GOALS, AMBIGUITY, AND PERFORMANCE

IN U.S. FEDERAL PROGRAMS AND AGENCIES

by

CHAN SU JUNG

(Under the Direction of Hal G. Rainey)

ABSTRACT

This study provides meaningful implications and contributions to empirical goal ambiguity theory and the public management literature. First, in order to extend the range of empirical goal ambiguity theory to the program level, this study develops program goal ambiguity as a multi-dimensional construct through conceptualizing three new dimensions of program goal ambiguity: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. The study also develops objective measures of the three new dimensions of program goal ambiguity. In addition, the construct validity of these three new measures is empirically demonstrated through the tests of convergent validity and discriminant validity and their reliability is verified through the test of inter-rater reliability. Next, the present study enhances the understanding of program goal ambiguity by examining its antecedents: management capacity, planning capacity, program type (direct or third-party), assessment year, program size, budget increase, political party initiative (Republican or Democratic), and agency type (regulatory or non-regulatory). The multiple regression analyses demonstrate that different antecedents are differently related to different dimensions of program goal ambiguity by using 767 U.S. federal programs as a large sample.

For a better understanding of program performance, its antecedents are also examined by using the five Program Assessment Rating Tool (PART) performance scores (program design, planning, management, results, and overall assessment rating scores) that the U.S. Office of Management and Budget (OMB) provides. The antecedents of program performance include target-specification goal ambiguity, time-specification goal ambiguity, program evaluation goal ambiguity, program type, assessment year, program size, budget increase, and political party initiative. The results show that different dimensions of program performance are also differently related to different antecedents by using 767 U.S. federal programs as a large sample. Moreover, this research suggests an explanatory and comprehensive model of organizational performance and an objective measure of organizational performance by calculating the actual program goal achievement rates of 97 U.S. federal agencies and examines antecedents of the new measure. The significant antecedents of the new organizational performance measure include target-specification goal ambiguity, time-specification goal ambiguity, program evaluation goal ambiguity, management capacity, personnel size, number of programs, and institutional location out of 12 independent variables. Most significantly, this study shows that each of the three newly developed dimensions of program goal ambiguity relates consistently, statistically significantly, and negatively to the program performance OMB provides as well as to the newly developed objective measure of organizational performance. Therefore, the present study provides strong support for establishing empirical goal ambiguity theory as well as more refined explanations for more effective goal setting and performance evaluation.

INDEX WORDS: Program Goal Ambiguity, Target-Specification Goal Ambiguity, Time-Specification Goal Ambiguity, Program Evaluation Goal Ambiguity, Construct Validity, Reliability, Program Performance, Organizational Performance, Empirical Goal Ambiguity Theory

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DEDICATION

This work is dedicated to my Parents, Geochae Jung and Oksung Kim, and to my younger siblings, Chanmyung Jung and Eunsook Jung, for their unconditional love and compassion.

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CHAPTER 1

INTRODUCTION

1.1 Characteristics of This Study

A case-selection bias has plagued the research of public policy implementation and public management and this phenomenon has made it difficult to develop theories in these fields (Kettl, 1993). In relation to the argument about the development of theories, the present study has three main characteristics. First, this is the first large-sample empirical study to develop and validate three new concepts and measures of program goal ambiguity (target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity) and to examine their antecedents for 767 U.S. federal programs, as shown in Table 1.1. In addition, this is also the first large-sample research to empirically examine the impact of program goal ambiguity and various antecedents, including program type, assessment year, program size, budget increase, and political party initiative, on various dimensions of program performance, that is, program design, planning, management, results, and overall assessment rating scores. Furthermore, this is also the first large-sample study to objectively measure the actual goal achievement rates as a measure of organizational performance and examine its antecedents, such as the three new dimensions of goal ambiguity, management capacity, personnel size, the number of programs, and institutional location, for 97 U.S. federal agencies.

Table 1.1 Distinct Differences between the Present Research and Chun's (2003)

	The Present Research	**Chun's (2003) Research**
Unit of Analysis	U.S. Federal Programs and Agencies	U.S. Federal Agencies
Sample Size	767 (Programs)[1]; 97 (Federal Agencies)[2]	115 Federal Agencies
Dimensions of Goal Ambiguity	Target-Specification Goal Ambiguity Time-Specification Goal Ambiguity Program Evaluation Goal Ambiguity	Mission Comprehension Ambiguity Directive Goal Ambiguity Evaluative Goal Ambiguity Priority Goal Ambiguity
Antecedents of Goal Ambiguity	Management Capacity Planning Capacity Program Type (Direct or Third-Party) Assessment Year Program Size Budget Increase Political Party Initiative (Republican or Democratic) Agency Type (Regulatory or Non-Regulatory)	Financial Publicness Competing Demands from Constituencies Type of Policy Responsibility (Regulatory, Non-Regulatory, or Hybrid) Complexity of the Policy Problem Organizational Age Organizational Size Institutional Location
Dependent Variables of Goal Ambiguity	**At the Program Level (From the PART):** o Program Design o Program Planning o Program Management o Program Results o Overall Assessment Rating Scores **At the Organization Level (Newly Measured):** o Actual Program Goal Achievement Rates	**Survey Data:** o Managerial Effectiveness o Customer Satisfaction o Work Quality o Productivity

[1] Appendix A shows the full list of the 767 federal programs with their agencies for the empirical studies in Chapter 4 and Chapter 5.
[2] Appendix B provides the full list of the 97 federal agencies for the empirical study in Chapter 6.

Distinctions should be made between the research in this dissertation and that which preceded it, despite their common thread, goal ambiguity. As the first empirical study on organizational goal ambiguity, Chun's (2003) study, "Goal Ambiguity in Public Organizations: Dimensions, Antecedents, and Consequences," contributed insights of the current research. However, the present study has distinct differences from Chun's (2003), as shown in Table 1.1.

1.2 Goal Ambiguity

Concerning goal ambiguity, in the literature on the distinctive characteristics of government organizations and public policies, one encounters a well-established tradition in which leading scholars asserted that public agencies and public policies have particularly vague or ambiguous goals, as compared with the goals of business firms. These authors further asserted that this goal ambiguity has important consequences for government organizations and their managers (e.g., Allison, 1983; Dahl and Lindblom, 1953; Downs, 1967; Drucker, 1980; Lowi, 1979; Lynn, 1981; Matland, 1995; Rainey and Bozeman, 2000; Ripley and Franklin, 1982; Wildavsky, 1979; Wilson, 1989). This body of work contributed to a diffuse, but discernable theory of public organizations which emphasized their status as organizations under the more direct control of government authorities than business firms, and subject to less influence of economic markets for their outputs. The observations about goal ambiguity play a central role in this theory.

Except for some surveys asking managers about organizational goal clarity (e.g., Rainey and Bozeman, 2000), however, researchers have reported virtually no evidence from large-sample quantitative research on the topic. In addition, considerable empirical research, especially in psychology, has focused on the importance of goal as a motivational construct for a person and an organization. The researchers have addressed goal attributes, such as specificity,

proximity, complexity, and conflict (see Bandura, 1989; Bandura and Locke, 2003; Emmons, 1989; Lee, Locke, and Latham, 1989; Locke and Latham, 2002; Markus and Ruvolo, 1989; Pervin, 1989; Wright and Brehm, 1989). Yet this is not the case for the research concentrating on goal ambiguity itself. As a result, empirical research on goal ambiguity has been rare before that contributed by Chun (2003) and Chun and Rainey (2005a; 2005b). For 115 U.S. federal agencies, Chun (2003) and Chun and Rainey (2005a; 2005b) developed and measured four dimensions of organizational goal ambiguity: mission comprehension ambiguity, directive goal ambiguity, evaluative goal ambiguity, and priority goal ambiguity. Furthermore, their studies demonstrated that different dimensions of organizational goal ambiguity have different antecedents, such as financial publicness, competing demands from constituencies, type of policy responsibility, complexity of the policy problem, organizational age, and organizational size.

Although goal ambiguity has been noticed for a long time, almost all empirical studies prior to Chun's (2003) research and Chun and Rainey's (2005a; 2005b) research provided unexpected results or did not support goal ambiguity theory. For example, Rainey and Bozeman (2000) did not find any significant difference in the level of goal ambiguity between the public sector and private companies (e.g., Bozeman and Kingsley, 1998; Lan and Rainey, 1992; Rainey, 1983; Rainey, Pandey, and Bozeman, 1995). Therefore, Chun's (2003) research and Chun and Rainey's (2005a; 2005b) research can be regarded as the only empirical research providing support for goal ambiguity theory. What are the causes of the inconsistency between the theoretical assertion and empirical evidence? As major organization theorists pointed to extreme difficulties confronting analysis of the concept of organizational goals (e.g., Scott, 2003), Chun (2003) suggested that the causes could be described as either conceptual or methodological (Hall, 2002; Perrow, 1961). The former was that scholars in public administration and public policy

have not tried to clearly conceptualize goal ambiguity (Rainey and Bozeman, 2000), while the latter was that the previous research methodology about goal ambiguity has been biased by dependence on perceptual survey data (Bozeman, 2000; Perry and Porter, 1982). In order to overcome these conceptual and methodological obstacles, this study newly conceptualizes program goal ambiguity and its sub-dimensions and suggests objective measures of them.

Many practitioners and scholars have argued that goal ambiguity would bring about dysfunctional consequences (Chun and Rainey, 2005a; Pandey and Garnett, 2006). Goal ambiguity, or lack of goal clarity, exerts a significant impact on various work attitudes: organizational commitment (Buchanan, 1974), work motivation (Wright, 2004), work alienation (Bozeman and Rainey, 1998), and risk-taking (Bozeman and Kingsley, 1998). Furthermore, this goal concept negatively influences a variety of organizational performance: communication performance (Pandey and Garnett, 2006), organizational effectiveness (Pandey, Coursey, and Moynihan, 2007), policy implementation between agencies (Meyers, Riccucci, and Lurie, 2001), and policy adoption (de Lancer Julnes and Holzer, 2001). Thus, decreasing goal ambiguity can be a main prescription for improving the performance of public organizations (Rainey, 2003).

This situation is true for federal programs as well as federal agencies. As the research on federal programs has shown, there are several dimensions of goals.[3] However, the systems of goals in federal programs are different from those in federal agencies.[4] Thus, there is a need to develop new measures of program goal ambiguity and examine which antecedents affect the different dimensions of goal ambiguity. When O'Toole (1986) reviewed over one hundred implementation research studies referring to more than three hundred important variables which

[3] Section 3.3 below provides detailed explanations about the dimensions of U.S. federal program goals.
[4] For example, for the measure of evaluative goal ambiguity at the agency level, Chun (2003) and Chun and Rainey (2005a) divided performance indicators of federal agencies into four evaluative goals: subjective goals, objective goals, workload-oriented goals, and results-oriented goals. However, for the measure of program evaluation goal ambiguity, this study uses the U.S. Office of Management and Budget's (OMB) classification: outcome goals, outcome-oriented efficiency goals, output goals, output-oriented efficiency goals.

had an influence on policy implementation, goal ambiguity was one of the critical antecedents of successful policy implementation.

However, after Chun and Rainey's (2005a) research, few large-sample studies have focused on goal ambiguity for public organizations and public programs. This dissertation is the first large-scale empirical study to conceptualize program goal ambiguity and its three sub-dimensions (target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity), develop the new measures of the sub-dimensions, validate the new measures, and examine their antecedents in the U.S. federal government. For these three measures of program goal ambiguity, the present study uses the Program Assessment Rating Tool (PART) data provided by the U.S. Office of Management and Budget (OMB). The reason for this research is obvious; "goals embedded in public programs are diffuse, numerous, and usually fuzzy" (Ripley and Franklin, 1982, p. 20). Goal ambiguity can bring about misunderstanding and uncertainty and therefore is often treated as a cause of failures of public policies (Matland, 1995). The main purpose of this study is to build a foundation for the development of empirical goal ambiguity theory and offer some practical implications that would be helpful in lowering program goal ambiguity through managing the antecedents and therefore improving the performance of federal programs.

1.3 Program Performance

In terms of performance, despite being a major topic in public administration for many decades, evaluating the performance of governmental activities has received increased attention in recent years. As part of this trend, the PART was created by OMB in 2003 to assess the performance of federal programs. The PART assessed program design, program planning, program management, program results (performance on strategic goals), and overall performance

rating scores that combined these four categories of performance indicators. Researchers have reported analyses of PART results, in relation to such variables as budget decisions in OMB, and whether the program head was a careerist or political appointee (e.g., Gilmour and Lewis, 2006a). Common performance measures for disparate government programs are rare, especially at the federal level in the U.S., and PART scores provide comparable performance indicators. The availability of PART results for a very large number of federal programs (767 programs, for the present analysis) provides an opportunity for analysis of an important performance assessment initiative and analysis of antecedents related to performance indicators for federal programs. The analysis reported here relates the various PART performance scores to antecedents that should influence such performance indicators. These include measures of the programs' levels of goal ambiguity (as opposed to goal clarity), assessment year, program type ("direct" versus "third-party"), program size, program budget increases, and political content of the program ("Republican" or "Democratic"). Each of these variables shows a significant relationship to at least one of the PART categories. Newly developed measures of goal ambiguity ("target-specification goal ambiguity," "time-specification goal ambiguity," and "program evaluation ambiguity") show the strongest and most consistent relations, in negative relations to PART scores. The analysis for program type shows that third-party programs consistently show lower PART scores than direct programs. These goal ambiguity and program type variables show the strongest associations with the PART program results ratings and the overall rating scores.

In related developments, psychologists have reported abundant empirical research on the influences on individual and team performance of goal attributes, such as goal specificity, proximity, complexity, and conflict (see Bandura, 1989; Bandura and Cervone, 1983; Bandura and Locke, 2003; Latham and Lee, 1986; Lee, Locke, and Latham, 1989; Locke and Latham,

2002; Locke, et al., 1981). In this stream of research, goal-setting theory of work motivation has performed as one of the most consistently supported theories in social science. Empirical research has consistently supported the prediction that clear, challenging, but acceptable goals enhance work performance, as compared with work setting without such goal attributes as goal clarity.

Intriguingly, however, one can find very little analysis of the effect of goal clarity or ambiguity on performance anywhere in the social sciences. Chun and Rainey (2005a; 2005b) developed goal ambiguity measures for federal agencies. They reported findings of relations between the goal ambiguity measures and antecedents of goal ambiguity such as financial publicness (proportion of funding from government allocations) and regulatory status (2005a). They also reported relations between goal ambiguity and indicators of organizational performance, based on employee perceptions of performance reported in employee surveys (2005b). The analysis reported below also regresses PART performance scores on ratings of the new measures of programs' goal ambiguity. Thus, this dissertation is also the first large-scale empirical study to examine the relationship between goal ambiguity and performance in U.S. federal programs.

1.4 Organizational Performance

In the study of social organizations, organizational performance has been considered a complex problem (Georgopoulos and Tannenbaum, 1957). Although many previous models of performance have shown a variety of criteria for performance, such as productivity (Georgopoulos and Tannenbaum, 1957; Mott, 1972; Price, 1968), goal achievement (Duncan, 1973; Katz and Kahn, 1966), satisfaction (Gibson, et al.,1973), profitability (Child, 1972;

Friedlander and Pickle, 1968), resource acquisition (Yuchtman and Seashore, 1967), efficiency (Webb, 1974), and open communications (Schein, 1970), Steers (1975) argued that "much remains to be done before the effectiveness construct can be usefully employed by researchers and managers in organizational settings" (p. 555). The efforts to measure organizational performance have been made in such diverse fields as sociology, management, psychology, and education (e.g. Cameron, 1986; Georgopoulos and Tannenbaum, 1957; Koys, 2001). However, empirical studies of organizational performance have been rare in the public sector except for studies of schools or universities.

Especially in the public sector, comparing organizational performance among agencies presents a challenge, since many agencies have their own goals or values, many of which are difficult to measure empirically. If so, is it a mission impossible? If we try to measure organizational performance of federal agencies, it is a prerequisite to clearly understand the agencies' functional and environmental uniqueness (Steers, 1975). That is, organizational performance is a multi-dimensional concept (Asch, 2005; Kirchhoff, 1977). Based on both theory and empirical evidence from related studies, scholars have argued that the use of performance measures which are value-laden and informative about public programs' quality should be an improvement over past approaches such as measuring public programs' output, input, or unit cost measures that brought about unexpected results, that is, unintended bureaucratic responses (Blau, 1955; Heckman, Heinrich, and Smith, 2002; Heinrich, 2007). Thus, public management students need a different approach from the most previous empirical research on organizational performance, which did not reflect different goals or values of large samples of public agencies. Steers (1975) has already suggested a different way to measure and compare organizational performance – to refer to the operative goals that federal agencies have

to pursue. That is, "criterion specification should be flexible enough to account for diversity in goal preferences" (Steers, 1975, p. 555).

This study basically follows the goal approach to organizational performance proposed by Steers (1975). Compared with other approaches to organizational performance, this approach has an important advantage: "Once the actual behavioral intentions of organization are identified, it is then possible to ascertain the degree to which those intentions are being realized; such an approach reduces our reliance on value premises about what an organization should be doing and relies instead on what it is actually trying to do" (Steers, 1975, p. 555).

This research develops a new measure of organizational performance applied to the 97 U.S. federal agencies on the basis of Steers' (1975) goal approach, in order to employ a more objective measure than others using survey data for organizational performance. The measure of organizational performance is calculated by averaging the actual goal achievement rates of all the programs in individual federal agencies. Then this study examines the antecedents that explain the variations of the new measure of organizational performance among federal agencies. These antecedents are divided into four categories: organizational goal ambiguity, organizational capacity, organizational size, and political contents. In order to examine as a main point the relationship between organizational goal ambiguity and performance, the dimensions of goal ambiguity newly measured at the federal agency level include target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. In addition, another main point is to examine the relationship between the federal agencies' management and planning capacity evaluated by OMB and the new measure of organizational performance. The dimensions of organizational size are the number of employees, budget size, and the number of programs. For investigating the effects of politics on organizational performance, this research

includes the following as political variables: institutional location (independent or inside the executive departments), policy type (regulatory and non-regulatory), budget increase, and political party initiative (Republican or Democratic).

Examining these relationships has theoretically significant implications, since many scholars have asserted that performance variables of public agencies, including organizational performance and success of public policy, are related to goal ambiguity, organizational capacity, size and politics (e.g., Armandi and Mills, 1982; Boyne, 2003; Chun and Rainey, 2005b; Gilmour, 2002; Gilmour and Lewis, 2006a; Gooding and Wagner, 1985; Ingraham, Joyce, and Donahue, 2003; Matland, 1995; O'Toole, 1986). Additionally, "it also has important implications for public policy and managerial practice, for the assumption that goal clarification and improvement of management capacity will improve organizational performance underlies recent administrative reforms, including the Government Performance and Results Act (GPRA), managing for results in the Bush Administration, and initiatives based on the New Public Management in other nations" (Chun and Rainey, 2005b, p. 530). To these ends, this dissertation is also the first large-scale empirical study to objectively measure and explain organizational performance, based on the goal approach.

The dissertation consists of seven chapters including this chapter. For the empirical studies described above, Chapter 2 covers the scope and issues of ambiguity research, the main concepts and criticisms of goal-setting theory, the importance of program goal ambiguity, the scope of performance research, the goal approach to performance, and the explanations about the PART as the main data source. Chapter 3 conceptualizes program goal ambiguity and its three sub-dimensions, develops the new measures of the sub-dimensions, and validates the measures. Chapter 4 provides an explanatory model for program goal ambiguity and examines the

antecedents of the new concept. Chapter 5 suggests an explanatory but comprehensive model for program performance and finds significant independent variables, including program goal ambiguity and program types, of various performance dimensions. Chapter 6, which changes the unit of analysis from federal programs to federal agencies, measures the actual goal achievement rates of federal programs in each federal agency as a measure of organizational performance and investigates the antecedents of the new measure through a comprehensive model. The last chapter summarizes the findings of the present research and its theoretical and practical implications, addresses methodological and conceptual issues, and suggests future research directions related to goal ambiguity and performance.

