progress toward the achievement of the mission  | Percentage of subjective or workload-oriented performance indicators out of total performance indicators for an agency   |
| Priority Goal Ambiguity         | The level of interpretive leeway that an organizational mission allows in indicating priorities among multiple goals or goal-equivalents | Average Z-scores of two indicators: the number of long-term strategic goals and the number of annual performance targets   |

### Financial Publicness

Many of the observations about goal ambiguity in public organizations contrast them with private business firms. For years, many scholars and experienced practitioners have emphasized that typical government agencies have no economic markets for their outputs, and their managers lack such clear performance measures as profits and sales. These observers typically contend, in addition, that government agencies produce public or quasi-public goods and services and pursue value-laden politically identified goals, for which valid, objective performance indicators are not available (e.g., Allison 1983; Dahl and Lindblom 1953; Downs 1967; Moore 1995; Wolf 1993). Scholars and experts have often further argued that this difficulty in specifying goals and measuring their achievement causes public officials and managers to try to evaluate performance by looking at measures of inputs, processes, workloads, and outputs, rather than objective outcomes and impacts (e.g., Kanter and Summers 1987; Thompson 1997).

Also for years, however, scholars have noted the blurring of the sectors and the public-private hybridization of many organizations (e.g., Dahl and Lindblom 1953; Wamsley and Zald, 1973). Bozeman (1987) has conceived of the public-private distinction not as a dichotomy but as a continuum, actually consisting of two continua of "publicness." One of these continua represents the proportion of an organization's financial resources that come from governmental sources, such as allocations from legislative bodies, as opposed to nongovernmental sources, such as sales to private individuals. The variable, *financial publicness*, in the present study is the percentage of financial resources from governmental sources.

Many government agencies operate as government corporations and authorities that sell products or services to customers or otherwise acquire financial resources from nongovernmental sources (Aharoni 1986; Walsh 1978). An increasing number of government agencies engage in the sale of goods and services and are fully or partially dependent on the market in funding their activities (Bozeman 1987; Dunsire et al. 1988; Moe 2001; Welch and Bretschneider 1999).

For reasons similar to those that lead scholars to contend that government agencies have higher levels of goal ambiguity than private firms, one can hypothesize that government agencies with higher levels of financial publicness should have higher levels of goal ambiguity. Conversely, those with lower levels of financial publicness and hence higher levels of funding from nongovernmental sources should have lower levels of goal ambiguity. Following the logic of the arguments about the effects of the absence of objective performance indicators such as those provided by private economic markets, one can hypothesize that financial publicness will relate positively to evaluative goal ambiguity.

Financial publicness is also expected to have a positive relationship with directive goal ambiguity. Various scholars have advanced the argument that in the absence of economic market indicators and in the presence of high political and legal accountability pressures, higher-level officials in government agencies seek to control lower levels by issuing directives and rules. In private firms, these scholars say, the executives have more opportunities to delegate authority and monitor performance indicators such as sales and the profits of profit centers or subsidiaries (e.g., Behn 2001; Bozeman 2000; Dahl and Lindblom 1953; Downs 1967; Lynn 1981; Warwick 1975).

Financial publicness should influence priority goal ambiguity as well. For organizations that are fully exposed to economic markets, a need to exist by making profits tends to take precedence over all other goals in the organizations (Milgrom and Roberts 1992). Surveys that have asked corporate executives to rank their firms' goals have found that profitability led the rankings by far, followed by growth and market share (Daft 2004, 67). Dahl and Lindblom (1953, 461) asserted that, compared to government agencies' goals, the goals of business firms are "customarily few and similar" because the bottom line serves as a powerful unifying force in prioritizing goals. In contrast, there is "nothing remotely approaching a bottom line" in government agencies that are fully funded through the appropriation process (Lynn 1981, 126). Numerous scholars have also observed that public agencies, as compared to business firms, tend to have multiple goals and values imposed on them by mandates and multiple interests in the political system (e.g., Baldwin 1987, 182; Jorgensen et al. 1998).<sup>6</sup>

For the reasons given, then, we tested the following hypotheses:

- H<sub>1</sub> Federal agencies with higher levels of financial publicness will have higher levels of evaluative goal ambiguity.

6 Government corporations, many of which at least have to self-sustain or break even, may be somewhere between typical public and private organizations in this respect (Aharoni 1986; Walsh 1978). The pattern of negative relationship between market exposure and priority goal ambiguity has been observed in nonprofit organizations as well. Case studies of nonprofit cultural organizations, according to DiMaggio (1987), tend to report that the more the organizations are funded through ticket sales, the less diverse their goals are.

- H<sub>2</sub> Federal agencies with higher levels of financial publicness will have higher levels of directive goal ambiguity.
- H<sub>3</sub> Federal agencies with higher levels of financial publicness will have higher levels of priority goal ambiguity.

### **Competing Demands from Constituencies**

One also frequently encounters the observation that political compromise among multiple and competing interests leads to vague mandates for public agencies. (Lowi 1979; Ring and Perry 1985; Sharkansky 1999). In one of the most prominent books in political science, Lowi (1979, 92) stated that “clear statutes reduce pluralistic bargaining.” Policy mandates with more room for interpretation maximize support by avoiding offending constituencies who hold different values and views (Baier et al. 1988; Downs 1957; Page 1976; Wildavsky 1979).

The need for political compromise among competing demands from constituencies should be positively associated with directive goal ambiguity in public organizations. Multiple and competing interests create the need for compromise, which in turn leads to vague mandates. Vague mandates leave more room for interpretation and less direction for those implementing the mandates, who gain interpretive leeway in deciding on the meaning of the mandates and the consequent directives to lower levels (Lowi 1979; Page 1976; Sharkansky 1999).

The need for political compromise among competing interests may also influence priority goal ambiguity. Political compromise is often accomplished by “giving everyone part of what they want since the result should please every affected party” (Wilson 1980, 392). It does not come as a surprise, then, that a consequence of such a political compromise is a policy mandate with multiple priorities. Ring and Perry (1985, 278) suggested that the majority coalition necessary to enact a policy mandate tends to have multiple and often contradictory goals, as “the drive for enactment frequently obscures the issue of whether the multiple goals are compatible with each other.” When clientele groups could not agree on a couple of common goals, incompatible preferences of the groups are often included in the policy mandate for a public agency without any hint of prioritization (Anderson 1994). Therefore,

- H<sub>4</sub> Federal agencies with more competing demands from constituencies will have higher levels of directive goal ambiguity.
- H<sub>5</sub> Federal agencies with more competing demands from constituencies will have higher levels of priority goal ambiguity.

### **Type of Policy Responsibility (Regulatory, Nonregulatory, or Hybrid)**

Different public agencies have different types of policy responsibility. Different types of public policy are associated with different patterns of politics, which in turn have different consequences for policy formulation and implementation, including influences on the ambiguity of policy responsibility (Lowi 1972; Meier 2000; Ripley and Franklin 1986). In this study we focused this variable on the distinctions between regulatory and nonregulatory policy responsibilities.

The literature holds that regulatory policies have distinct patterns of politics in the formulation process. Regulatory policy programs are often highly visible since they generally impose costs rather than provide benefits and thereby tend to create clear winners and losers (Meier 1985; Ripley and Franklin 1986, 1991). The intensive confrontation between these winners and losers often makes regulatory subsystems ineffective in comparison with nonregulatory subsystems (Anderson 1994; Lowi 1972). In contrast, it is often hard to find any explicit losers in the areas of nonregulatory policies, as nonregulatory policies usually provide benefits from general tax revenues rather than impose costs. For this reason, their levels of public visibility tend to be low (Ripley and Franklin 1986). Nonregulatory politics, especially distributive politics, are often characterized by a high degree of cooperation through policy subsystems and of logrolling among lawmakers (Meier 1985; Ripley and Franklin 1991).