CHAPTER 2

RESEARCH ON GOAL AMBIGUITY AND PERFORMANCE

This chapter reviews the literature on ambiguity research, performance research, and the Program Assessment Rating Tool (PART) as the main source of data for this study. First, I discuss different ambiguity research and the main issues in order to construct an explanatory focus of this empirical study of program goal ambiguity. A variety of academic fields contribute to this literature, such as public administration, public management, public policy, psychology, and education. Second, I draw some limitations and implications for the program goal ambiguity study through the review of the research based on goal-setting theory as an important theory related to this study. Third, I discuss issues of definition, measurement, factors of organizational performance, and the scope of organizational performance research and the goal approach to this concept. The next section provides information, about the PART as the main source of data for this study, including criticism, praise, and the operating system.

2.1 Bounded Rationality and Ambiguity

Rational choice students assume, at least implicitly, that human behaviors are intelligent and rational (March, 1978). Simon (1947) attacked, through his ideas about bounded rationality, the assumption that decision-makers in the organizational context rationally maximize achievements of desired outcomes. Bounded rationality, which is caused by uncertainty, lack of information, cognitive overload, and other constraints, leads managers to satisfice rather than maximize. According to March (1978), forecasting future consequences of current decisions and

actions is often subject to considerable error. The complications and difficulty of anticipating future consequences lead to ambiguity. Furthermore, in the same vein, March and his colleagues developed, based on bounded rationality, the Garbage Can model which stresses more political and complicated decision-making processes through the interplay of policy participants, policy opportunities, and policy problems (March and Olsen, 1986). Therefore, Rainey (1993) argued that Simon's (1947) and the subsequent perspectives implied an ambiguity of goals in the public organizations which are under the more direct control of government authorities than business companies, and subject to less influence of economic markets for their outputs.

2.2 Scope of Ambiguity Research and Research Issues

All organizations and organizational members confront elements of ambiguity when making decisions (March and Olsen, 1976). Especially in most public and educational organizations, ambiguity is a chief characteristic of decision making (March and Olsen, 1976, p. 12). The literature on ambiguity in the fields of public policy, public management, and public administration varies according to the unit of analysis, that is, organizations, programs, and individuals. In addition, the different units of analysis have different elements of ambiguity. On the other hand, the different approaches to ambiguity have similar research issues such as the subjectivity of measurement of goal ambiguity and the possibility of generalization of research results.

2.2.1 Research on Ambiguity at the Organizational Level (Empirical Goal Ambiguity Theory)

Arguing that complexity of decisions in organizations is elaborated by the pervasiveness of ambiguity, March and Olsen (1976) presented four main kinds of ambiguity (lack of clarity) in organizations. The first lack of clarity is the ambiguity of *intention*. This is related to ill-defined

and inconsistent objectives, which often make it impossible to specify meaningful functions of organizations. The second is the ambiguity of *understanding*, which refers to the obscurity of the causal world. As a result, it is difficult to understand the causal relationship between organizational actions and their consequences. The third one is the ambiguity of *history*. Although the past provides what is important for organizational actions, interpretation and specification of the history can be twisted or reconstructed. The last is the ambiguity of *organization.* Organizational members vary in their attention to different decisions and their decisions are also different from one time to another. Accordingly, participation patterns of individual members are inconsistent, and thus the ambiguity of organization occurs.

Of these four dimensions of organizational ambiguity, the ambiguity of intention is most similar to goal ambiguity, which is the main concept of this research. In terms of organizational goal ambiguity, before Chun and Rainey's (2005a; 2005b) consecutive studies on goal ambiguity of U.S. federal agencies, public management researchers had taken "a subjective approach rather than an objective approach in conceiving and measuring goal ambiguity[5], going around the complications in identifying organizational goals, defining goal ambiguity dimensions a priori, and measuring the values of them based on identified goals" (Chun, 2003, p. 15).

The question about measurement of organizational goal ambiguity is mostly raised in relation to the established assertions in public management that public agencies and public policies have more vague or ambiguous goals than business firms do (e.g., Allison, 1983; Bozeman, 2000; Dahl and Lindblom, 1953; Downs, 1967; Drucker, 1980; Lowi, 1979; Lynn, 1981; Matland, 1995; Rainey and Bozeman, 2000; Ripley and Franklin, 1982; Wildavsky, 1979; Wilson, 1989). The assertions, which are nearly universal among scholars, refer to value-laden

[5] Even after Chun and Rainey's studies on organizational goal ambiguity, scholars in public management also took a subjective approach (see Pandey and Rainey, 2006; Pandey and Wright, 2006).

and conflicting mandates, complexity due to interventions by multiple interest groups and authorities, and the lack of profit indicators and incentives (Rainey and Bozeman, 2000). However, some empirical studies using questionnaires provide an anomalous result. That is, "the government managers tend to give high ratings to the clarity and measurability of the goals of their organizations, and on average they do not differ from the private-sector managers on these ratings" (Rainey and Bozeman, 2000, p. 452).

This conflict between the assertions and the observations of scholars prompts the concern that scholars need to develop much better and more objective measures of organizational goal ambiguity than questions of surveys (Chun and Rainey, 2005a). Therefore, Chun and Rainey (2005a, p. 2) tried to conceptualize objective measures of organizational goal ambiguity and offered much progress toward doing so. Their research provided the insights and possibility for this dissertation research on program goal ambiguity. They referred to 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" (Chun and Rainey, 2005a, p. 2).

Then Chun and Rainey (2005a) suggested the four dimensions of goal ambiguity: mission comprehension ambiguity, directive goal ambiguity, evaluative goal ambiguity, and priority goal ambiguity. First, mission comprehension ambiguity refers to "the level of interpretive leeway that an organizational mission allows in comprehending, explaining, and communicating the organizational mission" (Chun and Rainey, 2005a, p. 3; as cited from Daft, 2004; Dess and Miller, 1993; Thompson, 1997). This goal ambiguity was measured by the Gunning-Fog Index evaluating the degree of fog in a mission (Chun and Rainey, 2005a). Yet this dimension had no significant antecedent. Although federal programs also have their missions, mission

comprehension ambiguity is not included in this research on program goal ambiguity.[6] The second dimension was directive goal ambiguity, which is defined as "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" (Chun and Rainey, 2005a, p. 3; as cited from Moore, 1995; Scott, 2003). They used the measure of organizational power developed by Meier (1980), which was "the ratio of the number of pages of rules that the bureau issues to the number of pages of substantive legislation that applies to the agency" (p. 364), as the measure of this goal ambiguity. This goal ambiguity is not included in the present research on program goal ambiguity, since now it is nearly impossible to find the rules that around 800 individual federal programs issue and the substantive legislation that applies to them. Third, 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" (Chun and Rainey, 2005a, p. 4). For this dimension, they newly developed the measure, that is, "the percentage of subjective or workload-oriented performance indicators, as opposed to objective and results-oriented performance indicators, for each agency" (Chun and Rainey, 2005a, p. 13). The concept of this goal ambiguity is used for this study but the measure is newly changed to the proportion of output-oriented performance objectives[7] (as opposed to outcome-oriented objectives[8]), among the total number of performance objectives in each federal program in the PART data, as explained in chapter 3. Fourth, priority goal ambiguity refers to "the level of interpretive leeway in deciding on priorities among multiple goals" (Chun and Rainey, 2005a, p. 4). The average of the Z-scores of the number of long-term goals and annual goals is used as the

[6] In the analysis prior to this dissertation, the measure of program mission comprehension ambiguity using the Gunning-Fog Index did not have any significant antecedent variable. Therefore, this dimension of program goal ambiguity is not included.
[7] They include output objectives and output-oriented efficiency objectives in the PART.
[8] They are outcome objectives and outcome-oriented efficiency objectives in the PART.

measure of this goal ambiguity (Chun and Rainey, 2005a). This dimension was based on the hierarchy of organizational goals. However, because the PART does not provide such a goal hierarchy, this dissertation does not include this dimension of program goal ambiguity.

After developing the four dimensions of organizational goal ambiguity, Chun and Rainey (2005a) investigated the antecedents of the four dimensions. They demonstrated that different dimensions of organizational goal ambiguity except for mission comprehension ambiguity are differently related to different antecedents. The antecedents included financial publicness, competing demands from constituencies, type of policy responsibility (regulatory, non-regulatory, or hybrid), complexity of the policy problem, organizational age, organizational size, and institutional location. Furthermore, they also determined that different dimensions of organizational goal ambiguity are differently related to four different dimensions of perceived organizational performance: managerial effectiveness, customer service orientation, productivity, and work quality (Chun and Rainey, 2005b). Except for mission ambiguity, which was positively related to managerial effectiveness and customer service orientation, directive goal ambiguity and evaluative goal ambiguity related significantly and negatively to all of the dependent variables. Priority goal ambiguity was significantly and negatively related only to managerial effectiveness.

Despite the significant results, Chun and Rainey's (2005a; 2005b) empirical studies had some methodological and practical limitations, as pointed out above, in applying the dimensions of organizational goal ambiguity to the present research on federal program goal ambiguity. Therefore, this dissertation divides the goals of federal programs in the PART data into three dimensions – target, time, and possibility of external evaluation – and develops three dimensions of program goal ambiguity based on the classification of goal dimensions.

2.2.2 Research on Ambiguity at the Individual Level (Role Ambiguity)

In terms of ambiguity at the individual level, Kahn and his colleagues (1964) asserted that role ambiguity as one of an individual's role-characteristics in an organization influences his or her job stress in the workplace. As a similar concept to the construct of goal ambiguity, role ambiguity refers to the unpredictability of consequences and a lack of necessary information regarding expected role behaviors or one's role performance (Chun, 2003; Cooper, Dewe, and O'Driscoll, 2001; Kahn, et al., 1964; Pearce, 1981; Rainey, 1983; Rainey, 2003). Based on the assertion of Kahn and his colleagues (1964), numerous scholars have demonstrated a consistent link between greater role ambiguity and high degrees of psychological strain, and the negative influence of role ambiguity on job satisfaction and retention (opposite to turnover) intentions (e.g., Beehr, 1976; Chun, 2003; Cooper, Dewe, and O'Driscoll, 2001; House and Schamir, 1993; Jackson, 1983; Kemery, Mossholder, and Bedian, 1987; O'Driscoll and Beehr, 1994; Rizzo, House, and Lirtzman, 1970; Schaubroeck, Cotton, and Jennings, 1989).

Kahn and his colleagues (1964) also distinguished objective role ambiguity from its subjective counterpart. Whereas the former concept refers to the condition of the social and physical environment, the latter refers to a psychological state in the person which may be influenced by the environmental states (Kahn, et al., 1964, p. 63). However, the previous research on role ambiguity has focused on the perceived subjective role ambiguity (See Rainey, 1983; Rizzo, House, and Lirtzman, 1970). Such a research trend has not paid attention to identifying employees' actual roles and measuring multiple dimensions of role ambiguity based on the identification of the roles (Chun, 2003).

As Chun (2003) pointed out, considering that role ambiguity is a similar concept to goal ambiguity, inattention to measuring objective role ambiguity is not directly helpful for this

research, which develops objective measures of goal ambiguity in U.S. federal programs. However, a plethora of literature on role ambiguity provides important insights and backgrounds on the development of program goal ambiguity, with the previous development of multiple dimensions of organizational goal ambiguity. In other words, numerous role ambiguity scholars have assumed that role ambiguity is a multidimensional construct (Chun, 2003). As shown in the above definition of role ambiguity, the construct of role ambiguity measures at least two dimensions: unpredictability of the consequences of an individual's role performance (Cooper, Dewe, and O'Driscoll, 2001; Kahn, et al., 1964; Pearce, 1981) and information deficiency (Cooper, Dewe, and O'Driscoll, 2001; Pearce, 1981; Rainey, 2003). As discussed above, this dissertation begins from the assumption of the multidimensionality of program goal ambiguity, in terms of target, time, and possibility of external evaluation.

2.2.3 Research on Ambiguity at the Program (Policy) Level

Research on policy ambiguity can be mostly found in the field of policy implementation. Although program ambiguity results from a variety of sources, the main characteristics of the ambiguity fall into two categories, that is, ambiguity of means and ambiguity of goals (Matland, 1995).

Ambiguity of Means Ambiguity of policy includes policy means as well as policy goals. Matland (1995) suggested three conditions in which ambiguity of policy means occur. First, when the technologies required to accomplish a policy's goals are not existent or are not acquired, this type of ambiguity obviously appears. The second case is related to a complex environment. Due to the complexity of the environment, policy actors have difficulty in knowing and deciding the types of needed tools, methods to use them, and the expected effects of their use and, therefore, policy means are difficult to clarify. Third, uncertainties about the roles multiple

organizations will play in the policy implementation process also make policy means ambiguous. In addition, Lyden (1975) argued that public policies emphasize the control of means instead of ends when they have unclear desired ends or performance criteria and when they put an emphasis on accountability.

In terms of rationality, ambiguity refers to the serious reduction of the possibility of rationality (e.g., clarifying means-goals relationships or making qualified judgments) (Alvesson, 1993). Meyer and Rowan (1977) argued that institutionalized technologies and programs function as powerful myths, which are rationalized prescriptions identifying multiple goals as technical ones. The myths tend to specify means to attain the goals. However, due to "bounded rationality" (Simon, 1947; 1955; 1956), scholars have proposed limiting policy to the areas with known instrumental means to achieve proposed goals and the areas with knowledge about how actions occur (Matland, 1995). This limitation is for reducing or avoiding ambiguity. If knowledge were bounded and actions were limited, significant but challenging questions would remain unanswered (Matland, 1995). Thus, ambiguity of means will lead to failure of the policy or the program.

Ambiguity of Goals In the policy implementation, goal ambiguity has been mostly dealt with by scholars who have taken the top-down approach rather than the bottom-up approach. One of the top-down implementation suggestions is clarification and consistency of policy goals (Mazmanian and Sabatier, 1983; Van Meter and Van Horn, 1975). It is difficult, however, to make policy goals explicit, clear, and consistent in the policy process. The reason is that political aspects should be considered in policy implementation (Baier, March, and Saetren, 1986; Berman, 1978). Matland (1995) argued that the top-downers' desire and call to make policy goals less ambiguous conflict with the conditions in which legislation is passed. Specifically,

policy goals with ambiguous language are often required to build a majority coalition for passage of legislation (Lowi, 1979). In addition, Lindblom (1959) noted that policy administrators tend to avoid specificity and clarity of policy goals, since they must consider multiple interests and pressures.

Due to competing demands from constituencies and the need for political compromise among the constituencies (Chun and Rainey, 2005a), policy goals tend to be ambiguous (Baier, March, and Saetren, 1986; Behn, 2001; Wilson, 1980). The ambiguity of policy goals is an inevitable result of political relations and process in policy implementation (Berman, 1978; Matland, 1995). The calls for political compromises among various constituencies rely on ambiguous language so that there can be room to interpret the same goal and directive in different ways (Matland, 1995). Thus, policy goal ambiguity can be negatively associated with conflict among multiple actors in the process of policy. Regan (1984) showed this relationship between program goal ambiguity and conflict in her study on personal information policies in the United States and Britain. She pointed out a dilemma of policy implementation. The dilemma is that clearer and more explicit policy goals lead to higher threats to the turf of multiple actors, more conflicts among the actors, and more limited range of policy changes. Wilson (1989) also pointed out that policy goal ambiguity contributes to maintaining bureaucratic power.

In terms of goal ambiguity, recently there have been few empirical studies. Most of the research, including that related to program goal ambiguity, has been conducted in the field of policy implementation. The research has argued that program goal ambiguity is an important variable for program success or failure (see Altenstetter and Bjorkman, 1976; 1981; Baum, 1976; 1981; Berman, 1980; Bullock, 1980). Issues of goal ambiguity study are related to the criticisms on the development of policy implementation. Previous research, including that on policy goal

ambiguity, has focused on case studies or small-sample studies. This research trend has been criticized since "the literature is virtually devoid of cases in which existing generalizations have been used, prospectively and prescriptively, to develop an implementation plan" (Kelman, 1984, p. 77). Case studies or small-sample studies have low external validity and are not replicable for different situations (Goggin, 1986; Goggin, et al., 1990). In addition, little effort has been made to develop measures of program goal ambiguity as a salient factor for program success. For a more vigorous testing or refinement of the research, Goggin and his colleagues (1990) offered recommendations, such as clarifying key concepts, looking at a larger sample, and proposing measures for future testing and hypotheses. Therefore, this research conceptualizes three dimensions of program goal ambiguity and suggests more objective measures by using 767 federal programs as a large sample for the development of empirical theory of program goal ambiguity.

2.3 Goal-Setting Theory and Goal Properties

This dissertation focuses on goal ambiguity as one of the various goal attributes. Although the concept of goal ambiguity has not been included in the research on goal-setting theory so far, it can be a concept related to and explained by mechanisms of goal-setting theory. That is, goal ambiguity can be an important concept in the line of the research on goal-setting theory as a motivation theory. This section, thus, explores goal-setting theory and its various concepts.

2.3.1 Goal-Setting Theory

Organizational behavior scholars have rated goal-setting theory as the most important theory among management theories (Locke, 2004). Goal-setting theory is based on Ryan's (1970) premise that "it seems a simple fact that human behavior is affected by conscious

purposes, plans, intentions, tasks and the like" (p. 18). A goal is conceptualized as the object or aim of an action to accomplish a standard of proficiency usually within a limited time period (Lee, Locke, and Latham, 1989; Locke and Latham, 2002).

Goal-setting theory has two fundamental postulates, which are associated with two kinds of goal concepts, that is, goal difficulty and goal specificity. The first postulate is that difficult goals, if accepted, increase performance more than easy or medium goals (Lee, Locke, and Latham, 1989; Locke and Latham, 1984). Some empirical studies clearly showed the positive impact of goal difficulty on individual or group performance (see Mento, Steel, and Karren, 1987; Tubbs, 1986). The second postulate is related to both goal difficulty and goal specificity. Specifically, if accepted, difficult and specific goals lead to greater performance than general goals, such as "do your best" or no goals (Lee, Locke, and Latham, 1989; Locke and Latham, 1984). Some studies have presented empirical evidence supporting the facilitating effect of goals with both acceptable difficulty and specificity on performance at organizational, group, and individual levels (see Locke, et al., 1981; Mento, Steel, and Karren, 1987; Smith, Locke, and Barry, 1990). To sum up, many empirical studies of goal-setting theory have shown the importance of specific and acceptably difficult goal-setting on performance at various levels in organizations, that is, individual, work group, and organizational levels (Chun, 2003).

2.3.2 Goal Properties

Goal-setting theory includes various goal concepts, such as goal difficulty, goal specificity, goal complexity, goal conflict, goal proximity, and the like. Before discussing the importance of program goal ambiguity, this section explores these goal properties, which have been recognized as important in various academic fields, such as management, psychology, and education.

Goal Difficulty This concept refers to the level of a goal on a performance scale (Austin and Vancouver, 1996; Wright, 1990). For example, a goal of publishing four articles in journals of public administration every year will be more difficult to achieve than a goal of publishing one article every year.

Goal Specificity This term is defined as "the degree of quantitative precision required by the goal" (Lee, Locke, and Latham, 1989, p. 299). Specific goals regulate performance and build self-efficacy by assigning the amount and kind of effort needed to accomplish them and by providing clear signs of individual accomplishments (Bandura, 1989). On the other hand, general goals, which are not specific about the level to be reached, furnish little basis for designating efforts (Bandura, 1989). For example, a goal of reducing the rate of traffic accidents by 10% will be much more specific than a general goal to "reduce the rate of traffic accidents."

Goal Complexity This property is defined as the number and interrelationships of different intended results (Locke, et al., 1981). For example, if an assistant professor's goal of tenure at a research school includes combination of research, teaching, and service, his or her goal would have higher complexity than an assistant professor's goal of tenure at a teaching school, which includes only teaching and service (Locke, et al., 1981).

Goal Conflict This concept means "the degree to which attaining one goal negates or subverts attaining another" (Locke, et al., 1981, p. 127). When an assistant professor with the goal of three publications within a year discovers the time requirements for a goal of attaining teaching excellence, he or she experiences goal conflict (Locke, et al., 1981).

Goal Proximity This property refers to the degree of "how far into the future goals are projected" (Bandura, 1989). A proximate goal serves to facilitate self-influences and direct the

things required to be done in the here and now, whereas distal goals alone are difficult to provide successful incentives and guides for present efforts to attain the goals (Bandura, 1989).

The aforementioned are the main goal properties included in goal-setting theory. There are other goal properties in this motivation theory, such as goal challenge. However, these properties have been paid relatively little attention by scholars (Locke, et al., 1981). In addition, goal ambiguity, a main topic of this dissertation, is also a goal property recognized as important in the literature of public management.

2.3.3 Limitations of Goal-Setting Research and Goal Property Research

As discussed above, empirical evidence of goal-setting effects on performance has been reported at the individual level (Lee, Locke, and Phan, 1997; Wright, 1992), at the level of work groups (Guthrie and Hollensbe, 2004), and at the organizational level (Chun, 2003; Smith, Locke, and Barry, 1990). However, previous goal-setting research has revealed some limitations.

First, goal-setting research has mostly focused on goal specificity and goal difficulty. The reason is that "the basic concepts of the theory, goal specificity, goal difficulty, and even the activity of goal-setting, are relatively straightforward to measure and understand" (Pfeffer, 1982, p. 49). As previously discussed, there are various goal characteristics. Therefore, for a more refined theory, research is needed on more dimensions of goal properties, including goal ambiguity, goal complexity, and goal conflict. Second, with few exceptions, the previous studies on goal setting have centered on uni-dimensional quantity goals, despite multiple dimensions of goals at the individual and organizational levels (Austin and Bobko, 1985; Austin and Vancouver, 1996). The concept of goal specificity, which refers to the degree of quantitative precision required by the goal (Lee, Locke, and Latham, 1989, p. 299), is not sufficient to precisely determine the degree of goal specificity (Sims and Lorenzi, 1992, p. 119; Chun, 2003). As Chun

(2003, pp. 18-19) pointed out, it cannot distinguish the difference in goal ambiguity between output-oriented goals (e.g., to put men on the moon) and outcome-oriented goals (e.g., to promote public welfare), that is, a difference which could have significant implications in public management. Furthermore, like time-specification goal ambiguity in this study, specificity of individual goals or program goals can also be considered in terms of time spans of the goals, long-term or annual. In other words, the research trend centered on goal specificity and goal difficulty can exclude different types of goals from the research scope (Chun, 2003; Tubbs and Ekeberg, 1991). As Rainey (1993) and Chun (2003) have argued, the convenient distinction between quantitatively operationalized specific goals versus ambiguous "do your best" goals is too simple to reflect the full dimensions of goal ambiguity in public management.

Third, depending on the employees' perception of individual goals or organizational goals, goal-setting research has another limitation. Goal specificity as one goal content can vary on a continuum from vague ("work on this task") to specific ("try for a score of 62 correct on this task within the next 30 minutes") (Latham and Locke, 1991, p. 213). Without any efforts to develop the measures of this goal characteristic, previous research used employees' or students' perceptions on one or a few goals at the individual, group, or organizational level and examined the effects of goal specificity on perceived task, group, or organizational performance. The research method which is appropriate for case studies, small-sample studies, or quasi-experiments has some limitations for this large-sample study. Thus, this dissertation measures the overall goal ambiguity of each federal program by including all the performance goals that individual federal programs have. The number of goals in federal programs ranges from 1 to 32. Measuring goal characteristics of groups, programs, or organizations is required to include all their goals in order to capture full dimensions of multiple goals and to develop more refined

measures of goal characteristics (Goggin, et al., 1990). Therefore, although the previous goal-setting research could not objectively show the variation of goal specificity among groups and organizations, this research can show the variations of three dimensions of goal ambiguity among federal programs. Thus, this study which uses 767 federal programs as a large sample and objective measures of goal ambiguity can support the generalization of the analysis and the development of empirical program goal ambiguity theory through a more objective comparison of goal ambiguity and its impact on performance in the U.S. federal government.

2.4 Importance of Program (Policy) Goal Ambiguity[9]

At the public program level, policy scholars have argued that goals embedded in public programs are ambiguous, since "in the zeal to pass programs supporters often claim too much in the way of goals, inflating expectations of what the program can accomplish" (Ripley and Franklin, 1982, p. 22; Matland, 1995). Yet some policy students make obscure the degree to which goal ambiguity is important to program planning and making, leading others, including practitioners, to misunderstanding the processes of policy formation and implementation (Baier, March, and Saetren, 1986). However, other policy scholars argue that goal ambiguity (or goal clarity) is a critical antecedent that directly influences program performance or success, especially in top-down models of policy implementation (Matland, 1995). That is, goal ambiguity is an important cause of policy implementation failure. The reason is that "goal ambiguity is seen as leading to misunderstanding and uncertainty and therefore often is culpable in implementation failure" (Matland, 1995, pp. 158-159).

According to Ripley and Franklin (1982), program implementation processes are surrounded by the following five features: "Implementation processes involve *many important*

[9] This study uses the terminology 'program' and 'policy' interchangeably to describe "the governmental activities formulated in response to an authoritative decision" (Matland, 1995, p. 154).

actors holding *diffuse and competing goals and expectations* who work within a *context of an increasingly large and complex mix of government programs* that require *participation from numerous layers and units of government* and who are affected by *powerful factors beyond their control*" (p. 9). These five characteristics of the policy implementation processes could influence the success or failure of the program, as shown in Figure 1. In other words, this political nature of the implementation process could determine whether or not policy implementation leads to desired performance (Ripley and Franklin, 1982). Among these five salient political features of the policy implementation process, this study focuses on program goal ambiguity.

Figure 2.1 The Salient Factors Surrounding Program Implementation

As discussed above, for limitations of methodology or research scope, the previous research calls for a new research direction for this goal ambiguity research on 767 federal programs. For more refinement of goal ambiguity theory, this dissertation tries to lay the foundation for the generalization of goal ambiguity research at the federal program level. This dissertation shows the development of more objective program goal ambiguity measures, their construct validity, variations of goal ambiguity among federal programs, antecedents of program

goal ambiguity, and the negative impacts of this goal property on program performance and organizational performance.

2.5 Research on Performance

In terms of organizational performance, public management scholars have rarely tried to develop objective performance measures generalizable to U.S. federal agencies. This study takes the goal approach among various approaches to organizational performance. Based on this perspective, this study measures the actual achievement rates of program goals that each federal agency includes for a more objective and comprehensive performance measure, since the program performance goals include various dimensions of performance, such as output, outcome, efficiency, and customer satisfaction. On the other hand, for program performance, this research uses PART scores including several aspects of performance (program design, program planning, program management, program results, and overall assessment rating scores) provided by OMB.

2.5.1 Issues of Definition, Measurement, and Antecedents of Performance

Despite the difficulty of understanding organizational performance, it is important to make efforts in resolving the problems of monitoring and measuring performance (Berman and West, 1995; Cohen, 1993; Hatry 1999; Kettl, et al., 1996; Kopczynski and Lombardo, 1999). The reason is that there are a variety of ways for defining and measuring organizational performance and examining the antecedents that affect it. Furthermore, "scholars often use the terminology 'effectiveness' and 'performance' interchangeably to describe the same phenomenon, the overall ability of organizations to perform well or effectively pursue their mission" (Selden and Sowa, 2004, p. 396).

Performance has been described as a multidimensional concept, in that it can include such concepts as "efficiency (cost related to direct output), cost-effectiveness (cost related to

benefit or impact), service delivery quality, service delivery equity, governmental fiscal stability, and conformance with governmental policies" (Grizzle, 1982, p. 132; Grizzle, 2002). More recently, Rainey and Steinbauer (1999) have regarded a comprehensive definition of organizational performance as a question of judgment and have defined organizational performance as "whether the agency does well that which it is supposed to do, whether people in the agency work hard and well, whether the actions and procedures of the agency and its members are well suited to achieving its mission, and whether the agency actually achieves its mission" (p. 13) (see also Wolf, 1993). To that end, much empirical research in public management has tried to define and measure organizational performance. Some studies employ a measure of some dimension of performance such as fairness (Brewer, 2005; Brewer and Selden, 2000), work quality, and productivity (Chun and Rainey, 2005b). On the other hand, a few studies have attempted to combine the assessments of various performance sub-concepts, such as quality of outputs, quantity of outputs, outcomes, value, customer satisfaction, and efficiency (Andrews, et al., 2005).

However, most of the previous empirical studies have taken a subjective approach using survey data. The reason is that it is difficult to measure the performance of public organizations because performance as a multiple construct is complex, socially constructed, and often subjective (Anspach, 1991; Au, 1996; Brewer, 2006; Cameron and Whetten, 1983; Hall, 2002). In addition, a variety of theoretical explanations about performance[10] also put forward the difficulty related to measure the concept (Au, 1996; Cameron, 1978).

[10] Among the various approaches to performance, the goal approach is based on the rational perspective (Hall, 2002; Scott, 2003). The perspectives sharing the system approach to organizational performance are resource dependence perspective, contingency theory, institutional theory, and population ecology (Au, 1996; Child, 1972; Galbraith, 1973; Lawrence and Lorsch, 1967; Molnar and Rogers, 1976; Pfeffer and Salancik, 1978; Powell and DiMaggio, 1991; Rainey, 2003; Scott, 2003; Zucker, 1987). In addition, there are also participant-satisfaction models and internal process models (Keely, 1984; Likert, 1967).

A more comprehensive performance measurement system can provide information about how well individual federal agencies are operating in terms of various performance dimensions (Grizzle, 1982; Grizzle, 2002). Therefore, this study uses the comprehensive PART performance data including various dimensions of U.S. federal program performance (program design, program planning, program management, program results, and overall assessment rating scores) for examining the antecedents of program performance in Chapter 5. Next, for more objective and more comprehensive organizational performance, the actual achievement rates of all the program goals in each U.S. federal agency are measured by using the PART data in Chapter 6. It will be important that in terms of performance management and measurement, empirical studies continue to move performance research away from the private sector to public organizations such as federal agencies and state government for the purpose of building more comprehensive models and generalizing the research analysis.

In addition, for a more comprehensive performance model, this research includes eight antecedents of program performance: program goal ambiguity (target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity), program characteristics (program type, assessment year, and program size), and political contents (budget increase and political party initiative). The present research also examines the antecedents of organizational performance, based on the four categories from the review of previous literature on organizational performance: organizational goal ambiguity (target-specification, time-specification, and program evaluation goal ambiguity), organizational capacity (management capacity and planning capacity), organizational size (personnel size, budget size, and the number of programs), and political contents (institutional location, policy type, budget increase, and political party initiative). The previous studies have focused on a few antecedents out of many

organizational antecedents, such as the organization's missions or goals, the degree of performance-oriented culture, leadership, human capital investments, management, networks, the structure of the agency, diversity, job satisfaction, trust, and degree of communication (e.g., Berman and West, 1995; Brewer, 2005; Brewer and Selden, 2000; Chun and Rainey, 2005b; Meier and O'Toole, 2001; Meier and O'Toole, 2006; O'Toole and Meier, 1999; Page, 2004; Pitts, 2005; Popovich, 1998; Selden, et al., 2006; Wang and Berman, 2001).

2.5.2 Scope of Performance Research

In public management, virtually most management and organization theories and many scholars are, at least implicitly, concerned with performance or effectiveness, since public organizations are goal-directed and purposive entities and their performance in pursuit of those goals affects the quality of people's lives and even people's ability to survive (Rainey, 2003). We can see the proliferation of literature on organizational or program performance in public management. However, there is still very little agreement among public management scholars or organization theorists as to what organizational or program performance means and how this concept should be measured (Au, 1996; Cameron and Whetten, 1983; Coutler, 1979; D'Aunno, 1992; Goodman and Pennings, 1977; Hall, 2002; Rainey, 2003; Scott, 1987). Performance or effectiveness has long been one of the most prevailing but the least described or defined organizational constructs, as discussed above (Goodman and Pennings, 1977). Consequently, one can find a variety of ways to understand performance and examine the antecedents of the term.

In terms of research scope, organization theory and public management scholars have used different units of analysis depending on their own research interests or agendas. According to Campbell (1977), the unit of analysis on performance is sometimes an organization,

sometimes organizational members in an organization, and sometimes an organizational subunit such as work group. More comprehensively, Boschken (1994) suggested three levels of performance analysis: the organizational level, the program level, and the individual or the work group or team level. Accordingly, different empirical studies have focused on different aspects and antecedents of performance at different levels, based on different theoretical approaches.

Regarding performance, as described above, this dissertation uses two levels of analysis: federal programs and agencies. For performance for 767 federal programs, the present study uses the five dimensions of PART performance scores – design, planning, management, results, and overall assessment rating scores. For organizational performance for 97 U.S. federal agencies, based on the goal approach, this study measures performance at the organizational level by aggregating and averaging the actual achievement rates of program performance goals in each federal agency.

2.5.3 Goal Approach to Performance: Organizational Performance as Aggregation of Program Goal Achievement Rates

In terms of organizational effectiveness, some researchers in the management field may consider return on investment as a criterion of effectiveness, whereas others in the field of psychology may prefer organization members' satisfaction (Kirchhoff, 1977). In other words, organizational performance can be differently explained according to the research field. However, organizational performance has been also defined as the degree to attain many goals of the organization (Kirchhoff, 1977; Price, 1968). Accordingly, the higher the degree of goal achievement, the greater the organizational performance. Organizational performance is a multi-dimensional concept (Kirchhoff, 1977). Goals of the organization show diverse dimensions, such as outcome-oriented goals, output-oriented goals, and efficiency goals, as we can see from

the PART. In addition, all public organizations are made to serve citizens, that is, diverse segments of society (Kirchhoff, 1977).

As Kirchhoff (1977) reported, "Yuchtman and Seashore (1967) delineate two approaches to evaluating organization effectiveness within the context of Etzioni's goal attainment model-functional and goal. These two approaches were renamed by Price as derived and prescribed" (p. 348). First, the "prescribed goal approach" places an emphasis on the formal judgments of the organization for itself (Price, 1972). Second, in the "derived goal approach," an expert outside the organization derives the goals on the basis of his or her theory and the goals are characterized by the independence of the members' intentions and awareness (Price, 1972).

According to Yuchtman and Seashore's (1967) criticism, there has been no rationale to identify goals empirically as an organizational attribute in the prescribed goal approach. For this reason, it is difficult to measure organizational performance. The reason for their criticism of the derived goal approach is put on the criteria to evaluate performance (Price, 1972). Specifically, the "frame of reference" the derived goal approach employs for evaluating organizational performance is not the organization, but society (Price, 1972). That is, benefit to society is an external basis to the organization. Yuchtman and Seashore, thus, proposed a system resource approach in order to avoid the problems of the two approaches (Kirchhoff, 1977). This approach is based on "the ability of an organization to exploit its environment to obtain scarce resources-employees, raw materials, ideas, etc." (Kirchhoff, 1977, p. 349).

Price (1972) persuasively insisted that the system resource approach of Yuchtman and Seashore (1967) is just a different kind of goal approach. He also placed an emphasis on prescribed goals, since they can be the foundations of empirical research (Price, 1972). With no development of a general measure of performance, Price (1972) suggested evaluative measures

developed by knowledgeable investigators and validated by reference to objective goals as the better promise for the future studies on organizational performance (Kirchhoff, 1977).

In terms of the goal approach, the criteria of goal attainment as organizational performance have been diverse according to the academic field, as mentioned above. Scholars in the field of education and public administration have employed scores of entrance exams (e.g., SAT) and student achievements after graduation (e.g., starting salaries) (Cameron, 1986; Meier and O'Toole, 2001; Meier and O'Toole, 2006; O'Toole and Meier, 1999). The criteria of some psychologists and public management scholars have included morale, turnover, absenteeism, and employees' satisfaction (Georgopoulos and Tannenbaum, 1957; Lee and Whitford, 2008; Moynihan and Landuyt, 2008;). Management or economics students have used productivity and return on investment (Chun and Rainey, 2005b; Georgopoulos and Tannenbaum, 1957).

However, some theorists, such as Cyert and March (1963), March and Simon (1958), and Gross (1968), argued that organizations have multiple goal characteristics. These arguments were based on the criticism that goal approaches have not provided any successful measures of organizational performance (Hall, 2002; Price, 1972; Schendel and Patton, 1975). To cite them, Kirchhoff (1977) and Ripley and Franklin (1982) suggested that models examining multiple goals can be theoretically the important way to validate the goal approach models for organizational performance. That is, real performance of complex organizations pursuing diverse goals can only be obtained from the specific goals to be measured (Kirchhoff, 1977).

In the field of public management, significant antecedents of performance vary according to characteristics of the organizations. The organizational performance in the public sector, however, can be evaluated by a generalized criterion. Therefore, a source of universal measures of performance based upon single equation models of goals may exist in the concept of actual

attainment relative to expected attainment of goals (Kirchhoff, 1977, p. 354). That is, relative performance in the public sector could be operationalized across many federal agencies by calculating the proportion of actual achievements to their targets.

According to the rational model of organizational performance, organizations are assumed to accomplish explicit and implicit goals as an internal factor. As discussed above, the degree to achieve the goals can be the major criterion of organizational performance (Pfeffer, 1982; Price, 1972). Thus, the present study chooses the goal approach to organizational performance and uses the proportion of actual achievements of program goals in 97 federal agencies to their targets as a measure of organizational performance.

2.6 The Program Assessment Rating Tool (PART)

PART refers to the Program Assessment Rating Tool provided by the U.S. Office of Management and Budget (OMB). The PART is used for assessing the performance of U.S. federal programs. That is, this diagnostic tool is to hold federal programs or agencies accountable for their results. OMB (2004) argued that the PART provides motives for managers of federal programs to improve the effectiveness of their programs. The reason is that the PART offers evidence to decision-makers including Congress to help them make funding decisions.

2.6.1 History of "Budgeting and Managing for Results" Efforts

According to OMB (2004), "demanding that programs prove results in order to earn financial support, however obvious and sensible, marks a dramatic departure from past practice… Previous administrations have grappled with this problem" (p. 48). The budget process may be the most manifest and significant activity where performance information can be employed (Moynihan, 2008). The lineage of the PART is familiar as follows (Dull, 2006).

The Johnson administration launched the Planning, Programming, and Budgeting (PPB) system in 1966. As the first effort to connect funding to getting results, the purpose of the PPB was to improve the analytical capacity of the federal government to evaluate actual performance (OMB, 2004; Weiss, 1984; Williams, 1990). However, as a model for budgeting, the PPB finally failed because it suffered from insufficient support within the Bureau of Budget and congressional resistance (Dull, 2006).

Next, the Nixon administration introduced Management By Objectives (MBO). The administration tried to make it easier to determine expected results of federal programs and ineffective programs through indentifying the goals of federal programs. Such intent was reflected in Nixon's statement, "by abandoning programs that have failed, we do not close our eyes to problems that exist; we shift resources to more productive use" (OMB, 2004, p. 48).

In 1977, due to sustained budget deficits, Zero-Based Budgeting (ZBB) was introduced by the Carter administration, which attempted to force all governmental programs to prove their value every year by "demanding a total re-justification of everything from zero" (Cater, 1977, p. 66). The intent was to make good public programs more effective by improving or weeding out ineffective or unnecessary programs (OMB, 2004). The ZBB promised to conduct principle-oriented analysis against the forces supporting existing federal policies (Dull, 2006). Yet it was judged as a misfiring weapon (Arnold, 1998), due to the immense complexity, time- and information-intensity (Draper and Pitsvada, 1981; Wildavsky, 1984).

The Government Performance and Results Act (GPRA) of 1993, which tried to bring accountability to government programs, required federal agencies to identify long-term strategic planning every three years and to provide annual goals, to collect performance data, and to justify budget requests based on these data (Moynihan, 2008; OMB, 2004). In order to judge

whether federal programs met their goals, they were required to collect information every year and to explicitly identify performance goals and measures for the judgment of their performance (Dull, 2006; OMB, 2004). However, plans of federal agencies based on this Act were plagued by ambiguous and numerous performance measures, and poor definitions of agency performance measures (GAO, 1997; Moynihan, 2008; OMB, 2004; Radin, 2000). In addition, there was a criticism on the uneven application of performance information (Dull, 2006). Therefore, the huge number of performance plans produced by federal agencies are mostly ignored in the budget process and are insufficiently used to hold federal program managers accountable (Moynihan, 2008; OMB, 2004). Finally, the Bush administration recognized the GPRA as something of a failure in the President's Management Agenda (PMA) of 2001 (Laurent, 2000; Moynihan, 2008; Radin, 2000).