These contrasting patterns of politics in policy formulation are likely to influence directive goal ambiguity in government agencies. The existence of clear winners and losers in regulatory politics makes it difficult for political leaders to develop specific policy directives since they often must avoid details to reach an agreement between the winners and losers. As a result, statutes describing regulatory policy responsibilities typically have been vague (Noll 1971), although some exceptions have been reported (Marcus 1980; Meier 1985). Congress often directs regulatory agencies “to promote just and reasonable practices” in the name of “the public interest” or for “the common welfare” (Wilson 1980, 391). Such vague directives leave much leeway for interpretation when administrators make operational decisions (Salamon 2002).

Evaluative goal ambiguity in government agencies is also likely to be affected by the type of policy responsibility. Whereas the benefits from nonregulatory policies, such as those concerning highways or income subsidies, are often tangible and physically observable, those from regulatory policies, such as fair competition or improved occupational health, are less amenable to direct observation and quantification. Facing this difficulty, regulatory agencies are apt to use input or output indicators rather than outcome and impact indicators in performance evaluation (U.S. General Accounting Office 1997a). For instance, the performance plans and reports of the Food Safety and Inspection Service (FSIS) have such performance indicators as the number of reviews of state inspections programs conducted and the compliance rate of establishments operating under procedures prescribed by the FSIS. While these indicators certainly offer important information about the agency’s efforts, they tell little about progress toward the agency’s strategic goal of enhancing the public health by minimizing food-borne illness.

H<sub>6</sub> Federal agencies with regulatory policy responsibilities will have higher levels of directive goal ambiguity than those with nonregulatory ones.

H<sub>7</sub> Federal agencies with regulatory policy responsibilities will have higher levels of evaluative goal ambiguity than those with nonregulatory responsibilities.

### **Complexity of the Policy Problem**

Policy problems vary in complexity and tractability (Levine, Peters, and Thompson 1990; Mazmanian and Sabatier 1989). In this study *policy problem complexity* refers to the difficulty of operational task routinization (Perrow 1973) and the lack of policy knowledge (Ingram and Schneider 1990; Matland 1995). Whereas the need for political compromise



among multiple constituencies makes lawmakers unwilling to come up with clear statutory language, the complexity of the policy problem may make them unable to do so.

Policy problem complexity should be positively associated with directive goal ambiguity. When a policy mandate for a public agency can focus on routine operational tasks composed of “frequent, similar, and patterned behaviors” (Wilson 1989, 339), the policy mandate can provide clear guidelines to determine the organizational activities and behaviors necessary to fulfill the mandate. The mandate cannot provide such clear guidelines, however, when the intricacy of the context in which the mandate will be acted upon is considerable and thereby many exceptions to normal procedures are anticipated (Lerner and Wanat 1983). The greater the likelihood that unanticipated events will occur and the more difficult it is to routinize operational tasks, the lower the likelihood that lawmakers will be competent to specify behavioral expectations for bureaucrats. Another element of policy problem complexity is the general lack of cause-effect policy knowledge on the part of political leaders or at least information asymmetry between politicians and bureaucrats. When political leaders have insufficient expertise or technical knowledge to address a policy problem, statutes tend to be vague (Bawn 1995; Bendor et al. 1984; Ingram and Schneider 1990; Lerner and Wanat 1983; Martland 1995).

Policy problem complexity should be positively related to evaluative goal ambiguity in government agencies. Complex, nonroutine tasks often require professional judgment and often have to be performed by members of highly professionalized occupations. The tasks of research and development (R&D) agencies exemplify the implications of such task characteristics. After examining pilot efforts in R&D agencies made under the Government Performance and Results Act, the U.S. Government Accounting Office (GAO) (1997b, 3) concluded that “no single indicator exists to measure the results of research. . . . [T]he very nature of the innovative process makes measuring the performance of science-related projects difficult.”<sup>7</sup>

- H<sub>8</sub> Federal agencies with more complex policy problems will have higher levels of directive goal ambiguity.
- H<sub>9</sub> Federal agencies with more complex policy problems will have higher levels of evaluative goal ambiguity.

### **Organizational Age**

One might also expect organizational age to affect goal ambiguity in public organizations, but with different impacts on different dimensions of goal ambiguity in government agencies. We hypothesized that organizational age would be negatively related to directive goal ambiguity but positively related to priority goal ambiguity. Although initial legislation is often vague, policy mandates tend to become more specific and detailed over time as policymakers redefine them and elaborate them after collecting more information (Browne and Wildavsky 1984; Lerner and Wanat 1983; Majone and Wildavsky 1984; Matland 1995). In contrast, the number of goals and performance targets of a government agency, and hence the degree of priority goal ambiguity, is likely to

<sup>7</sup> From the viewpoint of agency theory, Hendry (2002) also proposed a negative relationship between the amount of information asymmetry between principal and agent and the use of outcome-based compensation in organizations.

increase over time. One reason for this is the tendency to add goals and functions to existing agencies rather than to create new agencies (Downs 1967). In addition, Warwick (1975) argued that over time a public organization usually expands its goals and activities since it has to reflect different interests and perspectives of its successive administrators, outside pressures, and internal politics.

H<sub>10</sub> Older agencies will have lower levels of directive goal ambiguity.

H<sub>11</sub> Older agencies will have higher levels of priority goal ambiguity.

### **Organizational Size**

Organizational size needed to be taken into account. We hypothesized that size would increase priority goal ambiguity in public organizations. Larger government agencies should have more diverse functions and programs and more long-term goals and short-term performance targets than smaller ones. This should create more difficulties in prioritizing goals and performance targets.

H<sub>12</sub> Larger agencies will have higher levels of priority goal ambiguity.

### **Institutional Location**

In the present study institutional location refers to whether a federal agency is inside an executive department or is an independent establishment. This aspect of an agency's institutional location comes about for a number of reasons. For example, a federal agency may gain its independent status to avoid the clientele pressures in departments with strong clientele ties or, conversely, because strong clientele groups want the agency removed from under a larger executive department. Independent agencies may need independence because they serve other government agencies, need independence from presidential influence, or need to try new approaches or to focus on relatively narrow functions (Levin, Peters, and Thompson 1990; Meier 2000). Institutional location seemed an important variable, but given the countervailing reasons for independent status, we developed no hypotheses about its relation to goal ambiguity.

## **METHODOLOGY**

### **Data Sources and Sample**

The present study focuses on agencies in the U.S. federal government. As defined in 5 U.S. Code 306(f), U.S. federal agencies include executive departments, subdepartmental agencies, government corporations, and independent establishments, all of which are owned by the U.S. federal government. These agencies represent a variety of public organizations that differ from each other in many ways and thus represent a broad array of functions and missions. The Government Performance and Results Act of 1993 (GPRA) requires that virtually every federal agency describe the agency's goals and performance indicators in the agency's strategic plans, annual performance plans, and annual performance reports to be submitted to Congress (U.S. Office of Management and Budget 2001). This provides access to information about the formally stated goals of most federal agencies.