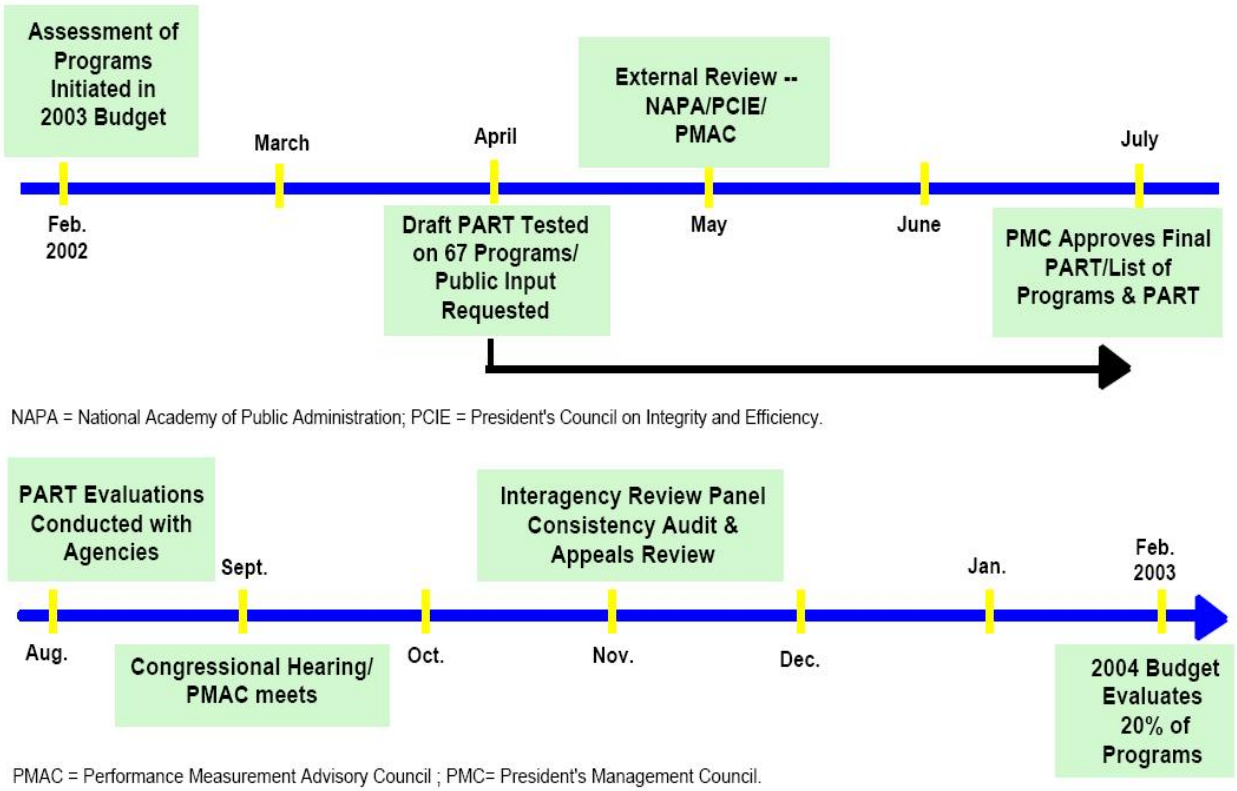
Dull (2006, p. 188) argued, through the review, that strained resources and institutional resistance undid the past budget reform initiatives, although the PART might be different from the previous efforts.

2.6.2 The Development of the PART

The PART is a questionnaire. The development of the PART began in 2002, driven by Mitch Daniels, the first director of OMB under the Bush administration (Dull, 2006; Moynihan, 2008). Daniels also urged the members of OMB to use the PART as a nonpartisan diagnostic tool for the assessment of all federal programs (Moynihan, 2008). The goal was "to devise a tool that was objective and easy to understand" (OMB, 2004, p. 49).

The following Figure 2.2 shows the timeline of the PART's development. OMB organized the Performance Evaluation Team (PET) early in 2002 and the team released an initial draft of the questionnaire for public comment in May 2002. The draft of the questionnaire was

reviewed by many independent groups, including the Performance Measurement Advisory Council chaired by former Deputy Secretary of Transportation, Mortimer Downey, and a group from the President's Council on Integrity and Efficiency (Dull, 2006; OMB, 2004). Then, the PART was the subject of a congressional hearing as well as a workshop convened by the National Academy of Public Administration (Dull, 2006; OMB, 2004). The PART was released for use on July 16th through the approval of a final version of the PART by the President's Management Council on July 10th (OMB, 2004). OMB rated approximately 234 federal programs for fiscal year 2004 (Gimour and Lewis, 2006a), and planned to increase the reviews for approximately 250 federal programs every year (OMB, 2004).



Source: U.S. Office of Management and Budget (OMB). 2004. *FY 2004 Budget Chapter Introducing the PART: Rating the Performance of Federal Programs*. pp. 48-49. Available at http://www.gpoaccess.gov/usbudget/fy04/pdf/budget/performance.pdf.

Figure 2.2 The Timeline of the PART's Development

2.6.3 How Does the PART Work?

"OMB has continued to apply PART and has sought to make minor improvements to the tool based on feedback" (Moynihan, 2008, p. 126). The PART, which includes approximately 30 standard questions and in which the number of questions varies depending on the types of the program evaluated, asks for information which responsible federal managers should provide for performance assessment.[11] Ratings of the PART proceed through four areas of performance assessment: design, planning, management, and results. OMB (2006a; 2004, p. 50) explains the four sections of questions for the PART evaluation as follows[12]:

- The first section (purpose and design) of questions asks whether a program's purpose is clear and whether it is well designed to achieve its objectives.
- The second section (strategic planning) involves strategic planning, and weighs whether the agency establishes valid annual and long-term goals for its programs.
- The third section (management) rates the management of an agency's program, including financial oversight and program improvement efforts.
- The fourth section (results/accountability) of questions focuses on results that programs can report with accuracy and consistency.

In order to fit what OMB identified as different types of federal programs, the agency also developed variations of the tool, that is, the PART (Moynihan 2008). The PART includes seven program types as follows[13]:

- **Direct Federal -** Programs where services are provided primarily by employees of the Federal government, such as the State Department's Visa and Consular Services program.

[11] Appendix C provides specific questions of program design, program planning, program management, and program results in the PART.
[12] These explanations are taken from www.omb.gov/.
[13] These explanations are taken from http://www.whitehouse.gov/omb/expectmore.

● **Credit -** Programs that provide support through loans, loan guarantees, and direct credit, such as the Export Import Bank's Long Term Guarantees program.

● **Research and Development -** Programs that focus on knowledge creation or its application to the creation of systems, methods, materials, or technologies, such as DOE's Solar Energy and NASA's Solar System Exploration programs.

● **Competitive Grant -** Programs that provide funds to State, local and tribal governments, organizations, individuals, and other entities through a competitive process, such as Health Centers at the Department of Health and Human Services (HHS).

● **Capital Assets and Service Acquisition -** Programs that achieve their goals through development and acquisition of capital assets (such as land, structures, equipment, and intellectual property) or the purchase of services (such as maintenance and information technology). Program examples include Navy Shipbuilding and the Bonneville Power Administration.

● **Regulatory -** Programs that accomplish their mission through Federal rules that implement, interpret or prescribe law or policy, or describe procedure or practice requirements, such as the U.S. Environmental Protection Agency's Mobile Source Air Pollution Standards and Certification program.

● **Block/Formula Grant -** Programs that provide funds to State, local and tribal governments and other entities by formula or block grant, such as the Department of Energy's (DOE) Weatherization Assistance program and HHS' Ryan White HIV/AIDS program.

The yes-or-no answers to the questions in each of the four performance areas result in a numeric score for each performance section from 0 to 100.[14] These scores of each section with different weights are then combined for the overall program assessment rating: program design (20%), planning (10%), management (20%), and results (50%) (OMB, 2007). The overall program assessment rating ranges in descending order: Effective, Moderately Effective, Adequate, and Ineffective (OMB, 2004). A rating of "Results Not Demonstrated" is given to programs which do not demonstrate the progress of achieving results because of failure in establishing acceptable performance or having supportive performance data (OMB, 2004). Yet the programs with the rating "Results Not Demonstrated" receive performance scores in percentages for the four sections from OMB. Therefore, the PART actually has five potential categories for the overall program assessment ratings of individual federal programs: Effective, Moderately Effective, Adequate, Ineffective, and Results Not Demonstrated (OMB, 2006b). The burden of demonstrating performance is on the program. For the lack of solid evidence to support a positive answer, the program receives a lower performance assessment rating (OMB, 2004).

2.6.4 Criticisms of the PART[15]

In relation to validity of the PART data, there are two conflicting arguments: criticisms and praise.

Accuracy of Measurement OMB Watch, a nonprofit organization that has been monitoring the PART process, criticized the PART data, arguing that it was difficult to determine

[14] Individual programs in the PART can have a different number of questions ranging from 23 to 30. In addition, the four sections of performance also have a different number of questions to organize the assessment scores ranging from 0 to 100. Each question in each program requires examiners to answer "Yes" or "No." Each question in each performance section is given a different portion of 100 points as a perfect point. If a question in the management section is given 15 percent of 100 and has a "Yes" answer, the score of the question would be 15. Yet if it has a "No" answer, its score would be zero. Through this way of totaling the scores of the entire questions in each performance section, the OMB examiners decide the scores of the four performance sections.

[15] Appendix D provides the controversy over the PART.

whether the PART measured performance of federal programs in an accurate, consistent, and value-neutral way (Brass, 2004; Radin, 2006; Singer, 2005). In addition, little attention has been paid to the question of whether PART performance assessments measured the right types of outcomes (Radin, 2006).

Weak Relationship between the PART Assessments and Budget Decisions[16] OMB (2004) has argued that the purpose of the PART is not to replace budget analysis but to enrich it. Just as higher assessment ratings do not automatically lead to higher funding for a program,[17] lower performance ratings do not automatically result in lower funding for a program. Furthermore, "The relationship between an overall PART rating and the budget is not a rigid calculation" (OMB, 2004, p. 51). That is, OMB does not regard the PART as an automated approach to budget decision-making (Daniels, 2002). As a representative example, OMB (2004) takes the Communications Infrastructure program, which was not managed consistently with industry's best practices by the Department of Defense. Due to its importance to national defense, the budget provides more funding for the program.

[16] There are also some findings that PART assessments have a statistically significant influence on budget increases. However, they show just weak relationships between PART assessments and budget decisions. The U.S. General Accounting Office (GAO) divided the federal programs into three categories: small, medium, and large. GAO found that PART assessments for fiscal year 2004 statistically influenced funding levels for just small programs, not for medium and large programs (GAO, 2004).

In order to investigate how important the results sections, worth 50 percent of PART assessments, are in budget decision-makings, Gilmour and Lewis (2006a) analyzed the impacts of the components of PART scores – purpose and design, planning, management, and results/accountability - on funding levels by using the PART for fiscal years 2004 and 2005. They found that the impact of purpose and design, worth 20 percent of the PART assessments, overwhelmed that of the other components of the PART assessments. According to the results of the analysis, program results were not an important predictor of funding changes in fiscal year 2005 (Moynihan, 2008). Therefore, Moynihan (2008) concluded that "if PART does influence even the president's proposal, its impact is not very great and is largely driven by the program purpose and design section of the PART, not program results" (p. 130).

[17] Most OMB members acknowledge that the PART does not provide an unambiguous and foreseeable prescription for budget allocation. Programs with effective assessment can confront budget cuts or termination because their tasks have been completed and they should be phased out, because they are recognized as duplicative of a more effective program, or because elected officials accept that the programs do not have appropriate tasks for the federal government (Moynihan, 2008).

This fact that the PART assessments are not closely related to budget decisions was found in different ways. According to the analysis of OMB for fiscal year 2004, programs rated as "effective," "moderately effective," "adequate," "ineffective," and "results not demonstrated" gained 6.4 percent, 6.6 percent, 8.1 percent, 0.07 percent, and 4.4 percent budget increase, respectively (Moynihan, 2008). In the analysis of the Major Savings and Reforms in the President's 2006 Budget, which explained the major sources of specific budget savings from terminations and reductions in federal programs (OMB, 2005), Moynihan (2008) found that most of the program terminations and budget reductions were not based on the PART assessments. Specifically, only 32 of the 99 programs in the list of program terminations experienced the PART assessments. In terms of budget reductions, just 23 of the 55 programs were assessed for the PART. These facts showed that the PART assessments did not function as a predictable and significant foundation of budget decision-making.

Therefore, "budgets must still be drawn up to account for changing economic conditions, security needs, and policy priorities" (OMB, 2004, p. 51; Daniels, 2002). In other words, the amount of the budget increase can be influenced by various conditions except for the performance in the previous year. Moynihan (2008, p. 128) pointed out some factors limiting the influence of the PART on funding decisions as follows:

- Mandatory spending allows no discretion on setting the level of funding.
- Most budget items have strong political support, fostering incrementalism.[18]
- Political promises and goals have higher priority over program assessment.
- Even if the PART influences the president's proposal, legislators can still ignore the PART.

[18] As a representative example, the Rural Electrification Program, which was established to bring electrification to rural areas in the Roosevelt administration and has attained its task, still exists (Moynihan, 2008).

However, Radin (2006) contended that the fundamental reasons for criticism are put not on the PART assessment systems but on others: “There are structural characteristics of the American political structure that make the implementation of both the GPRA and the PART difficult. These include the institutional conflict between the legislative and executive branches, the fragmentation of responsibilities within the legislative branch, tension between OMB and departments and agencies, and differentiated responsibilities and roles inside agencies and department” (p. 125).

2.6.5 Praise for the PART

Despite the above criticisms, the PART has received much praise.

Third-party Review The PART was developed with a degree of outside involvement and transparency unusual for OMB, (Dull, 2006; Moynihan, 2008). Specifically, some independent groups, including the Performance Measurement Advisory Council and a group from the President’s Council on Integrity and Efficiency, brought experts on performance management to review and comment on the questionnaire of the PART (Moynihan, 2008; OMB, 2004). Then the National Academy of Public Administration arranged a workshop for getting feedback (Moynihan, 2008; OMB, 2004). After these processes, the PART was published and OMB has solicited comments from researchers, agencies, and others (Moynihan, 2008).

Evidence-basis and Transparency On whether individual federal programs are effective, the PART provides a clear summary. The public can know the fundamental framework of the relationship between federal agencies and budget examiners in a way that they have never been able to before (Moynihan, 2008). The PART is systematic, evidence-based, and transparent (Dull, 2006; Moynihan, 2008). Moynihan (2008) pointed out “the OMB has worked to ensure consistency, designing standardized questions, training raters, providing a ninety-two-page guide,

and even forming a team to conduct a consistency check on 10 percent of the assessments" (p. 127). In addition, Mitch Daniels (2002), the first director of OMB under the Bush administration, acknowledged limited transparency of the process and the impossibility of removing all subjectivity, by pointing out that the PART can be open to subjectivity in the process of debate and discussion.

Improvement from the GPRA OMB argues that the PART is a vehicle for accomplishing the goals of the GPRA (OMB, 2006b, p. 68). However, the PART has also been recognized as addressing the two significant weaknesses in the GPRA law (Frederickson and Frederickson, 2006). One is that the PART has received some positive third-party reviews, as discussed above. The other one is that the PART has set up seven types of federal programs, as described above, in order to respond to the "one size fits all" criticism on the GPRA (Dull, 2006; Frederickson and Frederickson, 2006). Therefore, "in the summer of 2005, Harvard University announced that PART was one of ten recipients of its innovations in American Government Award" (Frederickson and Frederickson, 2006, p. 42).

To sum up, this chapter reviews the literature on ambiguity and performance research. Next, I examine the characteristics of the PART as the main data source. Based on the gaps of previous work on ambiguity, I develop three new measures of program goal ambiguity and suggest two main questions: What antecedents explain program goal ambiguity?, and How is program goal ambiguity related to program and organizational performance? In light of the limitations of the previous research on performance, there are two additional main questions: How can we measure the objective organizational performance?, and What antecedents including goal ambiguity do the organizational performance have?

In the following chapter, I conceptualize program goal ambiguity and its three sub-dimensions through the identification of goal systems in the PART, develop the new measures of the sub-dimensions, and validate the measures.

CHAPTER 3

DEVELOPING AND VALIDATING NEW PROGRAM GOAL AMBIGUITY MEASURES

In this chapter, I describe the process of developing and validating the new dimensions of program goal ambiguity. First, I review the state of the previous research on goal ambiguity and point out some conceptual and methodological limitations. Recognizing these limitations and identifying program goal systems in the Program Assessment Rating Tool (PART), this study conceptualizes program goal ambiguity and its three sub-dimensions: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. Next, this study develops the objective measures of the three new dimensions of program goal ambiguity and then provides the empirical evidence of the construct validity, including the convergent validity and the discriminant validity (multidimensionality), and the reliability for the new program goal ambiguity measures. Then, I discuss the implications of this research.

3.1 Empirical Goal Ambiguity Theory and Research

When considering goals in public management and public policy, as discussed above, we can encounter the well-established assertion that the public sector has more ambiguous goals than does the private sector, and thus the public sector has difficulties in evaluating goal achievements or performance (e.g., Allison, 1983; Dahl and Lindblom, 1953; Downs, 1967; Drucker, 1980; Lowi, 1979; Lynn, 1981; Matland, 1995; Rainey and Bozeman, 2000; Ripley and Franklin, 1982; Wildavsky, 1979; Wilson, 1989). Goal ambiguity theory in public administration has played a role as a background theory for the reforms of the U.S. government in recent history,

such as Management by Objectives (MBO) in the 1970s, the Government Performance and Results Act (GPRA) in the 1990s, and the PART in the 2000s (Chun, 2003; Chun and Rainey, 2005a).

Despite the empirical efforts of some scholars, empirical goal ambiguity theory has not yet been well established. Prior to Chun's (2003) and Chun and Rainey's (2005a; 2005b) research on antecedents and consequences of organizational goal ambiguity, it had been difficult to find empirical evidence to support goal ambiguity theory. Chun (2003) and Chun and Rainey's (2005a; 2005b) developed four new dimensions of organizational goal ambiguity: mission comprehension ambiguity, directive goal ambiguity, evaluative goal ambiguity, and priority goal ambiguity. Their studies demonstrated that different dimensions of organizational goal ambiguity have different antecedents, including financial publicness, competing demands from constituencies, type of policy responsibility, complexity of the policy problem, organizational age, and organizational size, and these four dimensions of organizational goal ambiguity are differently related to different kinds of perceived organizational performance, including managerial effectiveness, customer satisfaction, work quality, and productivity. That is, Chun's (2003) research and Chun and Rainey's (2005a; 2005b) research can be regarded as the only empirical research providing support for empirical goal ambiguity theory. Almost all empirical studies prior to these mentioned above provided unexpected results or did not support goal ambiguity theory (Chun, 2003). For example, Rainey and Bozeman (2000) did not find any significant difference in goal ambiguity level between the public sector and the private company (e.g., Bozeman and Kingsley, 1998; Lan and Rainey, 1992; Rainey, 1983; Rainey, Pandey, and Bozeman, 1995).

What are the causes of the inconsistency between the theoretical assertion and empirical evidence? Chun (2003) suggested that the causes can be described as either conceptual or methodological (Hall, 2002; Perrow, 1961). The former is that scholars in public administration and public policy have not tried to clearly conceptualize goal ambiguity (Rainey and Bozeman, 2000), while the latter is that the previous research methodology about goal ambiguity has been biased to dependence on perceptual survey data (Bozeman 2000; Perry and Porter, 1982). Thus, the purpose of this study is to examine the current state of program goal ambiguity research, to develop the new concepts and their objective measures of program goal ambiguity, and to demonstrate the construct validity and reliability of the new program goal ambiguity measures, for providing a foundation to investigate the theoretical assertions about program goal ambiguity.

Specifically, this study conceptualizes program goal ambiguity and its three dimensions: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. Next, this study develops the objective measures of the three dimensions of program goal ambiguity and then examines the construct validity, including the convergent validity and the discriminant validity, and the reliability of the new program goal ambiguity measures. The intention of this study is to build a foundation for the development of goal ambiguity theory and future research by filling the void in large-sample empirical research on goal ambiguity. To this purpose, the current research focuses on U.S. federal programs, using a considerably large sample consisting of 767 U.S. federal programs and extending goal ambiguity study from the public organizational level to the public program level.