Using the GPRA plans and reports as data sources to measure goal ambiguity in federal agencies has several significant advantages in dealing with methodological complications that have hampered previous research on organizational goals. First, it is a fairly reasonable way to identify organizational goals in government agencies,<sup>8</sup> since the goals of government agencies are essentially mandated by statutes (Lerner and Wanat 1983), and since the GPRA explicitly requires federal agencies to develop their goals based on such statutory mandates (U.S. Office of Management and Budget 2001). In fact, researchers on public management have often identified the goals of government agencies by looking at formal mandates (for examples, see Meyers, Riccucci, and Lurie 2001; Perry et al. 1999). The second advantage has to do with a challenge encountered in previous research on organizational goals that focused on mission statements (Weiss and Piderit 1999) or vision statements (Baum, Locke, and Kirkpatrick 1998). Organizational mission or vision statements are often idealized, symbolic, and brief (Levin 2000). The GPRA plans and reports, however, contain not only the mission statement of an agency but also a description of the agency's long-term goals and annual performance targets, which convey in-depth information about the agency's goals. Third, using the GPRA plans and reports can minimize the "whose goal?" problem (Grizzle 1982; Vancouver and Schmitt 1991) in organizational goal research. Consultations with key stakeholders are mandatory procedures in preparing the strategic plan of a federal agency (Franklin, 2001; Roberts 2000). As the main purpose of the consultations is to draw a workable consensus among stakeholders concerning the goals of a federal agency, the agency goals finally described in the GPRA plans and reports can be considered as agreed-upon goals among key stakeholders. An additional advantage comes from the standardization of terms that otherwise could lead to significant measurement errors when organizational data were collected from archival sources (Van de Van and Ferry 1980). All of the plans and reports were prepared under the same guidelines provided by the Office of Management and Budget (OMB).<sup>9</sup>

The sample for this study was drawn from the U.S. Government Manuals published during the period of 1995 to 2000. The sample included all operating agencies in the executive branch that existed from 1995 through 2000 and that employed at least two hundred people. These criteria allowed a total of 115 agencies to be identified. (A list of these agencies is available from the authors.) Since the executive departments are usually composed of a variety of subdepartmental agencies with significantly different functions and goals, operating agencies in this study chiefly refer to subdepartmental agencies and independent establishments outside the executive departments.<sup>10</sup>

8 For discussions on the issue of organizational goal identification, see Perrow (1961); Moore (1995); and Richards (1986).

9 For example, the OMB provided specific definitions of such concepts as mission, goal, objective, strategy, performance measure, and performance indicator and explained in detail the proper use of those terms in writing the GPRA plans and reports (U.S. OMB 2001). Given the lack of conceptual clarification among the interrelationships between many goal-like concepts (Austin and Vancouver 1996), the fact that every agency used the concepts in the same way should reduce potential measurement errors in the present study.

10 Territorial divisions and staff units in the departments were excluded. Agencies within the Department of Defense and intelligence agencies were excluded as well, mainly due to the unavailability of data. Despite the focus on subdepartmental agencies, some executive departments were included into the sample when the GPRA plans and reports were made only at the departmental level. These departments are the Department of Education, the Department of Energy, the Department of Housing and Urban Development, and the Department of State.

## **Measures of the Dependent Variables**

Appendix 1 presents a summary description of the measures used for all the variables in the study.

### ***Mission Comprehension Ambiguity***

Mission comprehension ambiguity refers to the understandability of the mission statement that formally announces what the organization stands for. Mission statements of the sample agencies were collected from the GPRA strategic plans released during the period of 1997 to 1999. The specific measure was the Gunning-Fog Index (GFI) (Gunning and Kallan 1994), which is an established indicator for evaluating the degree of “fog” in a written passage. The GFI has predicted fairly well the extent to which a piece of writing would be easily understood by readers, and hence some previous studies have used it as an indicator of mission statement clarity (e.g., Weiss and Piderit 1999). The higher the GFI, the harder the written passage is to comprehend (Gunning 1968).<sup>11</sup>

Because the measures of goal ambiguity dimensions employed in this study do not have a long history of use, it was necessary to provide evidence of criterion validity, especially convergent validity. Footnotes in this and the following sections describe these procedures.<sup>12</sup>

### ***Directive Ambiguity***

When the terms used in goal statements do not lend themselves to precise definition, goals lose clarity as directives for day-to-day decisions of organizational members. To translate general and fuzzy formal mandates described in legislation into specific public policy guidelines, government agencies have to precisely define statutory language by issuing administrative rules (Ripley and Franklin 1991). Accordingly, the indicator, “rules to laws ratio” (R/L ratio), directly taps the extent to which a federal agency needs to clarify vague congressional intent or directions by adding specifications. This indicator is the ratio of the number of pages of administrative rules that the agency issues to the number of pages of

11 The procedures to get the GFI score of a mission statement were as follows: (a) count the number of words in successive sentences in the statement and divide the total number of words in the statement by the number of sentences, which gives the average sentence length of the mission statement; (b) count the number of words of three syllables or more in the statement and figure the percentage of such hard words out of total words in the statement; finally, (c) total the two factors.

12 In general, convergent validity is established by demonstrating a high correlation between scores from two different measures of the same construct (Schwab 1999). It is ideal that the criterion and the measure being validated are collected by totally different methods (O’Sullivan and Rassel 1995). The alternative measure used for validating the measure of mission comprehension clarity was the “transparency” score reported in the Performance Report Scorecards (PRS) released by the Mercatus Center at George Mason University (Mercatus Center 2000; 2001; 2002). Since 2000, the center has annually evaluated the quality, which has been assessed based on three dimensions including “transparency,” of the GPRA performance reports in twenty-four federal agencies covered under the Chief Financial Officer (CFO) Act. The transparency dimension, which consisted of four evaluating factors including understandability, has been rated on a 20-point scale by experts in the center. As an agency’s mission statement is supposed to play a key role in preparing the performance report of the agency (U.S. OMB 2001), it was assumed that the transparency score of the performance report should be negatively correlated with the degree of difficulty in comprehending the mission statement. We calculated Pearson correlations between the mission comprehension ambiguity measure used in this study and the average transparency score in the PRS for the last three years in the twenty-four CFO Act agencies. The two measures were correlated negatively, as expected, and moderately at  $-0.37$ . Given that understandability is only one of four factors constituting the transparency score in the PRS, which might lower the correlation between the two measures, to find a moderate correlation in the expected direction provides support for convergent validity of the mission comprehension ambiguity measure used.

legislation that the agency administers. This measure was drawn from Meier's work (1980) on agency power, where the R/L ratio was used as an indicator of autonomy in federal agencies, because Meier posited that more ambiguity in statutes would allow more autonomy for agency officials.<sup>13</sup>

### ***Evaluative Ambiguity***

Evaluative goal ambiguity represents the degree of difficulty in objectively evaluating progress toward the achievement of organizational goals. This dimension is measured by the percentage of subjective or workload-oriented performance indicators, as opposed to objective *and* results-oriented performance indicators, for each agency. Franklin (1999) has used a similar measure in her study of strategic planning in Arizona state agencies. Data were collected from each agency's GPRA performance plan released in 1998–1999 or performance report released in 1999–mid-2000. As with strategic plans, we collected the GPRA performance plans and reports either from the Web sites of the sample agencies or by contacting agency officials in planning units. In this study “subjective” performance indicators refer to measures based solely on individual perceptions about the level of organizational performance and frequently without a numerical target level. Although many subjective indicators are descriptive (i.e., they provide no numerical target level), it is possible for a performance indicator to be subjective and quantitative at the same time. Objectivity in performance evaluation could be obtained by observing tangible conditions or events, such as a moon landing. The performance indicators in the GPRA performance plans and reports are meant to be objective and/or quantitative. Where such indicators are not feasible, however, the GPRA allows use of subjective and descriptive performance indicators, with the OMB's approval (U.S. OMB 2001).

On the other hand, “workload-oriented” performance indicators refer to input and output indicators as opposed to such “results-oriented” ones as outcome and efficiency measures. It should be noted, however, that to distinguish “results-oriented” indicators from “workload-oriented” ones is not as simple as it sounds since the difference between the two is not always crystal clear. To deal with this problem, this study developed very specific criteria supplemented by examples in classifying the performance indicators reported in the GPRA plans and reports. The criteria are described in Appendix 2.

13 The procedures to get the R/L ratio were as follows: (a) count the number of pages of rules in the Code of Federal Regulations (CFR) for each agency; (b) count the number of pages of legislation in the U.S. Code for each agency; finally (c) divide the first factor by the second factor. Both the CFR and the U.S. Code used for this study were issued in 2000. They covered legislation and administrative rules issued by the end of the previous year, 1999. The rules in the CFR were classified by subdepartmental agency and independent establishments, and the CFR had a parallel table of legal authorities and rules as an appendix, which makes it possible to calculate the R/L ratio objectively for each agency.