3. 2 Definition of Program Goal Ambiguity

This research defines *program goal ambiguity* as the degree to which a group of goals of federal programs allow room for interpretation, by extending the goal ambiguity research scope

from federal agencies of Chun (2003) and Chun and Rainey (2005a) to federal programs. Program or policy can be defined as "the governmental activities formulated in response to an authoritative decision" (Matland, 1995, p. 154). In addition, Grizzle (1982) defined goals as "broad, general statements of desired conditions external to programs" (p. 134). According to Feldman (1989), ambiguity means "the state of having many ways of thinking about the same circumstances or phenomena" (p. 5). She also argued that interpretive room with ambiguity is related to a process of interpretation, the process that gives meaning. Furthermore, like Cyert and March's (1963) argument that all organizations tend to have multiple goals, most programs in federal agencies can also have various goals, as can be seen in the PART data. Therefore, when program goals invite room for different interpretations, they are regarded as ambiguous (Chun, 2003; Chun and Rainey, 2005a).

According to the definition of goals in goal-setting theory, there are two fundamental attributes – content and intensity[19] (Lee, Locke, and Latham, 1989; Locke and Latham, 2002). Goal content, which specifies what is supposed to be attained, has at least five dimensions: specificity, proximity, difficulty, complexity, and conflict (Bandura, 1989; Lee, Locke, and Latham, 1989). In addition, Bandura (1989) argued that goals do not automatically facilitate motivation or performance. Different properties of goal structures can affect motivation or performance differently. Thus, the present study tries to develop three concepts of goal ambiguity in programs by employing three properties of program goals – specificity (in terms of target), proximity (in terms of time span), and evaluation (the possibility of external evaluation).

[19] Goal intensity refers to "the process of setting the goal or of determining how to reach it" (Locke, et al., 1981, p. 127; Lee, Locke, and Latham, 1989). This attribute would be measured by factors, such as the importance of the goal and the degree of effort required. Goal intensity may have a relationship with goal content. For example, the process needed to set and attain complex goals requires a more intense psychological effort than the process needed to set and achieve simple goals (Lee, Locke, and Latham, 1989; Locke, et al., 1981).

3.3 Development of New Dimensions of Program (Policy) Goal Ambiguity

3.3.1 Identification of Goal Systems in U.S. Federal Programs

The first step in developing the concept of program goal ambiguity would be identifying the goals in each federal program. In relation to program performance goals, one can see that there are three dimensions of performance goals in the PART data. As OMB (2006b) asserted, "Because of the importance of performance measures, the Office of Management and Budget (OMB) and agencies must agree on appropriate measures early to allow for review with relevant stakeholders, if needed" (OMB, 2006b). OMB (2006b) provided the guidance for completing the PARTs throughout the process for related public employees, such as OMB program associate directors, agency budget performance integration leads, and agency PART contacts. In terms of performance goals, this guidance for the completion of the PART shows basic concepts and categories of performance measures or goals in the following table. This guidance is for all the U.S. federal programs. Therefore, as shown in Table 3.1, all the U.S. federal programs have these systems of performance goals under the guidance of OMB.[20] Thus, this study tries to develop new concepts and measures of program goal ambiguity applicable to all the U.S. federal programs.

[20] One can find this fact from goals or plans of federal programs in the PART and that federal programs focus on target, timeframe, and evaluation of their goals. For example, "Agricultural Credit Insurance Fund-Guaranteed Loans Program" suggests goals or plans as follows: Assess *performance targets* to ensure they are ambitious; Revise *long-term performance measure* to better assess progress toward meeting the goal of improving economic viability of farmers/ ranchers; Develop new *outcome oriented performance measures* as part of the strategic planning process initiated in October 2003. As another example, "Research on Protection and Safety of Agricultural Food Supply Program" also describes its targets, timeframe, and evaluation as follows: Re-evaluate the criteria that it uses to determine *outyear* targets for project quality, for the purpose of establishing more ambitious *targets*; Ensure that research findings are used by USDA *customers.* These contents are available at www.whitehouse.gov/omb/part/.

Table 3.1 Concepts and Categories of Performance Goals or Measures in the PART[21]

■Performance Goal

Performance goal sets a target level of performance over time expressed as a tangible, measurable objective, against which actual achievement can be compared, including a goal expressed as a quantitative standard, value, or rate.

A performance goal is comprised of a performance measure with targets and timeframes.

■ Targets and Baselines

Once measures are defined, ambitious and achievable targets must be set, building off a reliable baseline.

- **Baselines** are the starting point from which gains are measured and targets are set. The baseline year shows actual program performance or prior condition for the given measure in a specified prior year.

- **Targets** refer to improved levels of performance needed to achieve the stated goals. These targets must be *ambitious* (i.e., set at a level that promotes continued improvement given program circumstances) and *achievable* given program characteristics.

  In most instances, targets should be quantifiable. However, in some cases, such as basic research and development, measures and their targets may need to be qualitative and supported by peer review (e.g., expert panels or Inspectors General) or other means. When a target is not quantitative, it must still be verifiable.

■ Time: Long-term vs. Annual Performance Goals

Similar to determining what a meaningful performance measure is for a program, the appropriate timeframe for a long-term performance goal should reflect program characteristics.

- **Long-term** is defined as covering a multi-year period of time. Duration may vary by program but should consider the nature of the program and be consistent with the periods for strategic goals used in the Agency Strategic Plan.

  Alternatively, a long-term performance goal could reflect the cumulative effect of annual activities. This type of goal can indicate when the program's mission is accomplished or how it should evolve over time.

[21] All the contents and sentences in this table were drawn from OMB (2006b) and then recomposed for this table. More explanations can be found at www.whitehouse.gov/omb/part/index.html.

●**Annual** performance goals are the measures and targets affected by an activity in a particular (generally near-term) year.

■ **Evaluation**

The PART emphasizes the relationship between outcome, output, and efficiency measures, because each kind of measure provides valuable information about program performance. Collectively, these measures convey a comprehensive story regarding what products and services agencies provide, how well they do so, and with what result.

●***Outcome Measures.*** Outcomes describe the intended result of carrying out a program or activity. They define an event or condition that is external to the program or activity and that is of direct importance to the intended beneficiaries and/or the general public.

●***Output Measures.*** Outputs describe the level of activity that will be provided over a period of time, including a description of the characteristics (e.g., timeliness) established as standards for the activity. Outputs refer to the internal activities of a program (e.g., the products and services delivered).

●***Efficiency Measures.*** While outcome measures provide valuable insight into program achievement, more of an outcome can be achieved with the same resources if an effective program increases its efficiency. Sound efficiency measures capture skillfulness in executing programs, implementing activities, and achieving results, while avoiding wasted resources, effort, time, and/or money. Simply put, efficiency is the ratio of the outcome or output to the input of any program.

-**Outcome efficiency measures**: The best efficiency measures capture improvements in program outcomes for a given level of resource use. Outcome efficiency measures are considered the best type of efficiency measure for assessing the program overall. For example, a program that has an outcome goal of "reduced energy consumption" may have an efficiency measure that shows the value of energy saved in relation to program costs.

-**Output efficiency measures**: It may be difficult to express efficiency measures in terms of outcomes. In such cases, acceptable efficiency measures could focus on how to produce a given output level with fewer resources. However, this approach should not shift incentives toward quick, low-quality methods that could hurt program effectiveness and desired outcomes.

Target According to OMB (2006b)**,** target refers to the "quantifiable or otherwise measureable characteristic that tells how well a program must accomplish a performance measure" (p. 81). In the PART, all the federal programs should provide performance goals or measures. In terms of targets, while some performance goals report concrete targets, others do not. For example, in the "Delta Regional Authority" program in the 2007 PART, the performance measures, such as "average time from receipt of full grant applications from States to disposition (explanation: number of days)" and "average unemployment rate in all eight states (explanation: increasing employability is a proxy for the self-sufficiency of the region)," report concrete targets of "30(days)" and "5.6%," respectively. However, in the "Federal Support for Howard University" program of the Department of Education in the 2007 PART, the performance goal, such as "number of full-time students enrolled at Howard University" does not report a target but indicates "N/A." In addition, the Pesticide Field Program in the Environmental Protection Agency has the performance goal of "reduction in the number of occupational poisoning incidents associated with exposure from pesticides," which does not provide a concrete target. Therefore, one can find variations of the percentage of performance goals reporting a concrete target among federal programs with multiple performance goals in the PART. That is, we can expect that federal programs will vary in the degree to which they can clearly describe performance targets (Chun, 2003; Gable, 1998; Smith, 1999).

Time Span In terms of performance goals, time span refers to whether a program performance goal is a long-term goal or an annual goal. Federal programs' PART reports sometimes specify annual performance objectives, and sometimes specify long-term performance objectives. Sometimes they state the same objective as both an annual and a long-term objective. This study refers to the performance objective as a duplicate objective. For

example, in the "Border Patrol" program, the performance measure "border miles under operational control" is stated as a long-term goal and the performance goal "apprehensions and seizures at checkpoints" is an annual goal. However, the performance goal "personnel deployed to border enforcement activity" can be classified as a duplicate goal, since it is stated as both a long-term goal and an annual goal without any explanations or any progressive steps to attain final targets. In this case, we can see the variations of the percentage of the duplicate goals, which can be recognized as ambiguous goals in terms of time span, among federal programs in the PART.

Evaluation Regarding program performance evaluation, like organizations, federal programs can vary in the degree to which they can use objective performance indicators in identifying the possibility of accomplishing the performance target (Chun, 2003; Gable, 1998; Smith, 1999). The PART includes four kinds of performance indicators, in relation to performance evaluation: outcome measures, output measures, outcome-oriented efficiency measures, and output-oriented efficiency measures. An *outcome* measure refers to "the events or conditions of direct importance to the public/beneficiary that are *external* to the program" (OMB, 2007). OMB gives as an example the goal of a job training program, which provides people with training in skills necessary to get a job. One outcome measure is the number and percentage of people getting a job within one year after finishing the job training program. Another outcome measure is the increase in their income after training. In addition, an *output* measure refers to "the *internal* activities of a program, such as the products or services delivered" (OMB, 2007). In the case of the job training program, an output measure indicates how many people complete the job training program. On the other hand, "*efficiency* measures capture a program's ability to carry out its activities and achieve results (an outcome or output), relative to resources (an input

such as cost and/or time)" (OMB, 2007). The amount of money spent for achieving a unit of output represents one type of efficiency indicator, an output-oriented efficiency measure. Yet OMB also designates outcome-oriented efficiency measures. For example, the Space and Flight Support program in NASA states outcome-oriented efficiency measures. The program indicates the performance measure, "ratio of reduction in long-term environmental liability to amount spent on cleanup," as an outcome efficiency measure.

Based on the identification of the three dimensions of goals in the PART, this research develops three dimensions of program goal ambiguity as explained below.

3.3.2 Target-Specification Goal Ambiguity

Target-Specification goal ambiguity refers to the lack of clarity in deciding on the quantity and/or quality of work toward the achievement of a program's performance goals. As explained later, this study measures this construct as the percentage of a program's stated goals for which the PART report does not state concrete performance targets. (For some of the goals reported in the PART reports, such target information is stated. For other goals, it is not.) Heinrich (2003) argued that public organizations' choices for performance goals are critical for the complex job of deciding quantitative measures of performance goals because ambiguous objectives make it more challenging to specify precise and informative measures. Furthermore, some motivation theorists posit that more specific goals lead to higher motivation and performance (Bandura, 1989; Lee, Locke, and Latham, 1989). As Bandura (1989) explained, "Explicit standards regulate performance by designating the type and amount of effort required to attain them by furnishing unambiguous signs of accomplishments" (p. 42). Some public management scholars contend that explicit and specific performance measures are critical motivators and guides for public managers who facilitate major changes for the policies of their

agencies (Heinrich, 2003; Khademian, 1995). Researchers analyzing the specification of goals use the concept of *goal specificity* to refer to "the degree of quantitative precision required by the goal" (Lee, Locke, and Latham, 1989, p. 299). The concept, goal specificity, was developed for a single goal or an objective and measured by respondents' perception for the goal. Therefore, a new concept, target-specification goal ambiguity, needs to be developed as a more objective and more comprehensive measure of goal ambiguity related to target-specification for individual public programs with multiple objectives.

3.3.3 Time-Specification Goal Ambiguity

Time-specification goal ambiguity refers to the lack of clarity in deciding on the distinction between annual goals and long-term goals in each program. As described above, federal programs in the PART data can be classified into three types of performance objectives in relation to time-specification: annual performance objectives, long-term performance objectives, and duplicate objectives. In this study, duplicate performance objectives are newly defined as the objectives stated as both annual and long-term without any explanations or any progressive steps to attain final targets. According to the report of GAO (1997), executives in public agencies argued that it is quite difficult to predict the result level for long-term goals that might be accomplished over a shorter term and to translate the long-term goals into annual performance goals (Heinrich, 2003). Thus, we can expect that there will be significant variations of time-specification goal ambiguity among federal public programs.

In terms of time span, the absence of a clear hierarchy of objectives can lead to goal conflict in public programs with multiple objectives (Pandey and Garnett, 2006). Therefore, goal ambiguity, lack of goal clarity, is characterized by the vagueness of hierarchy and by the conflict among goals (Pandey and Garnett, 2006; Rainey, 1993). According to goal-setting theory

(Bandura, 1989), proximate goals, such as annual goals, are more helpful in activating self-influences than are distant goals, such as long-term goals; thus, the former heighten performance more than the latter. Yet distant goals, such as long-term goals, provide less effective incentives to facilitate current motivation and performance. However, Bandura (1989) argued that when long-range goals are employed as the comparative standard, and where there is clarity about the steps of progress for complete achievement, present achievements can mobilize intrinsic interest and long-range goals can be helpful to increase performance. Based on goal-setting theory, we can expect that annual performance objectives will have effects different from longer-term performance objectives on motivation and performance. Unlike annual performance objectives, long-term performance objectives need to offer progressive steps to attain final targets for higher performance in public program management. When long-term and annual goals are clearly distinct and show necessary progressive steps, public programs can have lower goal ambiguity and improved performance.

3.3.4 Program Evaluation Goal Ambiguity

For *program evaluation goal ambiguity*, this study follows Chun and Rainey's (2005a, p. 4) definition of evaluative goal ambiguity, referring to the level of interpretive leeway that a program goal allows in evaluating the progress toward the achievement of the goal, although the measuring methods of the two empirical studies are different. However, the logic for the two kinds of evaluation goal ambiguity is the same for both federal agencies and federal programs. According to Grizzle (2002; 1982), program managers should transform program goals into performance indicators and targets for performance evaluation. From the standpoint of a rational model of decision-making, identifying the goals on which comparing performance is to be based would be the first stage for the development of a performance measurement system (Heinrich,

2007). Therefore, program goals can become performance yardsticks to make judgments of the program results. Some federal programs have more outcome-oriented indicators, while others have more output-oriented indicators. In addition, some scholars (Bothe and Meier, 2000; Grizzle, 2002) have argued that the lack of objective outcome performance measures might lead to avoiding results or outcome measures and using workload or output indicators.

3.4 New Measures of Program Goal Ambiguity[22]

3.4.1 Target-Specification Goal Ambiguity

Performance assessment systems such as the PART assume that performance goals of individual programs need to be specified quantitatively or qualitatively. That is, they should include concrete targets. For some programs, the PART reports state targets for some of the goals (e.g., for the Hazardous Materials Transportation Safety-Emergency Preparedness Grants Assessment program in the Department of Transportation, a target for 2007 was that "the number of serious hazardous materials incidents should be no more than 466."). The PART reports for a number of programs, however, provide no such information for some of their goals (e.g., for the Weed and Seed Assessment program in the Department of Justice, the objective, such as "percent reduction in homicides per site funded under the Weed and Seed program" has not provided a concrete target and some objectives in different programs do not have any target). This implies that officials representing those programs exert no effort to state such targets or cannot do so because of various difficulties. The PART assumes that, with goals represented by concrete targets and actual achievements, individual programs can be appraised, and they should receive budget increases according to the degree of achievement of performance goals.

[22] Appendix E provides more detailed explanations about the three new measures of program goal ambiguity in this study.

Target-specification goal ambiguity refers to the degree of specificity in providing concrete targets for all the performance goals in each federal program. In other words, this concept of goal ambiguity reflects the presence of unclear targets for program goals. Therefore, it is measured by the percentage of performance objectives without concrete targets among the total number of performance objectives in individual federal programs.

3.4.2 Time-Specification Goal Ambiguity

In terms of time span of program performance goals, the PART provides two kinds of performance indicators: long-term performance objectives and annual performance objectives. In addition, many programs have some performance objectives that are stated as both long-term and annual without any explanations or progressive steps to attain final targets. This study refers to these performance goals as duplicate goals. As defined above, time-specification goal ambiguity refers to the lack of clarity in deciding on the distinction between annual goals versus long-term goals among multiple goals. Thus, the measure of time-specification goal ambiguity is calculated as the percentage of duplicate performance objectives among the total number of performance objectives in individual federal programs.

3.4.3 Program Evaluation Goal Ambiguity

For this concept, the present research uses the definition of evaluative goal ambiguity that Chun and Rainey (2005a) developed for federal agencies. Program evaluation goal ambiguity "refers to the level of interpretive leeway that a program goal allows in evaluating the progress toward the achievement of the goal" (Chun and Rainey, 2005a, p.4). This study develops a new method of measuring program evaluation goal ambiguity, however, because the unit of analysis has changed from agency to program. [23]

[23] The performance indicators in the previous research consisted of four evaluative goals: subjective goals, objective goals, workload-oriented goals, and results-oriented goals (Chun and Rainey, 2005a).

As OMB (2007) described, in terms of program evaluation, all programs have outcome, output, and efficiency measures in the PART data. An **outcome** measure refers to "the events or conditions of direct importance to the public/beneficiary that are *external* to the program" (OMB, 2007). OMB (2007) defines an **output** measure as "the *internal* activities of a program, such as the products or services delivered." **Efficiency** measures capture "a program's ability to carry out its activities and achieve results (an outcome or output), relative to resources (an input such as cost and/or time)" (OMB, 2007). However, OMB also designates some efficiency measures as outcome-oriented efficiency measures (e.g., the Space and Flight Support program in NASA stated "ratio of reduction in long-term environmental liability to amount spent on cleanup" as an "efficiency outcome measure").

Thus, this research divides the three performance indicators of OMB into four categories: outcome measures, outcome-oriented efficiency measures, output measures, and output-oriented efficiency measures. Employing these categories, program evaluation goal ambiguity is measured by the percentage of output measures and output-oriented efficiency measures (opposed to outcome measures and outcome-oriented efficiency measures), among all performance indicators for each federal program. That is, the higher the percentage of all performance indicators that are expressed as output measures and output-oriented efficiency measures (rather than outcome measures or outcome-oriented efficiency measures), the higher the program evaluation goal ambiguity. As described in Table 4.2 of Chapter 4 below, program evaluation goal ambiguity ranges from 0 to 100 as a percentage measure.

3.5 Construct Validity[24] and Reliability of Program Goal Ambiguity Measures[25]

As explained above, this study develops measures for three new sub-dimensions of program goal ambiguity. These three measures need evidence of construct validity and reliability, as they are newly developed and have not been used (Campbell and Fiske, 1959). Campbell and Fiske (1959) provided two components for the establishment of construct validity: convergent validity and discriminant validity. Convergent validity refers to "the degree to which multiple attempts to measure the same concept are in agreement" (Bagozzi, Yi, and Phillips, 1991, p. 425). The basic idea is that if two or more measures of the same concept are valid, they should be statistically and significantly correlated (Bagozzi, Yi, and Phillips, 1991; Campbell and Fiske, 1959). Discriminant validity is defined as "the degree to which measures of different concepts are distinct" (Bagozzi, Yi, and Phillips, 1991, p. 425). The fundamental logic is that if two or more dimensions or concepts are distinct, there should not be a high correlation between the valid measures of each one (Bagozzi, Yi, and Phillips, 1991; Campbell and Fiske, 1959). Next, reliability needs to be addressed. Reliability is "the agreement between two efforts to measure the same trait through maximally similar methods" (Campbell and Fiske, 1959, p. 83). Here this study provides the empirical evidence of construct validity, including convergent validity and discriminant validity (multidimensionality), and reliability for the three new measures of program goal ambiguity.

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[24] Since federal programs have a different number of performance goals, this study does not use confirmatory factor analysis using structural equation modeling for the construct validity of the new program goal ambiguity measures.

[25] The analysis units in this study for these new three dimensions of goal ambiguity are federal programs and federal agencies. However, for these new measures, their convergent validity is demonstrated at the agency level, since the data for the alternative measures of the new measures are not available for federal programs but available for federal agencies. Yet assessing the convergent validity at the agency level instead of the program level can be a meaningful and acceptable method to establish the construct validity of the new measures, since program performance goals are most of the federal agencies' performance goals (OMB, 2006a; 2006b).

3.5.1 Convergent Validity of Target-Specification Goal Ambiguity Measure

For assessing the convergent validity of the target-specification goal ambiguity measure, this study uses three alternative measures. The first alternative measure is the "transparency" score out of the three types of performance scores for U.S. federal agencies reported on the 9th Annual Performance Report Scorecard provided by the Mercatus Center at George Mason University in 2007 (Chun, 2003; Mercatus Center, 2007). This scorecard assesses the information quality of performance reports by the 24 U.S. federal agencies[26] covered under the Chief Financial Officer Act, in terms of three dimensions: transparency, public benefits, and leadership (Mercatus Center, 2007). The "transparency" dimension, which is rated on a 20-point scale, consisted of four evaluation criteria about performance measures or data: accessibility; readability and understandability; reliability and verifiability; and provision of performance measures (Chun, 2003; Mercatus Center, 2007). Therefore, this study assumes that the "transparency" score of the performance report would have a significant and negative correlation with target-specification goal ambiguity, which means the degree to ambiguously express program performance measures. In order to test the convergent validity of the target-specification goal ambiguity measure, this research measures target-specification goal ambiguity again for the 24 federal agencies included in the scorecard by calculating the proportion of performance goals without concrete targets among the total performance goals in all the programs that each federal agency includes. Then, the present study conducts the Pearson correlation analysis between this target-specification goal ambiguity measure and the "transparency" score in the performance scorecard. The correlation coefficient is -.35 and is significant at the .10 level (p=.096). Showing that the transparency score of the performance

[26] The 24 U.S. federal agencies include all the Cabinet departments and the largest independent agencies.

report would significantly change in the opposite direction of target-specification goal ambiguity, this result is the evidence of the convergent validity of target-specification goal ambiguity.

Next, this study also uses the percentage score of performance measures with reported results out of all the performance measures for 24 U.S. federal agencies on the 9th Annual Performance Report Scorecard of 2007 as an alternative measure for the convergent validity of the target-specification goal ambiguity measure. Considering that it would be difficult for performance measures without concrete targets to report results, it is assumed that the percentage score would be negatively correlated with the target-specification goal ambiguity measure. For the 24 U.S. federal agencies, the correlation coefficient between the target-specification goal ambiguity measure and the percentage of measures with reported results is -.81 and is statistically significant at the .01 level ($p=.0087$). This result shows that the convergent validity of the target-specification goal ambiguity measure is achieved, since the target-specification goal ambiguity and the percentage score of performance measures with reported results would significantly change in the opposite direction of each other.

Another method for the convergent validity of an objective measure is to calculate the correlation with a subjective measure (Hoskisson, et al., 1993). As a subjective measure, this study uses the organizational average score of a questionnaire item which can be considered to evaluate the degree of understandability or specificity of organizational goals in the Merit Principles Survey 2005 conducted by the U.S. Merit Systems Protection Board. The questionnaire item with a 5-point Likert scale is "I understand what I must do to receive a high performance rating." This study randomly selects 25 federal agencies and calculates the average of the employees' response scores for the question. Although the response rate is not over 50% and the average cannot be regarded as a representative value for the agencies, the present study

uses this measure as an alternative due to data availability and conducts correlation analysis for a more refined validation of the target-specification goal ambiguity measure. In addition, even though this questionnaire item does not exactly ask the perception of target-specification goal ambiguity, it concerns the understandability of performance goals and will be closely related to target-specification goal ambiguity. The correlation coefficient between the average value of the questionnaire item and the target-specification goal ambiguity measure is -.40 and is statistically significant at the .05 level (p=.030). This result also provides the evidence for the convergent validity of the target-specification goal ambiguity measure, since it demonstrates that the understandability of performance goals would be negatively correlated with the target-specification goal ambiguity measure. Therefore, the convergent validity of the target-specification goal ambiguity measure is demonstrated through the results of three correlation analyses using three alternative measures.

3.5.2 Convergent Validity of Time-Specification Goal Ambiguity Measure

In order to demonstrate the convergent validity of the time-specification goal ambiguity measure, two alternative measures are used in this study. The first objective alternative measure is the number of sub-organization units which directly report to the top leader in 24 federal agencies randomly selected (Chun, 2003). This study collects the data from the organizational charts that the federal agencies post on their web sites (Chun, 2003). This measure is not exactly for time-specification goal ambiguity. However, it can be closely related to time-specification goal ambiguity for several reasons: For each federal agency, different sub-agency units directly reporting to the top leader of the agency should represent different priorities in terms of time (Chun, 2003); the time-specification goal ambiguity measure is about the degree of ambiguity in expressing the priorities of performance goals in terms of time span, as shown in its definition;

time-specification goal ambiguity is measured with three types of time-related performance goals: long-term performance goals which are also expressed as strategic goals in the agencies, annual goals, and duplicate goals.[27] Therefore, this study expects that the alternative indicator will be positively correlated with the time-specification goal ambiguity measure, since more sub-agency units will represent more diverse goals and thus will increase time-specification goal ambiguity. To assess the convergent validity, time-specification goal ambiguity is measured again for the 24 federal agencies randomly selected by calculating the proportion of duplicate performance objectives among the total number of performance objectives in all the programs that each federal agency includes. The correlation coefficient between the number of sub-agency units and the time-specification goal ambiguity measure is .37 and is statistically significant at the .10 level (p=.075). This means that the more sub-agency units in federal agencies, the higher the time-specification goal ambiguity of the agencies. The result provides support for the convergent validity of the time-specification goal ambiguity measure.

As with the target-specification goal ambiguity measure, the other method for the convergent validity of time-specification goal ambiguity is to calculate the correlation with a subjective measure in the survey data (Hoskisson, et al., 1993). As a subjective measure, this study uses the organizational average score of a questionnaire item which can be considered to evaluate the priorities of organizational goals in the 2006 Federal Human Capital Survey conducted by the Office of Personnel Management. The questionnaire item with a 5-point Likert scale is "I know how my work relates to the agency's goals and priorities." For the assessment of the convergent validity, 25 federal agencies are randomly selected. This study uses the average of employees' response values of the questionnaire item in the agencies. Considering that the

[27] As defined above, duplicate performance goals refer to the goals that are stated as both long-term and annual without any explanations or any progressive steps to attain final targets.

response rate for each federal agency is 59%, the average score can be regarded as a representative value of each agency. In addition, it is assumed that employees' understanding of the priorities of the agency's goals will be negatively correlated with time-specification goal ambiguity. According to the correlation analysis, the coefficient is -.54 and is statistically significant at the .01 level (p=.005). Indicating that employees in federal agencies with lower time-specification goal ambiguity can understand the priorities of goals better, the result provides further evidence for the convergent validity of the time-specification goal ambiguity measure. Therefore, the convergent validity of the time-specification goal ambiguity measure is achieved through the two correlation analyses discussed above.

3.5.3 Convergent Validity of Program Evaluation Goal Ambiguity Measure

In order to provide evidence for the convergent validity of the program evaluation goal ambiguity measure, two alternative measures are also used. First, this study uses as the first alternative measure the "public benefits" score out of the three types of performance scores for the U.S. federal agencies reported on the 9th Annual Performance Report Scorecard provided by the Mercatus Center at George Mason University in 2007 (Chun, 2003; Mercatus Center, 2007). The "public benefits" dimension, which is rated on a 20-point scale, consists of four evaluation criteria about performance measures or data: outcome-oriented goals, outcome measures, agency-affected outcomes, and linkage to costs related to public benefits (Mercatus Center, 2007). Therefore, this study assumes that the "public benefits" score of the performance report will have a significant and negative correlation with program evaluation goal ambiguity, which means the degree to which a program or an agency use more output-oriented goals than outcome-oriented goals. In order to test the convergent validity of the program evaluation goal ambiguity measure, this research measures program evaluation goal ambiguity again for the 24

federal agencies on the scorecard by calculating the proportion of output-oriented performance measures among the total performance indicators in all the programs that each federal agency includes. The present study conducts the Pearson correlation analysis between this program evaluation goal ambiguity measure and the "public benefits" score on the performance scorecard. The correlation coefficient is -.37 and was significant at the .10 level (p=.075). As expected, this result shows that program evaluation goal ambiguity is significantly and negatively correlated with the public benefits score of the performance report.

The second method for the convergent validity of program evaluation goal ambiguity is to calculate the correlation with a subjective measure using the organizational average score of a questionnaire item in the 2006 Federal Human Capital Survey data, like the time-specification goal ambiguity measure (Hoskisson, et al., 1993). The questionnaire item with a 5-point Likert scale is "employees are rewarded for providing high quality products and services to customers," which is related to employees' efforts to provide public benefits. To assess the convergent validity, 25 federal agencies are randomly selected. This study uses the average of employees' response values of the questionnaire item in the agencies. As with the time-specification goal ambiguity measure, considering that the response rate is 59%, the average can be regarded as a representative value of each agency. In addition, it is assumed that the employees' satisfaction perception of reward for their efforts to provide public benefits will be negatively correlated with the program evaluation goal ambiguity measure. According to the result of the correlation analysis, the coefficient is -.48 and is statistically significant at the .05 level (p=.016). Showing that federal agencies with lower program evaluation goal ambiguity can better reward their employees' efforts to provide benefits for their customers by using the clear performance goals related to public benefits, the result provides further evidence for the convergent validity of the

program evaluation goal ambiguity measure. Therefore, through these correlation analyses with two alternative measures, this study can demonstrate the convergent validity of the program evaluation goal ambiguity measure.

To sum up, for the three new measures of program goal ambiguity, this study conducts the convergent validity test and demonstrates their convergent validity by using various alternative measures. Next, the other validity test for construct validity is conducted through correlation analysis among the three new measures of program goal ambiguity.

3.5.4 Discriminant Validity of the New Program Goal Ambiguity Measures

As one of two types of validity for establishing construct validity for newly developed measures, discriminant validity means "the degree to which measures of different concepts are distinct" (Bagozzi, Yi, and Phillips, 1991, p. 425). As explained above, if two or more dimensions of one concept are distinct, the valid measures of each dimension should not be highly correlated with each other (Bagozzi, Yi, and Phillips, 1991; Campbell and Fiske, 1959).

Table 3.2 Inter-Correlations between Three New Dimensions of Program Goal Ambiguity

	1.	2.	3.
1.Target-Specification Goal Ambiguity	1.00		
2. Time-Specification Goal Ambiguity	-0.0283	1.00	
3. Program Evaluation Goal Ambiguity	-0.0888**	-0.1481***	1.00

*p=0.10; **p=0.05; ***p=0.01; Sample Size=767

Table 3.2 above provides zero-correlations among the three newly developed measures of program goal ambiguity. The discriminant validity, or the multidimensionality, of program goal ambiguity is supported by the correlations among the program goal ambiguity dimensions.

There is not a significant correlation between the target-specification goal ambiguity measure and the time-specification goal ambiguity measure. This result indicates that these two dimensions are distinct. The program evaluation goal ambiguity measure is significantly and negatively related to both the target-specification goal ambiguity measure (r = -0.0888, $p < 0.05$) and the time-specification goal ambiguity measure (r = -0.1481, $p < 0.01$). However, the correlations are significant but weak. Thus, these results show that the three new measures are distinct dimensions of program goal ambiguity (Chun and Rainey, 2005a). That is, this study achieves the discriminant validity of the three new measures of program goal ambiguity through correlation analysis.

3.5.5 Reliability of the New Program Goal Ambiguity Measures

Critical for newly developed measures, "reliability is the agreement between two efforts to measure the same trait through maximally similar methods" (Campbell and Fiske, 1959, p. 83; Venkatraman and Grant, 1986). For assessing the reliability, the internal consistency, of the three newly developed measures of program goal ambiguity, this study uses the inter-rater reliability method (Chun, 2003; Hoskisson, et al., 1993). This reliability refers to the degree of agreement between raters in their evaluation of the internal consistency of the measure (Hoskisson, et al., 1993). In order to demonstrate the reliability of the three new measures of program goal ambiguity, a doctoral student[28] specializing in public management independently coded the performance measures or goals composing the three new dimensions of program goal ambiguity for 30 federal programs randomly selected (Chun, 2003). Then, this study conducted correlation analyses between the two raters' coded scores for the three new measures. The correlation coefficients are .97 for the target-specification goal ambiguity measure, 1.00 for the time-

[28] The student's name is Sangyub Ryu, a second-year doctoral student in the Department of Public Administration and Policy at the University of Georgia now in 2009. For this evaluation of the reliability of the three new measures of program goal ambiguity, the author explained to this student how to measure each program goal ambiguity.

specification goal ambiguity measure, and 1.00 for the program evaluation goal ambiguity measure. All the coefficients are statistically significant at the .001 level. These correlation coefficients are the inter-rater reliability values and show that the reliability of the three new measures of program goal ambiguity is achieved.

To sum up, this study achieves the construct validity and the reliability of the three newly developed measures of program goal ambiguity by statistically demonstrating the convergent validity, the discriminant validity, and the inter-rater reliability, using various alternative measures and correlation analyses.

3.6 Discussion

This chapter presents the multidimensional conceptualizations and the objective measures of program goal ambiguity for a large sample, 767 U.S. federal programs. The new three dimensions of program goal ambiguity are target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. The purpose of this study is to build a foundation for the development of empirical goal ambiguity theory, future empirical research on program goal ambiguity, and empirical assertions related to goal ambiguity by overcoming the conceptual and methodological limitations (e.g., lack of clear concepts of program goal ambiguity and exclusive dependence on perceptual survey data) of the previous empirical research on goal ambiguity.

Furthermore, the results of this study provide the empirical evidence of the convergent validity, the discriminant validity (or multidimensionality), and the reliability for the three new program goal ambiguity measures. This empirical evidence raises the need for goal ambiguity research approaches that use multidimensional concepts of program goal ambiguity. Therefore, this study can be a foundation for more refined methodology for goal ambiguity research. The

previous research trend about goal ambiguity used single-dimensionality of goal ambiguity and suggested hypotheses about the relationships between goal ambiguity and certain antecedent variables (Chun, 2003). Future research on program or organizational goal ambiguity needs to take into account that the sub-dimensions of program goal ambiguity can be differently related to different antecedents and different consequential variables, such as performance, motivation, and job attitudes.

Such research using the sub-dimensions of program goal ambiguity discussed in this study can provide a foundation to strengthen the construct validity for the new measures. If the empirical studies offer results supporting theoretical assertions about goal ambiguity and opposite to the previous empirical studies showing unexpected results, the results can be evidence supporting scholars' arguments that the inconsistency between theory and evidence in goal ambiguity occurred due to the lack of conceptualization of goal ambiguity and dependence on survey data (Bozeman, 2000; Chun, 2003; Perry and Porter, 1982; Rainey and Bozeman, 2000). Furthermore, the multidimensionality of program goal ambiguity will have practical implications. If the clarification of program goals is required for improving the accountability and performance in public programs or public organizations, understanding the multidimensionality of program goal ambiguity can be the basis of developing strategies for clarifying program goals (Chun, 2003; Chun and Rainey, 2005a).

This section discusses the implications of developing and validating the three new dimensions of program goal ambiguity for empirical goal ambiguity theory and practice. The conclusion chapter presents the methodological or conceptual issues of this empirical study and future research directions for the measurement and the validation of program goal ambiguity. The following chapter suggests an explanatory model of program goal ambiguity and several

testable hypotheses from the broad literature related to program goal ambiguity, and discusses the methodology, the results of the analysis, and their implications.

CHAPTER 4

ANTECEDENTS OF PROGRAM GOAL AMBIGUITY

The previous chapter discussed the newly developed measures of the three new dimensions of program goal ambiguity and demonstrated their construct validity, including convergent validity, and discriminant validity (multidimensionality), and their reliability. What antecedents explain these new program goal ambiguity measures? To answer this question, I suggest an explanatory model of program goal ambiguity including eight antecedents, based on the literature. Therefore, this chapter examines eight hypotheses about program goal ambiguity. I describe the methodology for the analysis and their results. Finally, this chapter concludes with a discussion of the theoretical and practical implications of the results.

4.1 Literature Review and Hypotheses

Figure 4.1 presents a framework of variables that this study relates to the above-conceptualized dimensions of program goal ambiguity – target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. Independent variables are classified into three categories: program capacity, program characteristics, and program political contents. Program capacity includes planning capacity and management capacity. The variables in the category of program characteristics are program type, assessment year, and program size. Budget increase, political party initiative, and agency type are variables included in the category of political contents. For the models of this chapter, program target-specification goal ambiguity, program time-specification goal ambiguity, and program

evaluation goal ambiguity, as the dependent variables, are evaluated, based on the program goals or performance indicators in the 2007 Program Assessment Rating Tool (PART) data. Antecedents of program goal ambiguity, management capacity, planning capacity, program type, budget increase, assessment year, and program size are drawn from the 2006 PART data.

Figure 4.1 A Framework for Program Goal Ambiguity[29]

4.1.1 Program Capacity and Program Goal Ambiguity

Program Management Capacity and Program Goal Ambiguity

Through recent empirical research on goal ambiguity, some scholars argue that goal ambiguity can be managed to a certain degree (Pandey and Rainey, 2006). There have been some arguments that the levels of goal ambiguity can decrease through management activities such as financial management, structuring relationships with various partners related to the

[29] Regarding the relationship between program goal ambiguity and program management, one can point out that the causality between the two variables may be reciprocal (Chun, 2003). However, Rainey (1993) argued that some public managers showed proactive leadership or effective management to overcome political and legal constraints and they could exert better management ability in reducing goal ambiguity. In addition, this study measures and uses program management capacity of 2006 as an independent variable and program goal ambiguity of 2007 as the dependent variable. Therefore, program management capacity can logically be an antecedent of program goal ambiguity.

programs, and performance measurement (Lee, 2006). As a representative example, Ingraham, Joyce, and Donahue (2003) presented the meaningful results through the Government Performance Project (GPP) that variations of goal ambiguity exist among agencies and that management capacity has a critical impact on the ability to lower the goal ambiguity.

Students in the field of management and leadership have argued that managers and leaders exert a significant influence on the level of goal ambiguity of policies (Schermerhorn, Hunt and Osborn, 2005). Their critical obligations include the clarification of objectives. In turn, those "objectives set or modify specific performance targets" (Schermerhorn, Hunt and Osborn, 2005). Additionally, this research uses the term *management capacity,* which Ingraham and Kneedler (2000) defined as the ability of government to develop, direct, and control its necessary resources to support the fulfillment of its policy and program responsibilities. Specifically, this term is related to such management activities as financial management, structuring relationships with various partners related to the programs, and performance management, which the U.S. Office of Management and Budget (OMB) (2006a) regards important for evaluating program management.[30] Therefore, the following hypotheses are presented:

Hypothesis 1-1: Federal programs with better management capacity are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 1-2: Federal programs with better management capacity are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 1-3: Federal programs with better management capacity are likely to have lower levels of program evaluation goal ambiguity.

[30] The related questions, which OMB uses, are described in Appendix C.

Program Planning Capacity and Program Goal Ambiguity

Planning capacity is defined as the ability of the organization or the program to assign work across organization and program members and the methods used to integrate their actions (Weldon, Jehn, and Pradhan, 1991). Specifically, in this study, planning capacity is related to planning activities including making the purpose clear, designing a goal to achieve its objectives, and establishing valid short-term and long-term goals for its programs, which OMB (2006a) regards important for evaluating program planning performance. Additionally, McGrath (1984) defined a performance plan "a description of a time-and-function-linked series of actions that, if executed, will (it is supposed) lead to a specific goal" (p. 128). Thus, we can expect that better planning capacity will contribute to decreasing goal ambiguity. In the public policy field, many scholars have discussed the significance of planning for the clear goal-setting and the success of a policy (e.g., Baum, 1976; Berman, 1978; Berman and McLaughlin, 1976; Hambleton, 1983). Especially in relation to planning, greater goal clarity is a critical foundation for successful policy (Baum, 1976). We can also predict that the result-oriented and strategic planning-focused government puts an emphasis on planning capacity (OMB, 2006a) and such efforts will have an influence on goal ambiguity of federal programs. Thus, the different level of planning capacity in each program will cause a significantly different level of program goal ambiguity.