To provide evidence of convergent validity, an alternative measure of vagueness of congressional directives was used. Appropriation is another important area where congressional intent often varies in specificity. Some agencies are required to prepare their budget descriptions with great detail, while others are permitted to submit budgets devoid of detail. A measure of this directive ambiguity in budgets, which was also developed by Meier (1980), is the ratio of the agency's budget size in dollars to the number of pages the budget takes up in the Appendix to the Budget of the United States Government. For a randomly selected subset of twenty sample agencies, we correlated the R/L ratio with this measure of budget direction ambiguity. The Pearson correlation was .29. Considering that these two indicators measured related, rather than identical, constructs, that is, an indicator of the vagueness of congressional intent in legislation versus an indicator of that in the budget, finding a modest but positive correlation provides support for the validity of the directive goal ambiguity measure used in the study.

Inter-rater reliability was calculated for a subset of the sample of agencies, and two alternative measures were used for validating this evaluative goal ambiguity measure.<sup>14</sup>

### ***Priority Ambiguity***

Priority ambiguity, or the degree of imprecision in indicating priorities among multiple goals and performance targets, lends itself to relatively straightforward indicators. The indicators included (a) the number of long-term strategic goals, and (b) the number of annual performance targets. Previous research on goals in public organizations has used indicators such as these to measure the extent to which multiple organizational goals or goal-equivalents are simultaneously presented without any prioritization (Franklin 1999; Weiss and Piderit 1999).<sup>15</sup> To combine the two indicators, the number of strategic goals and the number of annual performance targets, into a composite measure of priority goal ambiguity, it was necessary to standardize the indicators so that each was based on the same scale (O'Sullivan and Rassel 1995). The Z-scores of each of the indicators were used for this standardization, and the average of the two Z-scores was calculated as the priority ambiguity score for each agency.<sup>16</sup>

14 Based on the same criteria described in Appendix 2, the first author and a research assistant, a doctoral student majoring in public management, independently coded the performance indicators of twenty sample agencies that were randomly selected and calculated the evaluative goal ambiguity scores for the agencies. Rater reliability for the resultant evaluative ambiguity scores was shown by a correlation between raters of .91.

Two alternative measures were used for validating this evaluative goal ambiguity measure. The first was the GAO's grades on the "clarity of intended performance" in twenty-four CFO Act agencies' performance plans released in 1999 (U.S. GAO 1999). In assessing the clarity of performance picture provided by the performance plan, the criteria used by the GAO were as follows: the results-orientedness of performance measures, the possibility of before-and-after performance evaluation, and the presence of performance targets for managerial challenges. For calculating the correlations between the GAO's grades and the evaluative ambiguity measure used in this study, the four grades employed by the GAO were converted to a 4-point scale: 1=clear picture of performance, 2=general, 3=limited, 4=unclear. The Pearson correlation was .52, statistically significant at the .01 level. This result strongly supports the concurrent validity of the evaluative goal ambiguity measure used in the study. Another alternative measure was the "public benefits" score provided by the PRS of the Mercatus Center. The public benefits dimension, which was one of the three dimensions that served as the criteria to assess the quality of the GPRA performance reports in twenty-four CFO Act agencies, included such evaluating factors as results-orientedness of the agency's goals and performance measures, the demonstration of a clear relationship between the agency's work and results, and the presence of cost information. We calculated Pearson correlations between the measure of evaluative goal ambiguity used in the study and the average public benefits score of the PRS for the last three years in the twenty-four CFO Act agencies. The correlation was -.67, statistically significant at the .01 level, which provides further support for the concurrent validity of the measure used.

15 Data for long-term strategic goals for each federal agency were obtained from the GPRA strategic plans released in 1997–1999 and data for annual performance targets from the GPRA performance plans submitted to Congress in 1998–1999 or from the performance reports in 1999–mid-2000. The strategic plan of a federal agency describes long-term strategic goals that define how the agency will carry out its mission over a period of time. Similarly, the performance plan of the agency reports annual performance targets, that is, specific milestones in achieving the long-term strategic goals. The number of annual performance targets tends to be greater than the number of long-term strategic goals as the progress toward achieving a strategic goal is often demonstrated by several performance measures.

16 To provide some evidence of concurrent validity, we collected data on the number of organizational units, including staff units, that directly report to the agency head in a randomly selected subset of twenty sample agencies. These data were collected from organizational charts posted at the Web sites of the agencies. While this indicator does not exactly measure the same construct as priority goal ambiguity, it is a closely related construct in that different organizational units directly reporting to the agency head should represent distinct priorities in the agency. The Pearson correlation between the two measures was .58, statistically significant at the .05 level, which strongly supports the convergent validity of the priority goal ambiguity measure used.

## **Measures of the Antecedent Variables**

### ***Financial Publicness***

The measure of financial publicness in this study was the percentage of a federal agency's financial resources from government sources. Data for this measure were obtained from the *Budget of the United States Government, FY 1997*. In the budget system of the U.S. government, agency revenues from nongovernmental sources were chiefly found under the category of offsetting collections. The glossary in the *Budget of the United States Government* defines offsetting collections as "amounts received from the public as a result of business-like or market-oriented activities." Some of the offsetting collections, called offsetting receipts, are credited to receipt accounts, but most of offsetting collections are deducted from gross budget outlays rather than combined with governmental receipts. Accordingly, the total financial resources for a federal agency were measured by the sum of gross budget outlays, which are composed of general, special, and trust funds, plus offsetting collections deducted. Then, the amount of financial resources from government sources for a federal agency was calculated by subtracting only the amounts collected from market-oriented activities from the total financial resources for the agency.<sup>17</sup>

### ***Competing Demands from Multiple Constituencies***

A good proxy measure for the need for political compromise among competing demands from constituencies is the number of clientele groups for a federal agency (Meier 1980, 1993; Rourke 1984). As the number of clientele groups for a public organization increases, in general so do competing demands from the groups (Hargrove and Glidewell 1990). Data for the measure were collected from the House Appropriations Committee hearings for FY 1997. The number of clientele groups for a federal agency was measured by the number of organized groups that testified concerning programs administered by the agency, either by appearing personally or sending written testimonies.

### ***Type of Policy Responsibility (Regulatory, Nonregulatory, or Hybrid)***

We identified agencies with regulatory responsibilities based on two steps. To be classified in the category of regulatory agency, first, an agency had to be listed in the *Congressional Quarterly's Federal Regulatory Directory*, which covers every federal agency with any regulatory responsibility. A total of seventy-six agencies from our sample were listed in the directory. Some federal agencies in the directory, however, have nonregulatory responsibilities as well as regulatory ones. The second step identified such hybrid or mixed agencies. The criterion used in the second step was the percentage of budget for personnel compensation. The assumption was that regulation is a relatively labor-intensive business (Levine, Peters, and Thompson 1990). Salamon (2002, 158) argues that one of the defining characteristics of regulation is coerciveness, which requires "an extensive system for monitoring compliance and for carrying out enforcement." In contrast, the implementation of nonregulatory policies, especially at the federal level, usually involves distributing money in such forms as grants, subsidies, and contracts rather than hiring a large group of inspectors

<sup>17</sup> To calculate the amount of collections only from governmental sources for a federal agency requires greater caution. As a recording category in the U.S. Government Budget, offsetting collections and receipts include not only revenues from market-oriented activities but also amounts collected from interagency transactions; for example, rent collected by the General Service Administration (GSA) from other agencies, interest on federal securities, and "offsetting governmental collections and receipts" that are governmental in nature, for example, regulatory fees, but that are required by law to be treated as offsetting (U.S. OMB 2001).

or examiners. For this reason, hybrid or mixed agencies, as compared to “regulation only” agencies, should have a lower percentage of their budgets devoted to personnel compensation. A total of twenty-six agencies among the sample agencies listed in the *Federal Regulatory Directory* turned out to have less than 10 percent of their budgets devoted to personnel compensation in FY 1997, and they were shifted from that of regulatory agencies to the category of hybrid agencies.<sup>18</sup> This procedure classified fifty agencies as regulatory, along with thirty-nine nonregulatory agencies and twenty-six hybrid agencies. These three categories were dummy coded with the category of regulatory agency as the referent category.<sup>19</sup>

### **Policy Problem Complexity**

Professional staff ratio (PSR) was used as a proxy measure of policy problem complexity. In general, federal employees are classified into five major job categories: professional, administrative, technical, clerical, and wage grade. Federal employees in the “professional” job category include scientists, engineers, psychologists, or attorneys. The professional staff ratio (PSR) of a federal agency was measured by the percentage of full-time employees that were classified in the job category of “professional” in 1997.<sup>20</sup>

### **Organizational Size**

The most common measure of organizational size is the number of full-time employees (Price and Mueller 1986). The measure of organizational size was the natural logarithm of the number of full-time employees in 1997. As in the measure of professional staff ratio, data were collected from the Central Personnel Data File (CPDF) of the Office of Personnel Management (OPM).

### **Organizational Age**

The measure of organizational age was the number of years after the agency’s establishment.<sup>21</sup>

18 Agencies that spend more than 90 percent of their budget for uses other than personnel compensation were presumed to engage more in benefits-distributing activities through grants, loans, contracts, or subsidies and less in behavior-restricting activities such as field inspections.

19 For the variable of nonregulatory policy responsibility, a “1” was recorded for nonregulatory agencies, and a “0” was recorded for all other agencies. For the variable of hybrid policy responsibility, a “1” was recorded for hybrid agencies, and a “0” was recorded for all other agencies.

20 Data for this indicator were obtained from the Central Personnel Data File (CPDF) of the Office of Personnel Management (OPM). The CPDF contains information on job categories of most of the federal civilian workforce, except the U.S. Postal Service, Tennessee Valley Authority, and the Federal Reserve System. For these three agencies, the missing PSR scores were replaced by the mean score obtained from other observations. The justification for this mean substitution is that it is often regarded as a “conservative” technique as it is likely to attenuate the relationship observed, yet power is increased (Schwab 1999).

21 Researchers have pointed out that to determine the age of a government agency is not as simple as it looks (Daniels 1997; Kaufman 1976; Lewis 2002; Peters and Hogwood 1988). This is because new government agencies often inherit functions from previously existing agencies. For example, the OMB was established in 1970, but many of the agency’s functions were similar to those of the Bureau of the Budget (BOB), which had been in existence since 1939. It is clear, then, that many agencies with new names are not really new agencies. Facing this complication, this study followed the criterion of Lewis (2002, 104)—that is, an agency was regarded as a new agency “if it had a new name and different functions from any previously existing agencies.” In tracing the organizational history of functions discharged by all sample agencies, we primarily relied on the Greenwood Encyclopedia of American Institution’s *Government Agencies* edited by D. Whitnah (1983), especially its appendix on the chronicles of federal agencies, and the U.S. Government Manuals.



**Table 2**  
Descriptive Statistics of Goal Ambiguity Dimensions and Antecedent Variables

|                                  | Unit                              | Mean  | Standard<br>Deviation | Minimum | Maximum |
|----------------------------------|-----------------------------------|-------|-----------------------|---------|---------|
| <b>Goal Ambiguity Dimensions</b> |                                   |       |                       |         |         |
| Mission Ambiguity                | 1–150 scale                       | 64.36 | 16.49                 | 29.18   | 125.90  |
| Directive Ambiguity (log)        | Ratio                             | 1.22  | .71                   | –.29    | 2.79    |
| Evaluative Ambiguity             | Percentage                        | 54.62 | 20.51                 | 5.90    | 94.10   |
| Priority Ambiguity               | Z-score                           | .48   | .74                   | –1.21   | 3.96    |
| <b>Antecedent Variables</b>      |                                   |       |                       |         |         |
| Financial Publicness             | Percentage                        | 78.78 | 33.50                 | 0.00    | 100.00  |
| Competing Demands                | Groups                            | 13.81 | 24.38                 | 0.00    | 127.00  |
| Policy Problem<br>Complexity     | Percentage                        | 25.57 | 19.07                 | 0.00    | 69.50   |
| Nonregulatory<br>Responsibility  | 0, else; 1, nonregulatory         | .34   |                       | 0.00    | 1.00    |
| Hybrid Responsibility            | 0, else; 1, hybrid                | .23   |                       | 0.00    | 1.00    |
| Size (log)                       | Employees                         | 7.90  | 1.60                  | 5.30    | 13.6    |
| Age                              | Years                             | 75.43 | 52.09                 | 7.00    | 221.00  |
| Institutional Location           | 0, inside departments; 1, outside | .31   |                       | 0.00    | 1.00    |

### ***Institutional Location***

In this study institutional location refers to whether a federal agency is inside the executive departments or outside. We determined the institutional location based on the U.S. Government Manual published in 1997. A “0” was recorded for agencies inside the executive departments, and a “1” was recorded for independent establishments.

## **RESULTS**

The hypotheses were tested with ordinary least squares (OLS) regression.<sup>22</sup> Table 2 presents the descriptive statistics of the dependent and independent variables.<sup>23</sup> Table 3 displays zero-order correlations for the variables. The correlations among goal ambiguity dimensions provided significant support for the multidimensionality of organizational goal ambiguity. Evaluative goal ambiguity was positively related to mission comprehension

<sup>22</sup> Assumptions of normality, linearity, no influential outliers, no serious problems of multicollinearity, and homoscedasticity apply to the data of this study. Analyses of the residuals indicated that there were no major violations of the assumptions of normality and linearity. Yet, an unusually influential outlier, the directive goal ambiguity score of the Occupational Safety and Health Administration (OSHA), was detected. The score was 62.17, while the mean was 4.91 and the next highest score was 16.91. For further scrutiny, the standardized DFBeta statistic was used to examine the extent of the effect of the single score on the regression slope. The standardized DFBeta statistic of the observation, 3.77, was extremely higher than the conventional cutoff of 1 (Bollen and Jackman 1985), and hence the observation was discarded. To verify the absence of any serious multicollinearity problems, on the other hand, the variance inflation factor (VIF) was used. The VIFs were all within acceptable limits, indicating no serious inflation in parameter estimates attributable to collinearities among the independent variables. Finally, the plot of residuals with predicted values of a dependent variable, directive goal ambiguity, indicated that the variance of errors was not constant. Following recommended procedures from the literature (Pedhazur 1997), natural logarithmic transformation of the dependent variable was used, which resulted in a clear pattern of homoscedasticity in the residual plot.

<sup>23</sup> As to the type of policy responsibility, there were 50 (43.5 percent) regulatory, 26 (22.6 percent) hybrid, and 39 (33.9 percent) nonregulatory agencies in the sample. The sample also included 79 (68.7 percent) agencies located inside the executive departments and 36 (31.3 percent) agencies located outside the departments.