Hypothesis 2-1: Federal programs with better planning capacity are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 2-2: Federal programs with better planning capacity are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 2-3: Federal programs with better planning capacity are likely to have lower levels of program evaluation goal ambiguity.

4.1.2 Program Characteristics and Program Goal Ambiguity

Federal Program Type and Program Goal Ambiguity

According to Chun and Rainey's (2005b) research, the program type that federal agencies should implement can be a predictor of goal ambiguity. Scholars of the public policy field have divided public policies into several types. Out of a variety of antecedents influencing goal ambiguity, this study focuses on program types in the PART system. Lowi (1972) argued that different policies have different politics. Based on the likelihood and applicability of coercion, Lowi's (1972) system of classifying public policies included four categories: distributive policy (e.g., subsidies and tariffs) , regulatory policy (e.g., unfair competition and elimination of substandard goods), constitutent policy (e.g., propaganda and setting up a new agency), and redistributive policy (e.g., social security and progressive income tax). Ripley and Franklin (1982) suggested the four-fold classification of American domestic policy on the basis of the major social purpose which governmental bureaucracies accomplish: distributive (e.g., income tax deduction for interest on home mortgages and for local property taxes to encourage home ownership and grants for research to universities and private laboratories), competitive regulatory (e.g., authorizing and requiring specific airlines to operate specific routes and authorizing and requiring the operation of specific television channels and radio frequencies by specific operators) , protective regulatory (e.g., wage and price controls and high taxation to discourage the use of scarce or dangerous commodities), and redistributive (e.g., the provision of food stamps for the disadvantaged and requirements of affirmative action in hiring by federal contractors). Later, Meier (2000) followed Lowi's classifying method in his book on American bureaucracy. More recently, however, Chun and Rainey's (2005a) policy types included regulatory policy and non-regulatory policy. Their classification was based on the *Congressional*

Quarterly's Federal Regulatory Directory, which includes all the federal agencies with regulatory policy responsibility. According to their classification, regulatory policy programs are often characterized by a high degree of visibility since they tend to clearly divide winners and losers by generally imposing costs rather than providing benefits. On the other hand, non-regulatory ones have a high level of cooperation through policy subsystems.

This research follows the assumption that "policies determine politics," which Lowi (1972) presented. That is, different types of federal programs are likely to be related to different political situations, which in turn bring about different results in the policy processes (Lowi, 1972; Meier, 2000; Ripley and Franklin, 1982). Following the flow of the above logic, we can predict that, according to the types, goals of public programs can be ambiguous and contradictory to the different degrees. Therefore, this study hypothesizes that different types of public programs are related to different levels of goal ambiguity.

However, the previous typologies of public policy have some weaknesses. First, the conceptual classification between distributive and redistributive policy has been criticized as a distinction with no difference (Chun and Rainey, 2005a). Second, Chun and Rainey's (2005b) classification was for the analysis unit of federal agencies. Therefore, their method was not suited for this study, which analyzes federal programs instead of federal agencies. The reason is that a federal agency generally manages multiple programs.[31] Therefore, this study follows Frederickson and Frederickson's (2006) classifying system of public programs instead of the traditional typologies. The categories of program types in this research are direct (direct federal, credit, regulatory, and capital assets & service acquisition) and third-party programs (block & formula grant, competitive grant, and research & development) from the classifying system of

[31] As a representative example, the Department of Agriculture has more than 50 programs of 7 program types in the 2007 PART.

OMB. Third-party programs are grant- and contract-based (Frederickson and Frederickson, 2006). In relation to this classification, Salamon (2002) broadly divided the public tools into two: direct and indirect (third-party) tools. Direct tools with medium coerciveness,[32] high directness,[33] and high visibility[34] include direct government, government corporations, economic regulation, public information, and direct loans. Indirect (third-party) tools have medium coerciveness, low or medium directness, and low or medium visibility. They include contracting, loan guarantees, grant, tax expenditures, fees and charges, insurance, tort law, vouchers, and government-sponsored enterprises.

Therefore, this study predicts that direct programs would be affected or intervened less by multiple constituencies than third-party ones in the policy process and thus have lower goal ambiguity than third-party ones (Behn, 2001; Lowi, 1979; Wilson, 1980). Actually, in comparison of 2006 performance between direct and third-party programs, direct programs show higher overall PART scores and management scores than the latter (Frederickson and Frederickson, 2006). On the basis of these results, Frederickson and Frederickson (2006) claim that "quality of management and the nature of accountability in hollowed-out third-party-operated federal programs are very different from the management and accountability of directly operated federal programs" (p. 182). The reason is that third-party programs would have more competing demands from multiple constituencies and such condition will lead to more goal ambiguity for the need for political compromise (Chun and Rainey, 2005a).

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[32] "*Coerciveness* measures the extent to which a tool restricts individual or group behavior as opposed to merely encouraging or discouraging it" (Salamon, 2002, p. 25).
[33] "*Directness* measures the extent to which the entity authorizing, financing, or inaugurating a public activity is involved in carrying it out. A direct tool is one in which authorization, funding, and execution are all carried out by essentially the same entity" (Salamon, 2002, p. 27).
[34] "*Visibility* measures the extent to which the resources devoted to a tool show up in the normal government budgeting and policy review processes" (Salamon, 2002, p. 35).

Hypothesis 3-1: Third-party programs are likely to have higher program target-specification goal ambiguity than direct ones.

Hypothesis 3-2: Third-party programs are likely to have higher program time-specification goal ambiguity than direct ones.

Hypothesis 3-3: Third-party programs are likely to have higher program evaluation goal ambiguity than direct ones.

Assessment Year and Program Goal Ambiguity

One might also predict that assessment year would also have an influence on goal ambiguity of public programs. This study hypothesizes that the assessment year of a program would be negatively related to goal ambiguity. The Bush administration put a focus on strategic planning based on the motto "managing for results," after the President's inauguration. Even though the initial program goals were often vague, the evaluative goals would tend to become more specific, detailed, and refined over time as policymakers redefine them and elaborate them after collecting more information and following the guideline of OMB through the learning process (Browne and Wildavsky, 1984; Chun and Rainey, 2005a; Matland, 1995). Therefore, this study tests the following hypotheses about the relationship between assessment year and program goal ambiguity.

Hypothesis 4-1: Federal programs assessed more recently are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 4-2: Federal programs assessed more recently are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 4-3: Federal programs assessed more recently are likely to have lower levels of program evaluation goal ambiguity.

Program Size and Program Goal Ambiguity

Like the results of organizational goal ambiguity for federal agencies (Chun and Rainey, 2005a), we can expect that program size will also have a positive impact on goal ambiguity in federal programs. Larger federal programs may have more variety of functions and performance goals and need more personnel as well as deal with more public. More goals can increase goal conflict (Bandura, 1989) or lead to higher goal ambiguity (Chun, 2003). Therefore, larger programs may have more trouble in setting clear goals.

Hypothesis 5-1: Larger federal programs are likely to have higher levels of program target-specification goal ambiguity.

Hypothesis 5-2: Larger federal programs are likely to have higher levels of program time-specification goal ambiguity.

Hypothesis 5-3: Larger federal programs are likely to have higher levels of program evaluation goal ambiguity.

4.1.3 Program Political Contents and Program Goal Ambiguity

Increased Funding Level from the Federal Government and Program Goal Ambiguity

Scholars and experts have often contended that public officials and managers seek to evaluate performance through subjective indicators of workloads and outputs instead of objective outcomes and results (e. g., Kanter and Summers, 1987; Thompson, 1997). The reason is that there are many difficulties in specifying goals and the measurement of achievements (Chun and Rainey, 2005a). However, there may not be small variations of goal ambiguity among the federal programs funded from federal government. Resources can be made available for making their administration easier through the policies. Furthermore, funds can be included in the

resources that facilitate successful achievements for the program (Browne and Wildavsky, 1984; Elmore, 1985; Mead, 1977; Van Meter and Van Horn, 1975).

According to the arguments and the research about the relationship between budgets and role ambiguity as a similar concept to goal ambiguity, inflexible budgets or no-budget increases serve to increased ambiguity (Marginson and Ogden, 2005). The reason is that budget increases can be a more gratifying role experience (House and Rizzo, 1970; Marginson and Ogden, 2005). Therefore, budget increases can lead to decreased goal ambiguity related to employees' roles, since clarifying goals and roles are essential for better work performance (Chun, 2003; Chun and Rainey, 2005a). By the same token, this study expects that federal programs can decrease their goal ambiguity when they have increased funding, on the basis of the argument that specifying program goals is very important for higher program performance (Salamon, 2002). Thus, this research hypothesizes that increased funding levels will be negatively related to the levels of program goal ambiguity. Conversely, federal programs with lower levels of increased funding are likely to show higher levels of goal ambiguity. Thus, the hypotheses about the relationship between goal ambiguity and funding level are

Hypothesis 6-1: Federal programs with higher levels of budget increase are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 6-2: Federal programs with higher levels of budget increase are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 6-3: Federal programs with higher levels of budget increase are likely to have lower levels of program evaluation goal ambiguity.

Political Party Initiative and Program Goal Ambiguity

As did Gilmour and Lewis' (2006a) research, this study classifies programs into two categories – Republican and Democratic Party programs – according to the party with more influence and interest in the department where a program is housed.[35] They contended that the department that houses a program serves as "a reasonable proxy for the political content of the program," since "some departments do work that is more central to the agenda of the Democratic Party than other departments" (Gilmour and Lewis, 2006a, p. 177). (They refer to this construct as program content, while this research refers to it using that term, but also as "political party initiative.") In terms of budget increase, they compared programs that receive more attention and support from Democratic officials with those of greater interest to Republicans. Program planning or program goal setting as one component of management activities can be also affected by real politics, why lawmakers can have an influence on policy responsibility (Meier, 1985; Ripley and Franklin, 1991). Therefore, we can expect that whether federal programs have Democratic Party initiative or Republican Party initiative makes the degrees of their goal ambiguity different. However, the relationship is not obvious. The hypotheses are as follows:

Hypothesis 7-1: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program target-specification goal ambiguity.

Hypothesis 7-2: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program time-specification goal ambiguity.

Hypothesis 7-3: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program evaluation goal ambiguity.

[35] Refer to Gilmour and Lewis' (2006a; 2006b) article for detailed explanation of this measure.

Agency Type and Program Goal Ambiguity

Chun and Rainey (2005a) divided agency types according to whether the agency has a regulatory or non-regulatory characteristic, on the basis of its policy responsibility. Regulatory politics are often characterized by a high degree of visibility. The reason is that they have a tendency to create winners and losers clearly and a characteristic of imposing costs instead of distributing benefits (Meier, 1985; Ripley and Franklin, 1982). However, agencies with non-regulatory characteristics usually play a critical role in distributing benefits rather than imposing costs and thus they have more difficulty in finding obvious winners and losers than those with regulatory characteristics (Ripley and Franklin, 1982).

According to Chun and Rainey (2005a), these different politics patterns of policies tend to affect goal ambiguity in public agencies. The reason is that "the existence of clear winners and losers in regulatory politics makes it difficult for political leaders to develop specific policy goals or directives since they often must avoid details to reach an agreement between the winners and losers" (Chun and Rainey, 2005a, p. 8). We can expect that goals or statutes of regulatory policy will have higher levels of vagueness (Noll, 1971). Therefore, the hypotheses concerning the impact of agency type on program goal ambiguity are as follows:

Hypothesis 8-1: Federal programs in regulatory agencies are likely to have higher levels of program target-specification goal ambiguity than those in non-regulatory ones.

Hypothesis 8-2: Federal programs in regulatory agencies are likely to have higher levels of program time-specification goal ambiguity than those in non-regulatory ones.

Hypothesis 8-3: Federal programs in regulatory agencies are likely to have higher levels of program evaluation goal ambiguity than those in non-regulatory ones.

4.2 Data Sources and Sample

The present study focuses on U.S. federal government programs. These programs represent a comprehensive array of federal program goals and functions. According to OMB (2006a; 2006b), the PART data is the fruit of efforts to assess and improve program performance in order to achieve better results in the federal government. Therefore, a PART review helps identify the individual program's design, planning, management, results, performance goals, performance measures, and program improvement plans. To explain the method of assessment, OMB tells us, "We use a standard questionnaire called the Program Assessment Rating Tool, or PART, for short. The PART asks approximately 25 important, yet common sense, questions about a program's performance and management… Once each assessment is completed, we develop a program improvement plan so we can follow up and improve the program's performance" (OMB, 2006a). Thus, the PART data provides access to information for management capacity and planning capacity of this study. In addition, we can see standardized performance objectives and performance measures for developing three dimensions of program goal ambiguity in the PART.

Using the PART developed by OMB as a data source to measure three dimensions of program goal ambiguity in federal programs gives us several meaningful advantages in alleviating methodological complications that have hindered previous studies on goals.[36] The

[36] In relation to validity of the PART data, there are two conflicting arguments. There is a criticism about the PART data thrown by OMB Watch, a nonprofit organization that has been monitoring the PART process: "It is hard to determine whether the PART is measuring programs accurately, consistently and in a value-neutral way. Even if it achieves these, there has been little attention paid to the question of whether the PART is measuring the right kinds of outcomes" (Radin, 2006, p. 125).

However, Radin (2006) described that the fundamental reasons of the criticism are put not on the PART assessing systems but on others. "There are structural characteristics of the American political structure that make the implementation of both GPRA and PART difficult. These include the institutional conflict between the legislative and executive branches, the fragmentation of responsibilities within the legislative branch, tension between OMB and departments and agencies, and differentiated responsibilities and roles inside agencies and department" (p. 125).

On the other hand, "PART also addressed what was believed to be two important shortcomings in the GPRA law. One of the two is that "to respond to the 'one size fits all' criticism of GPRA, PART set up a 'types of

first advantage is the standardization of terms that otherwise can bring about significant errors in gathering data from archival sources (Chun and Rainey, 2005a; Van de Van and Ferry, 1980). All federal agencies prepare the data for the PART "under the same guidelines provided by OMB" (Chun and Rainey, 2005a, p. 11). Therefore, using the PART can reduce measurement errors caused by variation in measurement procedures. Second, OMB makes it clear that federal programs should describe their goals based on statutory mandates (OMB, 2006a). This links goal statements more directly to statutes than in cases where researchers have had to rely on goals identified indirectly from formal mandates (e.g., Meyers, Riccucci, and Lurie, 2001; Perry, et al., 1999). Next, the sample for this research is all the federal programs that are included in the PART by OMB in both 2006 and 2007. The final sample size is 767.[37] In addition, this study uses the performance objectives in the PART data for the dependent variables and PART scores, program budget, assessment year, and program types in the PART data for several independent variables.

4.3 Measures

Measures of the Dependent Variables

The main dependent variables in this analysis are the three dimensions of program goal ambiguity.

Target-Specification Goal Ambiguity Target-specification goal ambiguity refers to the overall degree of specificity in the expression of program goals. It represents the lack of clarity

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program' format with each agency slotted into one of the following types of programs: direct federal, competitive grant, block & formula grant, regulatory, capital assets & service acquisition, credit, research & development programs… Furthermore, PART has received some good reviews. In the summer of 2005, Harvard University announced that PART was one of ten recipients of its innovations in American Government Award" (Frederickson and Frederickson, 2006, p. 42).

[37] Total number of the federal programs belonging to both the 2006 PART and the 2007 PART is 784. Ten programs were left out, since they did not show any performance goals in 2006 or 2007 PART data. This study also left out six programs, because they were not included in the 2007 PART data. In addition, one program was excluded in the regression model, since it was not possible to classify the program due to being coded as 'mixed program' in the type1 category of the PART. Therefore, in this research, the sample size is 767.

in deciding on the precise quantity and/or quality of work for achieving the program's performance goals. In other words, this concept of goal ambiguity reflects the presence of unclear targets for program goals. It is measured by the percentage of performance objectives without concrete targets among the total number of performance objectives in individual programs.

Time-Specification Goal Ambiguity In terms of time span, there are two kinds of indicators for federal programs in the PART data: the number of long-term performance objectives and the number of annual performance objectives. In addition, many programs have some performance objectives that are stated as both long-term and annual without any explanations or any progressive steps to attain final targets. This study refers to these performance goals as duplicate goals. Thus, the measure of time-specification goal ambiguity is calculated by the percentage of duplicate performance objectives among the total number of performance objectives in individual programs.

Program Evaluation Goal Ambiguity The PART assesses four different categories of performance indicators – outcome measures, output measures, outcome-oriented efficiency measures, and output-oriented efficiency measures (OMB, 2006a).[38] The measure of program evaluation goal ambiguity is calculated as the percentage of output measures and output-oriented performance measures (as opposed to outcome measures and outcome-oriented performance measures), among all performance indicators stated for a federal program.

Measures of the Independent Variables

According to OMB's (2006a; 2006b) explanation, the PART includes four sections used to evaluate four dimensions of a program's performance: program design, program planning,

[38] The performance indicators in the previous research consisted of four evaluative goals: subjective goals, objective goals, workload-oriented goals, and results-oriented goals (Chun and Rainey, 2005a).

program management, and program results. (Appendix C provides actual questions of these four performance dimensions in the PART) Its purpose is to determine a program's overall performance. Therefore, "each PART questionnaire includes 25 questions that are divided up into four sections" (OMB, 2006a). In addition, the scores of all the four sections were measured by reviewers and presented as percentages.

Management Capacity As noted earlier, management capacity means the ability of government to develop, direct, and control its necessary resources to support the fulfillment of its policy and program responsibilities (Ingraham and Kneedler, 2000). Specifically, in this study, this term is related to management activities including financial management, structuring relationships with various partners related to the programs, and performance management that OMB (2006a; 2006b) regards important for evaluating program management. The measure of management capacity in this study is the average score of the two sections, program management and program results/accountability in the 2006 PART. OMB (2006a) explained the sections on program management and program results as follows: "The third section (management) rates the management of an agency's program, including financial oversight and program improvement efforts. The fourth section (results/accountability) of questions focuses on results that programs can report with accuracy and consistency." As shown in Appendix C, components, including management of information, resources, coordination, collaboration, effective monitoring, communication, and accountability, are included in the evaluation items related to management capacity, when OMB evaluates the federal programs.

Planning Capacity As explained above, planning capacity refers to the ability of the organization or the program to assign works across organization and program members and the methods used to integrate their actions (Weldon, Jehn, and Pradhan, 1991). Specifically, in this

study, planning capacity is related to such planning activities as making the purpose clear, designing a goal to achieve its objectives, and establishing valid short-term and long-term goals for its programs that OMB (2006a; 2006b) regards important for evaluating program planning performance. The measure of planning capacity is the average score of the two sections: program design and program planning in the 2006 PART. OMB (2006a) explained the sections of design and planning as follows: "The first section (purpose and design) of questions asks whether a program's purpose is clear and whether it is well designed to achieve its objectives. The second section (planning) involves strategic planning, and weighs whether the agency establishes valid annual and long-term goals for its programs" (OMB, 2006a). Thus, the level of planning capacity for a program is calculated by averaging the scores of design and planning sections that were provided by OMB.

Federal Program Type The method of classifying program types in this study follows Frederickson and Frederickson's (2006). Table 4.1 illustrates the differences between direct and third-party programs, Salamon's (2002) application of the distinction, and the application of the distinction used in this study. The PART includes seven types of programs: direct federal, credit, research & development, block & formula grant, competitive grant, capital assets & service acquisition, and regulatory programs.

The classification of program types by OMB is similar to Salamon's (2002). Frederickson and Frederickson (2006) divided federal programs in the PART into direct and third-party programs below. In the PART data, direct federal programs (e.g., Agricultural Commodity Grading and Certification Programs, Watershed Protection and Flood Prevention, and Indian Health Service Federally-Administered Activities), regulatory programs (e.g.,

Table 4.1 The Classification of Public Program Types

Salamon's (2002) Classification	***Direct Tools*** (High Directness, High Visibility)	Direct Government Direct Loans Government Corporations Economic Regulation Public Information
	Indirect (Third-party) Tools (Low or Medium Directness, Low or Medium Visibility)	Grant Contracting Tax Expenditures Tort Law Vouchers Loan Guarantees Insurance Fees and Charges Government-Sponsored Enterprises
The Classification of This Study	***Direct Programs*** (High Directness, High Visibility)	Direct Federal Credit Capital Assets and Service Acquisition Regulatory
	Third-Party Programs (Low or Medium Directness, Low or Medium Visibility)	Block and Formula Grant Competitive Grant Research and Development

Emergency Pest and Disease Management Programs, Food Safety and Inspection Service, and Federal Managed Regulation of Surface Coal Mining and Abandoned), and capital assets & service acquisition (e.g., Missile Defense, Future Combat Systems/Modularity Land Warfare, and Energy Conservation Investment) are similar to direct government tools in Salamon (2002)'s classification. Salamon contended that direct government tools directly provide services, facilities, or products to citizens; they are generally quite visible to the public, and have the coercive power wielded by human health departments for quarantine, national defense

department for national security, and similar authorities. Credit programs (e.g., Federal Family Education Loans and Agricultural Credit Insurance Fund Direct Loans) are in the category of direct programs, since they are similar to direct loans. Similarly, third-party programs include block & formula grant, competitive grant, and research & development programs on the basis of their similarities to the indirect (third-party) tools such as, grant, and research & development in Salamon's (2002) classification system. This procedure classifies 405 programs as direct (coded as "0"), along with 362 third-party programs (coded as "1").