**Table 3**  
Correlations of Goal Ambiguity and Antecedent Variables

| Variable                   | 1    | 2      | 3      | 4     | 5    | 6     | 7    | 8      | 9    | 10    | 11   |
|----------------------------|------|--------|--------|-------|------|-------|------|--------|------|-------|------|
| 1. Mission Ambiguity       |      |        |        |       |      |       |      |        |      |       |      |
| 2. Directive Ambiguity     | .08  |        |        |       |      |       |      |        |      |       |      |
| 3. Evaluative Ambiguity    | .23* | .33*   |        |       |      |       |      |        |      |       |      |
| 4. Priority Ambiguity      | .21* | .13    | .31*   |       |      |       |      |        |      |       |      |
| 5. Financial Publicness    | .05  | .23*   | .29*   | .14   |      |       |      |        |      |       |      |
| 6. Competing Demands       | -.09 | -.11   | .13    | .41** | .11  |       |      |        |      |       |      |
| 7. Problem Complexity      | -.05 | .24**  | .26**  | .16   | .07  | .18*  |      |        |      |       |      |
| 8. Nonregulatory           | -.00 | -.07   | .00    | .16   | .17  | -.03  | -.04 |        |      |       |      |
| 9. Hybrid                  | -.01 | -.10   | -.36** | -.10  | -.08 | .08   | .01  | -.38** |      |       |      |
| 10. Size                   | -.02 | -.08   | -.00   | .25** | -.15 | .30** | -.02 | -.07   | -.10 |       |      |
| 11. Age                    | .00  | -.29** | -.10   | .18*  | -.15 | .05   | -.02 | .01    | -.11 | .44** |      |
| 12. Institutional Location | .02  | .24**  | .25**  | .12   | -.17 | -.21* | .06  | -.00   | -.09 | -.14  | -.16 |

\*Significant at .05 level; \*\*Significant at .01 level.

ambiguity ( $r = .23, p < .05$ ), directive goal ambiguity ( $r = .33, p < .01$ ), and priority goal ambiguity ( $r = .31, p < .01$ ). In addition, there was a positive correlation between mission comprehension ambiguity and priority goal ambiguity ( $r = .21, p < .05$ ). All of these correlations were significant but modest, indicating that the four dimensions were related but distinct dimensions of goal ambiguity in organizations.

Table 4 shows the regression results for mission comprehension ambiguity. The results showed that no independent variables were significantly related to mission comprehension ambiguity.

Table 5 presents the regression results for directive goal ambiguity. The overall model was significant ( $F = 5.18, p < .001$ ), and the antecedent variables accounted for 28.3 percent of the variance ( $\text{Adj. } R^2 = .229$ ). Supporting hypothesis 2, financial publicness was significantly and positively associated with directive goal ambiguity (beta = .26,  $p < .01$ ). Hypothesis 4 predicted a positive relationship between competing demands from constituencies and directive goal ambiguity, but there was a negative relationship between competing demands from constituencies and directive goal ambiguity (beta =  $-.16, p < .05$ ), suggesting that federal agencies with more competing demands from constituencies

**Table 4**  
Results of Regression Analysis for Mission Comprehension Ambiguity

| Variables                    | Unstandardized Coefficient | Standard Error | Standardized Coefficient |
|------------------------------|----------------------------|----------------|--------------------------|
| Size                         | .16                        | 1.19           | .00                      |
| Age                          | .00                        | .03            | .02                      |
| Institutional Location       | .92                        | 3.66           | .02                      |
| Financial Publicness         | .03                        | .05            | .08                      |
| Competing Demands            | -.05                       | .07            | -.08                     |
| Policy Problem Complexity    | -.04                       | .08            | -.04                     |
| Nonregulatory Responsibility | -.10                       | 3.70           | -.03                     |
| Hybrid Responsibility        | -.28                       | 4.23           | -.00                     |

Note:  $R^2 = .016$ ; Adjusted  $R^2 = -.058$ ; F Value = .21; Sample size = 115.  
\*Significant at .05 level; \*\*Significant at .01 level; \*\*\*Significant at .001 level.

**Table 5**  
Results of Regression Analysis for Directive Goal Ambiguity

| Variables                    | Unstandardized Coefficient | Standard Error | Standardized Coefficient |
|------------------------------|----------------------------|----------------|--------------------------|
| Size                         | .05                        | .04            | .13                      |
| Age                          | -.003**                    | .00            | -.27                     |
| Institutional Location       | .30*                       | .13            | .19                      |
| Financial Publicness         | .005**                     | .00            | .26                      |
| Competing Demands            | -.004*                     | .00            | -.16                     |
| Policy Problem Complexity    | .008**                     | .00            | .23                      |
| Nonregulatory Responsibility | -.22*                      | .13            | -.15                     |
| Hybrid Responsibility        | -.22                       | .15            | .13                      |

Note:  $R^2 = .283$ ; Adjusted  $R^2 = .229$ ; F Value = 5.18\*\*\*; Sample size = 114.

\*Significant at .05 level; \*\*Significant at .01 level; \*\*\*Significant at .001 level.

are more likely to have lower levels of directive goal ambiguity. In hypothesis 6 regulatory policy responsibility was hypothesized to have a positive relationship with directive goal ambiguity. The data supported this hypothesis ( $\beta = -.15, p < .05$ ), indicating that regulatory agencies were significantly higher than nonregulatory agencies in their levels of directive goal ambiguity. However, such a difference was not found between regulatory and hybrid agencies ( $\beta = -.13, p > .05$ ). In addition, policy problem complexity was significantly and positively related to directive goal ambiguity ( $\beta = .23, p < .01$ ), as predicted by hypothesis 8. The results indicate that agencies with higher levels of policy problem complexity are more likely to have higher levels of directive goal ambiguity. Organizational age was hypothesized to have a negative relationship with directive goal ambiguity, as noted in hypothesis 10. This hypothesis received strong support from the data ( $\beta = -.27, p < .01$ ), suggesting that as organizational age increases, the level of directive goal ambiguity for the agency decreases. The data also show that independent agencies are more likely to have higher levels of directive goal ambiguity than agencies inside the executive departments ( $\beta = .19, p < .05$ ).

Table 6 shows the regression results for evaluative goal ambiguity. The overall model of evaluative goal ambiguity was significant ( $F = 8.30, p < .001$ ) and explained 38.5 percent of the variance (Adj.  $R^2 = .339$ ). The results strongly supported hypothesis 1, that

**Table 6**  
Results of Regression Analysis for Evaluative Goal Ambiguity

| Variables                    | Unstandardized Coefficient | Standard Error | Standardized Coefficient |
|------------------------------|----------------------------|----------------|--------------------------|
| Size                         | .12                        | 1.17           | .01                      |
| Age                          | -.02                       | .03            | -.06                     |
| Institutional Location       | 12.16**                    | 3.59           | .27                      |
| Financial Publicness         | .18***                     | .05            | .30                      |
| Competing Demands            | .13                        | .07            | .15                      |
| Policy Problem Complexity    | .20**                      | .08            | .18                      |
| Nonregulatory Responsibility | -8.04*                     | 3.64           | -.18                     |
| Hybrid Responsibility        | -19.92***                  | 4.16           | -.40                     |

Note:  $R^2 = .385$ ; Adjusted  $R^2 = .339$ ; F Value = 8.30\*\*\*; Sample size = 115.

\*Significant at .05 level; \*\*Significant at .01 level; \*\*\*Significant at .001 level.

**Table 7**  
Results of Regression Analysis for Priority Goal Ambiguity

| Variables                    | Unstandardized Coefficient | Standard Error | Standardized Coefficient |
|------------------------------|----------------------------|----------------|--------------------------|
| Size                         | .56                        | .04            | .12                      |
| Age                          | .02*                       | .00            | .18                      |
| Institutional Location       | .45**                      | .13            | .28                      |
| Financial Publicness         | .00*                       | .00            | .15                      |
| Competing Demands            | .01***                     | .00            | .40                      |
| Policy Problem Complexity    | .03                        | .00            | .07                      |
| Nonregulatory Responsibility | .24*                       | .13            | .15                      |
| Hybrid Responsibility        | -.01                       | .15            | -.06                     |

Note:  $R^2 = .330$ ; Adjusted  $R^2 = .280$ ; F Value = 6.53\*\*\*; Sample size = 115.

\*Significant at .05 level; \*\*Significant at .01 level; \*\*\*Significant at .001 level.

financial publicness would have a positive effect on evaluative goal ambiguity (beta = .30,  $p < .001$ ), indicating that federal agencies with higher levels of financial publicness tend to have higher levels of evaluative goal ambiguity. In hypothesis 7 regulatory policy responsibility was hypothesized to have a positive effect on evaluative goal ambiguity. The results supported hypothesis 7 (beta = -.18,  $p < .05$  for nonregulatory responsibility; beta = -.40,  $p < .001$  for hybrid responsibility), indicating that agencies with regulatory responsibilities tend to have higher levels of evaluative ambiguity than agencies with nonregulatory and hybrid responsibilities. Hypothesis 9 predicted a positive relationship between the complexity of the policy problem and evaluative goal ambiguity. The results supported this prediction (beta = .18,  $p < .01$ ); higher levels of policy problem complexity in federal agencies lead to higher levels of evaluative goal ambiguity in the organizations. Finally, the results for institutional location indicate that agencies outside the executive departments, as compared to those inside, are more likely to have higher levels of evaluative ambiguity (beta = .27,  $p < .01$ ).

Table 7 presents the regression results for priority goal ambiguity. The model was significant ( $F = 6.53$ ,  $p < .001$ ), and the antecedent variables explained 33.0 percent of the variance (Adj.  $R^2 = .280$ ). Hypothesis 3, that financial publicness would be positively related to priority goal ambiguity, was supported by the data (beta = .15,  $p < .05$ ). Hypothesis 5 predicted that competing demands from constituencies would be positively related to priority goal ambiguity. The results indicate a significant effect (beta = .40,  $p < .001$ ), revealing that greater competing demands from constituencies lead to higher levels of priority goal ambiguity in government agencies. Hypothesis 11 stipulated that organizational age would positively impact priority goal ambiguity. The data showed support for this prediction (beta = .18,  $p < .05$ ), indicating that older agencies are more likely to have higher levels of priority goal ambiguity. Hypothesis 12, that organizational size would have a positive relationship with priority goal ambiguity, was not supported by the results (beta = .12,  $p > .05$ ). Institutional location showed a significant relationship to priority goal ambiguity (beta = .28,  $p < .01$ ). This result indicates that independent establishments tend to have higher levels of priority goal ambiguity than agencies inside the executive departments. In addition, there was a significant difference between regulatory agencies and nonregulatory agencies in priority goal ambiguity (beta = .15,  $p < .05$ ), showing that regulatory agencies tend to have lower levels of priority goal ambiguity than nonregulatory agencies.

## **DISCUSSION AND CONCLUSIONS**

This study enhances the analysis of organizational goals by providing evidence of the validity of measures of goal ambiguity. It also enhances understanding of the multidimensional nature of goal ambiguity in public organizations. If clarifying organizational goals is considered important in improving the accountability and performance of public organizations, a clear understanding of the dimensions of goal ambiguity is critical. This study developed four dimensions of goal ambiguity because of the expectation that these different dimensions might relate differently to different antecedents. The results in general support this contention. Priority goal ambiguity was positively related to organizational age in government agencies, but directive goal ambiguity was negatively related to the variable, and evaluative goal ambiguity showed no relationship. This positive relationship of organizational age to directive goal ambiguity is consistent with the evolutionary perspective on public policy formulation and implementation (Majone and Wildavsky 1984). In contrast, the negative relationship of this antecedent to priority goal ambiguity is in line with the arguments suggested by many public bureaucracy analysts including Downs (1967) and Warwick (1975). As discussed below, competing demands, policy problem complexity, and nonregulatory responsibility also exhibited different patterns of relationships with different antecedent variables. Reasonable and logically interpretable patterns in these relations, that support the hypotheses stated above, further support the validity of the goal ambiguity dimensions. In future studies researchers should exercise more care in specifying what they mean by goal ambiguity in organizations and should be explicit in specifying and analyzing its dimensions.

This study also demonstrates the importance of the use of more objective measures of goal ambiguity than in previous research, which used such measures as responses to questionnaire items about organizational goal clarity (e.g., Lan and Rainey 1992). The four dimensions and measures, developed for this study using various archival sources, met convergent validity tests. They had modest correlations with each other, suggesting that they are related but distinct dimensions. More important, the findings are in general consistent with the theoretical literature.

Interestingly, the measures in the present study have led to different results from the more subjective and perceptual measures used in previous studies such as surveys of public and private managers concerning the ambiguity of their organizations' goals (or, conversely, the clarity of them). These differences are highlighted by the finding that higher levels of financial publicness are associated with higher levels of three of the goal ambiguity dimensions. Analysts of public bureaucracy have argued for a long time that public organizations have more ambiguous goals and performance targets than business firms because the public agencies lack economic markets for their organizational outputs and the consequent goals, incentives, and indicators (e.g., Allison 1983; Dahl and Lindblom 1958; Lynn 1981; Rainey 1993; Ring and Perry 1985). This assertion has received only a small amount of empirical analysis, however (Baldwin 1987; Bozeman and Kingsley 1998; Lan and Rainey 1992; Rainey 1983), and these studies used questionnaire surveys to collect evidence. Most of them found little or no relationship between public sector status and goal ambiguity in organizations—the public and private managers would show no mean differences in their ratings of the goal ambiguity (or goal clarity) of their organizations. The results for financial publicness in the present study, however, support the

frequently repeated claim that public sector status affects organizational goal ambiguity. As financial publicness increased, so did directive, evaluative, and priority goal ambiguity in federal agencies. These relationships existed even after controlling for such factors as organizational size, age, institutional location, type of policy responsibility, policy problem complexity, and competing demands from constituencies. By employing new measures, this study minimized complications in previous survey research on goal ambiguity, such as social desirability bias or the possibility that public sector respondents might erroneously regard standard operating procedures (SOPs) as proxies for clear organizational goals.

The evidence reported here also supports theoretical propositions concerning political and institutional determinants of goal ambiguity in public organizations, and many of these propositions have never been empirically examined before. The finding that competing demands from constituencies (and hence the need for political compromise) is an important antecedent of priority goal ambiguity is consistent with the theoretical arguments of many political scientists (e.g., Baier et al. 1988; Behn 2001; Lowi 1979; Page 1976; Wilson 1980). The finding that the need for political compromise among multiple constituencies was negatively related to directive goal ambiguity was troublesome, however. Since Lowi (1979), the argument that the need to build the majority coalition tends to make politicians avoid specificity in legislation, which might highlight differences among the members of the coalition, has been widely accepted in the fields of political science and public policy, although it is not easy to find empirical research on this assertion. A possible explanation for this anomaly has to do with an assumption underlying the measure of directive goal ambiguity used in this study. While the measure, the R/L ratio, was based on the assumption that public managers would be inclined to clarify their mandates by issuing administrative rules when facing ambiguous statutory language, some scholars have argued against the assumption. For instance, Wilson (1989, 330) noted that government agencies with ambiguous statutes often prefer not to clarify the statutes since uncertain policy directives could mean bureaucratic power. Similarly, in his classic discussion of “muddling through,” Lindblom (1959) discussed reasons why public administrators should avoid specifying goals too clearly and too soon, especially when faced with multiple interests and pressures.

The pattern of empirical results reported here, however, suggests an interpretation of these seemingly contradictory findings. Multiple, competing interests can expand the goal set of an agency—thus giving it more different goals and performance targets and thus increasing our measure of priority goal ambiguity—but it can simultaneously increase the incentive for agency leaders to avoid specifying how they will pursue those goals and hence to avoid elaborating and refining the goals through directives and rules (and thereby lowering our measure of directive goal ambiguity). This interpretation again suggests the value of the multidimensional conception of goal ambiguity developed in the present study.

Empirical research on the relationship of policy responsibility type (in this study, nonregulatory, regulatory, or hybrid) and goal ambiguity in public organizations has been rare. The results of the present study demonstrated a significant positive impact of regulatory policy responsibility on directive and evaluative goal ambiguity. These results are consistent with the frequent assertion that regulatory mandates tend to be general and vague, making it difficult to measure the degree of progress toward fulfilling the mandates (Noll 1971; Ripley and Franklin 1991; U.S. GAO 1997a; Wilson 1980). On the other hand,

it is not easy to interpret the finding that regulatory agencies are more likely to have lower levels of priority goal ambiguity than nonregulatory agencies. Although we did not state a hypothesis about this relationship, this finding comes as a surprise because of the frequent observations about the vague mandates for regulatory agencies. An interpretation consistent with these results, however, is that regulatory agencies receive broad, general mandates, but mandates that are not necessarily more multifaceted than other types of agencies. For example, a regulatory agency may receive a mandate to protect the health and safety of workers. This mandate is general but not inherently as multifaceted and conflicting as a mandate for a nonregulatory or hybridized agency both to develop natural resources and to conserve them, or both to punish prisoners and to rehabilitate them. The broad mandates of regulatory agencies thus can increase directive goal ambiguity (reflected in greater promulgation of directives and rules refining the mandate) and evaluative ambiguity (less objective and quantitative criteria in goals and performance targets), but not priority ambiguity (the multiplicity of goals and conflicts among them).

Policy problem complexity emerged as an important antecedent of goal ambiguity in the present study. As expected, the results showed that this variable had a significant and positive impact on directive and evaluative goal ambiguity in government agencies. These findings support the often-repeated assertion that as policy problems become more complex, and as they require more professionals with specialized training in order to resolve the problems, political masters tend to confront limitations on their competence to develop specific and measurable expectations for their bureaucratic servants (Bawn 1995; Bendor et al. 1984; Hendry 2002; Matland 1995).

As mentioned above, the relationship between institutional location and goal ambiguity in public organizations was examined without a hypothesis. Nevertheless, the independent status of a federal agency was significantly and positively related to three ambiguity dimensions—directive, evaluative, and priority goal ambiguity—which made the variable a very consistent predictor across the dimensions of goal ambiguity. Upon initial examination the finding seems to contradict stereotypes about independent establishments in the federal government. One might expect that independent agencies perform relatively narrow functions and that their goals and performance targets should be few in number and readily subject to objective evaluation of performance. These impressions can be misleading, however, as the choice of institutional type and location depends on a variety of political and administrative factors and seemingly lacks any universal rationale (Seidman 1998). Interpretations of these results would be speculative at this point, pending more intricate analysis of our data.

One objective of this study was to benefit policymakers and public managers by advancing the analysis of goal ambiguity in public organizations. Despite the widespread emphasis on improving management through goal clarification, in practice goal clarification has always been a daunting challenge for public managers. Some of the challenges, such as the lack of reliable data, are technical or analytic issues for which public managers can develop various strategies (Streib and Poister 1999; U.S. GAO 1999; Wang and Berman 2000), but many of them are political in nature (Julnes and Holzer 2001; Murphey 1999). As suggested above, goal clarification is often considered “managerially sound” but “politically irrational” in the public sector. The tension between managerial strategy for goal clarification and political need for ambiguous goals poses a difficult problem for the effectiveness of administrative reforms and policy initiatives that aim at clarifying organizational goals in the public sector.

In dealing with this problem, the results of this study suggest that government organizations vary in political and institutional contexts, such that some agencies have more inherent difficulties in clarifying their goals than others. Governments attempting to clarify organizational goals and develop results-oriented management systems have generally failed to recognize these differences among government agencies (Radin 2000; Roberts 2000). Thus, rather than implementing a government-wide generic initiative like the GPRA, government agencies might attain more benefit from a more flexible approach in which different goal clarification strategies are used for different agencies. As with the application of other managerial practices based on rational approaches to the public sector (e.g., Bryson and Anderson 2000; Condrey and Brudney 1992; Durant and West 2001; Ring and Perry 1985), policymakers should take agency-based differences into account when they develop strategies for goal clarification and use the set of antecedents in this study in diagnosing problems in goal clarification.

## Appendix 1

### The Measure of the Variables

| Variable                              | Measure Definition  |
|---------------------------------------|---|
| <i>Goal Ambiguity Dimensions</i>      |   |
| Mission comprehension ambiguity       | Gunning-Fog Index (GFI) of the mission statement: the average sentence length + the percentage of hard words in the statement |
| Directive goal ambiguity              | Ratio of the number of pages of administrative rules to the number of pages of legislation                                    |
| Evaluative goal ambiguity             | Percentage of performance indicators that are subjective or workload-oriented   |
| Priority goal ambiguity               | Average Z-scores of two indicators: the number of long-term strategic goals and the number of annual performance targets      |
| <i>Antecedent Variables</i>           |   |
| Financial publicness                  | Percentage of financial resources from government sources   |
| Competing demands from constituencies | Number of interest groups that testified concerning programs of the agency at the House Appropriations Committee hearings     |
| Policy problem complexity             | Percentage of full-time employees in the job category of "professional"   |
| Nonregulatory policy responsibility   | = 1 if the primary responsibility was nonregulatory and 0 otherwise   |
| Hybrid policy responsibility          | = 1 if responsibilities were mixed and 0 otherwise  |
| Organizational size                   | Number of full-time employees   |
| Organizational age                    | Years after establishment   |
| Institutional location                | = 1 if independent and 0 if inside the executive departments  |



**Appendix 2****Criteria for Classifying Performance Indicators**

| Type                          | Definition   |
|-------------------------------|--|
| Objective indicators          | <p>(1) those with numerical levels of performance target; and (2) those based on descriptive narratives anchored to physically observable conditions or events</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>Number of railroad-related fatalities and injuries in the fiscal year</li> <li>Annual growth rate of the Gross Domestic Product</li> <li>Number of the agency's Web site accesses per day</li> <li>Safe return of a space shuttle to Earth</li> <li>No armed conflicts in the Korean peninsula</li> </ul>   |
| Subjective indicators         | <p>(1) those without numerical levels of performance target; (2) those quantified through officials' self-assessments; and (3) those based on descriptive narratives without being anchored to physically observable conditions or events</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>Successful identification of terrorist threats</li> <li>Full compliance with a particular act</li> <li>Number of parks in good or improved condition</li> <li>Successful completion of the first phase of a particular study</li> <li>Status of global agreement to minimize transboundary pollution</li> </ul>  |
| Workloads-oriented indicators | <p>(1) those of the quantity of work completed by the agency; (2) those of the quantity and quality of input resources; (3) those of the quantity of managerial work without any proven connection to outcome and productivity measures</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>Number of inspections conducted</li> <li>Employee job satisfaction ratings</li> <li>Percentage of employees who are female</li> <li>Rate of compliance with a regulatory standard for safety facilities</li> <li>Number of training sessions</li> </ul>  |
| Results-oriented indicators   | <p>(1) those of the amount and/or the frequency of events, occurrences, or conditions outside the work or program itself and of direct importance to clients or the public; (2) those of the quality of work completed by the agency; (3) those of cost-saving, unit-cost, or productivity, i.e., input-output ratio; (4) those of intermediate outcomes that are proven to lead to a desired end but not an end in itself; and (5) those of the quantity of managerial work with proven connection to outcome and productivity measures</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>Number of aviation accidents in the fiscal year</li> <li>Customer satisfaction ratings</li> <li>Percentage of first-class mail on time</li> <li>Number of completed cases per employee in the fiscal year</li> <li>Number of patents or publications in peer-reviewed journals</li> </ul> |

*Source:* Adapted and revised from Morley, Bryant, and Hatry (2001); Franklin (1999); U.S. OMB (2001); and the performance plans of a variety of federal agencies.

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