Assessment Year Since this study hypothesizes that the more recently a program is assessed, the lower the goal ambiguity it will show, this study uses the latest assessment year of each program, as reported in the PART data.

Program Size This study follows the same measurement method that GAO (2004) and Gilmour and Lewis (2006a) used for program size. The program size is divided size into three categories – small, medium-sized, and large federal programs – based on program budget size, although this dissertation uses different standards for the categories from those in the previous research because of the different year covered by the data this research uses. The base category, small federal programs (coded as "0"), includes those with less than $65 million budget allocations. Medium-sized programs (coded as "1") range from $65 million to less than $400 million, and large programs (coded as "2") include those with budgets of over $400 million.

Budget Increase Level from the Federal Government As noted above, increased funding level is hypothesized to have a negative relationship with goal ambiguity. The PART data provides information about the budget for every federal program in the dataset, in order to make it easy to check the present condition of the budget for each program. For measuring budget increases, this research employs the information on the 2005 actual budget and 2006

enacted budget in the PART data. The increase in funding level for each program is calculated by dividing the amount of the 2006 increase (2006 budget-2005 budget) by the 2005 budget.

Political Party Initiative As mentioned above, political party initiative refers to which political party has the strongest association with the agency or department in which a program is located. This measure follows that of Gilmour and Lewis (2006a; 2006b). All the programs in the Departments of Commerce, Education, Energy, Housing and Urban Development (HUD), Labor, and Health and Human Services (HHS) and the Environmental Protection Agency (EPA) are coded as "1," which means that they are Democratic programs or, as this research puts it, represent Democratic party initiatives (Gilmour and Lewis, 2006a). Three (Commerce, Energy, and Education) have missions which the Republican party has opposed because their missions are not consistent with federalism or markets (Gilmour and Lewis, 2006b). And the other four (HUD, Labor, HHS, and EPA) have missions matching the Democratic party's agenda (Gilmour and Lewis, 2006b, p. 746). The present study codes all other programs with a "0," which means that they are Republican party initiative programs.

Agency Type In order to classify regulatory agencies, the present research depends on the list of federal agencies in the *Congressional Quarterly's Federal Regulatory Directory* (2008). This government document includes all federal agencies with regulatory responsibility. Therefore, the federal programs in regulatory agencies are coded as "0," while the others in non-regulatory agencies are coded as "1."

4.4 Statistical Approach

Statistical analyses for three regression models are based on Huber-White heteroskedasticity-robust standard errors, since the residuals of the three models show a little heteroskedasticity (DeHart-Davis and Pandey, 2005). Such standard errors take into

consideration OLS assumptions about heteroskedasticity and lack of normality. Because OLS multiple regression is robust against the pattern using the standard errors, minor problems concerning homoskedasticity and normality prevent the need to explore nonlinear modeling techniques (DeHart-Davis and Pandey, 2005; Neter, et al., 1996). In addition, variance inflation factor (VIF) tests indicate that these three models do not have multicollinearity problem between the independent variables, since no VIF score is greater than 1.8.

4.5 Analysis and Results

As Table 4.2 shows, three dependent variables – target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity – have percentage values from 0 to 100. The units of two important independent variables, management capacity and planning capacity, are also expressed as percentages. Budget increase has ratios as their units. The other independent variables, that is, program type, program size, political party initiative, and agency type, are dummy variables.

The three models below present the regression results with robust standard errors for the three dimensions of program goal ambiguity.[39] The three models are all statistically significant ($p < .001$).

[39] Using robust standard error, the regression results show just R^2.

Table 4.2 Descriptive Statistics of Program Goal Ambiguity Dimensions and Independent Variables

Variables	Unit	Mean	Standard Deviation	Min	Max
Goal Ambiguity					
Target-Specification Ambiguity	Percentage	31.098	33.138	0	100
Time-Specification Ambiguity	Percentage	13.212	26.569	0	100
Program Evaluation Ambiguity	Percentage	48.177	28.901	0	100
Program Capacity					
Program Management Capacity	Percentage	65.177	18.362	0	100
Program Planning Capacity	Percentage	80.399	17.654	10	100
Program Characteristics					
Program Type	0, Direct; 1, Third-Party	0.472		0	1
Assessment Year	Assessed Year-2000	3.823	0.993	2	5
Program Size (Budget)	Category	0.935		0	2
Political Contents					
Increased Program Budget	Ratio	0.014	0.307	-1	4.147
Political Party Initiative	0, else; 1, Democratic	0.433		0	1
Agency Type	0, else; 1, Non-Regulatory	0.442		0	1

As shown in Table 4.3, for target-specification goal ambiguity for the programs in the analysis, management capacity, planning capacity, program type (direct or third-party), large program size, and political party initiative have a significant influence. Supporting the hypothesis, management capacity is significantly and positively associated with target-specification goal ambiguity (beta = -0.214, $p < .0.001$). Specifically, an increase of one percent in management capacity decreases program target-specification goal ambiguity by 0.21 percent. Regarding the hypothesis predicting a negative relationship between planning capacity and target-specification goal ambiguity, a one percent increase in planning capacity is significantly associated with a 0.13 percent decrease in target-specification goal ambiguity (beta = -0.131, $p < .01$). These results indicate that federal programs with higher management capacity and planning capacity help make target-specification goals clearer and the former has a stronger influence on this type of goal ambiguity than the latter.

With respect to program type, third-party programs are hypothesized to have a negative relationship with target-specification goal ambiguity. As hypothesized, third-party programs significantly have higher target-specification goal ambiguity than direct programs by approximately 0.10 percent (beta = 0.093, $p < .05$). Unlike the hypothesis predicting a positive relationship between program size and target-specification goal ambiguity, however, large programs significantly show lower target-specification goal ambiguity than do small programs by 0.10 percent (beta = 0.104, $p <.01$). In addition, among the political content of federal programs, the result for political party initiative indicates that programs with Democratic party initiative significantly have greater target-specification goal ambiguity than those with Republican Party initiative by 0.45 percent (beta = 0.446, $p < .001$). This model explains 38 percent of the variation in target-specification goal ambiguity.

Table 4.3 OLS Results for Program Target-Specification Goal Ambiguity

Independent Variables	Unstandardized Coefficients	Robust Standard Error	Standardized Coefficients	T-Ratio
Program Capacity				
Program Management Capacity	-0.386****	0.086	-0.214	-4.51
Program Planning Capacity	-0.246***	0.087	-0.131	-2.83
Program Characteristics				
Program Type (Third-Party)	6.144**	2.420	0.093	2.54
Program Assessment Year	1.050	1.166	0.031	0.90
Program Size (Medium)	-2.610	2.494	-0.037	-1.05
Program Size (Large)	-7.501***	2.673	-0.104	-2.81
Political Contents				
Program Budget Increase	4.030	3.023	0.037	1.33
Political Party Initiative (Democratic)	29.810****	8.480	0.446	3.52
Agency Type (Non-Regulatory)	1.529	3.147	0.023	0.49
Constant	44.646****			
Specific agency effects are included				

Note: R^2 = .376 ; F value = 41020.72****; Sample size = 767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

In the model of program time-specification goal ambiguity (Table 4.4), fewer of the independent variables have a significant influence on the dependent variable than in the model of target-specification goal ambiguity. As in the model of target-specification goal ambiguity, the impact of management capacity on this type of program goal ambiguity is greater than that of planning capacity. Specifically, the data supports the hypothesis predicting a negative relationship between management capacity and time-specification goal ambiguity, indicating that a one percent increase in management capacity decreases time-specification goal ambiguity by 0.15 percent (beta = -0.148, $p < .05$).

The hypothesis about the relationship between program type and time-specification goal ambiguity is also supported (beta = 0.073, $p < .10$), indicating that time-specification goal ambiguity of direct programs is significantly lower than that of third-party ones by roughly 0.10 percent. In terms of political party initiative, the hypothesis predicts that federal programs with Democratic party orientation have higher time-specification goal ambiguity than those with Republican party orientation, but the result shows that federal programs with Democratic party initiative significantly have lower time-specification goal ambiguity than their counterparts by 0.14 percent (beta = -0.138, $p < .05$). The results suggest that while Democratic party-oriented programs have better goal setting, in terms of time span, than Republican party-oriented programs, the latter have better goal setting, in terms of target, than the former. As hypothesized, federal programs in non-regulatory agencies significantly have lower time-specification goal ambiguity than those in regulatory agencies by 0.12 percent (beta = -0.122, $p < .05$). Thus, for time-specification goal ambiguity, management capacity, program type, political party initiative, and agency type are important antecedents. This model accounts for 20 percent of the variation in time-specification goal ambiguity.

Table 4.4 OLS Results for Program Time-Specification Goal Ambiguity

Independent Variables	Unstandardized Coefficients	Robust Standard Error	Standardized Coefficients	T-Ratio
Program Capacity				
Program Management Capacity	-0.215**	0.086	-0.148	-2.51
Program Planning Capacity	0.052	0.076	0.035	0.68
Program Characteristics				
Program Type (Third-Party)	3.859*	2.003	0.073	1.93
Program Assessment Year	-1.267	1.049	-0.047	-1.21
Program Size (Medium)	-2.120	2.125	-0.038	-1.00
Program Size (Large)	-0.781	2.734	-0.013	-0.29
Political Contents				
Program Budget Increase	2.997	2.877	0.035	1.04
Political Party Initiative (Democratic)	-7.419**	3.728	-0.138	-1.99
Agency Type (Non-Regulatory)	-6.512**	3.070	-0.122	-2.12
Constant	19.469***			
Specific agency effects are included				

Note: R^2 = .198 ; F value = 5.22****; Sample size = 767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

The model for program evaluation goal ambiguity shows four significant variables: planning capacity, program assessment year, program size (large), and program budget increase. In this model, the impact of planning capacity is significant and stronger on program evaluation goal ambiguity (beta = -0.128, $p < .05$) than that of management capacity. As hypothesized, a one percent increase in planning capacity is significantly associated with a 0.13 percent decrease in program evaluation goal ambiguity. However, such a significant relationship is not found between management capacity and program evaluation goal ambiguity, although the relationship is as hypothesized.

Program assessment year has a significant influence on program evaluation goal ambiguity out of the three types of program goal ambiguity. However, unlike the expectation, programs with a later assessment of one year have higher program evaluation goal ambiguity by 0.10 percent (beta = 0.088, $p < .05$). This result suggests that program assessment year is positively associated with this dimension of program goal ambiguity. The result regarding program size also contradicts the hypothesized direction of its impact on program goal ambiguity. Unlike the hypothesis predicting a positive relationship between program size and program evaluation goal ambiguity, program evaluation goal ambiguity of large size programs is lower than that of small size programs by about 0.10 percent (beta = -0.090, $p < .05$). In terms of program budget increase, the hypothesis predicts a negative relationship with program evaluation goal ambiguity. Unlike in the other models, this variable shows a significant and negative impact on program evaluation goal ambiguity (beta = -0.072, $p < .05$). This model explains about 17 percent of the variation in program evaluation goal ambiguity.

Table 4.5 OLS Results for Program Evaluation Goal Ambiguity

Independent Variables	Unstandardized Coefficients	Robust Standard Error	Standardized Coefficients	T-Ratio
Program Capacity				
Program Management Capacity	-0.067	0.083	-0.042	-0.81
Program Planning Capacity	-0.209**	0.087	-0.128	-2.40
Program Characteristics				
Program Type (Third-Party)	-1.093	2.580	-0.019	-0.42
Program Assessment Year	2.564**	1.145	0.088	2.24
Program Size (Medium)	-3.998	2.513	-0.066	-1.59
Program Size (Large)	-5.684**	2.822	-0.090	-2.01
Political Contents				
Program Budget Increase	-6.819**	3.302	-0.072	-2.06
Political Party Initiative (Democratic)	5.812	7.567	0.100	0.77
Agency Type (Non-Regulatory)	-0.295	3.065	-0.005	-0.10
Constant	57.698****			
Specific agency effects are included				

Note: $R^2 = .166$; F value = 220.31****; Sample size = 767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

4.6 Discussion

Better understanding of goal ambiguity is important, as the clarification of a program's goals has been considered critical to the improvement of performance and accountability of public programs (Chun and Rainey, 2005a). Gormley and Balla (2004) contended that federal services with ambiguous or conflicting goals are likely to perform poorly. The present study enhances understanding of antecedents of goal ambiguity in federal programs by developing and measuring three dimensions of program goal ambiguity. For this purpose, this study employs 767 federal programs included in both the 2006 PART and 2007 PART data provided by OMB. First, program target-specification goal ambiguity, time-specification goal ambiguity, and evaluation goal ambiguity are evaluated based on the program goals or performance indicators in the 2007 PART data. Several antecedents of program goal ambiguity, management capacity, planning capacity, program type, budget increase, assessment year, and program size are drawn from the 2006 PART data.

This empirical study raised the concern that it would not obtain any significant findings, given that no scholar had conducted large-sample empirical research examining variations in U.S. federal program goal ambiguity with objective measures. However, the results from this first large-sample research on program goal ambiguity appear encouraging and promising. They suggest that, distinct from a finding of "nothing," the objective measures of program goal ambiguity are statistically and meaningfully related to the independent variables described above in ways that scholars in political science, public policy, public administration, and public management would predict and think reasonable.

The results presented here support theoretical and practical propositions concerning determinants of goal ambiguity in government programs. Although management capacity is not

significant in the case of program evaluation goal ambiguity, the findings that management capacity is a significant independent variable for program goal ambiguity, such as target-specification goal ambiguity and time-specification goal ambiguity, are consistent with the theoretical arguments (Matland, 1995). According to Matland's (1995) argument, lower goal ambiguity is positively related to capacity for procurement and management of information and resources, coordination, effective monitoring, and communication. Additionally, the negative impact of management capacity on program goal ambiguity is also related to the reform efforts made by the federal government. The Bush administration put an emphasis on "managing for results" (Moynihan, 2005). OMB is the core agency located in the center of the reform. The result of this study using the data developed and collected by OMB can have important practical implications. Therefore, this study can conclude that if clarifying goals is important for better results of public programs, federal agencies should decrease goal ambiguity by improving management capacity under the guidelines of OMB.

Planning capacity also emerges as a significant antecedent of both target-specification goal ambiguity and program evaluation goal ambiguity, as expected. The results show that this independent variable exerts a statistically significant and negative influence on goal ambiguity in federal programs. This finding also implies that the administration's reform efforts seeking better results were proceeding at least in the right direction. The U.S. government is implementing strategic planning and performance measurement as rational management techniques (Bozeman, 2000; Radin, 2000). The implementation of strategic planning is also for better results. Therefore, one can see that the intentions of the Bush administration are reflected in the results of this study, if this study accepts the assumption that clarifying goals lead to better

results. That is, we can predict that federal programs with better planning capacity will show better results in the future, since they have lower program goal ambiguity.

In relation to program type, this study has the expected result, as hypothesized, that third-party programs have higher levels of program goal ambiguity than direct ones. This supports the conclusion that higher goal ambiguity of third-party programs comes from more competing demands from multiple constituencies, based on the previous argument that more stakeholders lead to higher ambiguity of goals (Chun and Rainey, 2005a). Policies of different types have different degrees of politics and complexity (Matland, 1995; Lowi, 1972). The federal government should approach a great variety of federal programs, considering the differences among federal programs managed by different agencies for higher performance. On the basis of Frederickson and Frederickson's (2006) argument, management strategies have to be different according to program types for better performance, since the quality of management also differs between direct and third-party programs.

This study also demonstrates that the assessment year of a program is also an important antecedent of program evaluation goal ambiguity, although the direction is different from the hypothesized one. As noted above, one of the administration's rational management techniques for higher performance is performance measurement. Considering program evaluation goal ambiguity is related to performance measurement for external evaluation, the evidence that programs assessed more recently show higher levels of program evaluation goal ambiguity implies that such efforts of the Bush administration was not reflected in federal programs as time has gone on.

In terms of program size, this study has the opposite results from the hypotheses stating that the larger the program size, the higher the program goal ambiguity. The reason is that larger

programs may have more resources, including professionals and finance, related to program strategic management and goal planning.[40] Programs with larger budgets may be able to recruit better personnel and use better training for program activities influencing program goal setting related to targets and program evaluation.

As hypothesized, program budget increase and agency type as political contents have a significant and negative effect on just program evaluation goal ambiguity and time-specification goal ambiguity, respectively. With regard to these variables, more empirical studies need to be conducted and accumulated for more established relationships with program goal ambiguity. However, the political party initiative variable shows conflicting results for target-specification goal ambiguity and time-specification goal ambiguity. The results suggest that Democratic party-oriented programs have better goal setting regarding time span than Republican party-oriented programs, whereas the latter have better goal setting concerning the targets than the former. Although this study does not have strong and consistent results about the effects of political contents on program goal ambiguity, this study suggests that political contents are also critical antecedents of program goal ambiguity and scholars need to conduct more related research.

Why do public agencies try to decrease goal ambiguity of their programs and their organizations? One of the reasons is that goal clarity contributes to identifying present and future directions (Nutt and Backoff, 1992, p. 45). Even though clarifying goals is difficult in the public sector, it is a critical mission in the strategic management of public agencies (Nutt and Backoff, 1992; Pandey and Garnett, 2006). To sum up the results of this study, policymakers and managers should take program-based differences into consideration when they develop strategic methods for clarifying program goals. The same logic is true when they employ several

[40] In this study, program size is measured by program budget size.

antecedents in this research for looking for and diagnosing problems related to clarification of program goals (Chun and Rainey, 2005a).

In this section, I discuss the findings of the analysis about the relationship between program goal ambiguity and its antecedents and their theoretical and practical implications in public programs or public organizations. The last chapter will provide discussions related to methodological or conceptual issues of the analysis and future research directions.

CHAPTER 5

CONSEQUENCES OF PROGRAM GOAL AMBIGUITY AND EXPLAINING PROGRAM PERFORMANCE

In this chapter, I suggest an explanatory but comprehensive model for eight antecedents, including the three newly developed dimensions of program goal ambiguity, of program performance. First, based on the literature review of goal ambiguity and program performance, eight hypotheses are developed. The next section provides the descriptions about methodology including data sources and measures in order to investigate the hypotheses. Third, this chapter summarizes the results of the statistical analysis and then discuss the implications of the findings.

5.1 Conceptual Framework for Program Performance

Figure 5.1 presents a framework of the variables that this analysis relates to the PART performance scores. Antecedents that influence performance criteria can be roughly characterized as internal and external factors. Organizations or programs seek to accomplish explicit and implicit goals that are part of the organization, and hence internal factors. Therefore, the characteristics of goals influence performance (Pfeffer, 1982; Price, 1972). For example, according to goal-setting theory, two fundamental attributes of goals include goal content and intensity[41] (Lee, Locke, and Latham, 1989; Locke and Latham, 2002). Goal content, which specifies what is supposed to be attained, has over five dimensions, including specificity,

[41] Goal intensity refers to "the process of setting the goal or of determining how to reach it" (Locke, et al., 1981, p. 127; Lee, Locke, and Latham, 1989). This attribute would be measured by factors, such as the importance of the goal and the degree of effort required.

proximity, difficulty, complexity, and conflict (Bandura, 1989; Lee, Locke, and Latham 1989; Locke and Latham, 2002).[42] In addition to goals, researchers focus on different internal factors that influence performance, such as procedures, communication systems, management capacity, policy type, organization (program) size (Chun and Rainey, 2005b; Selden and Sowa, 2004).

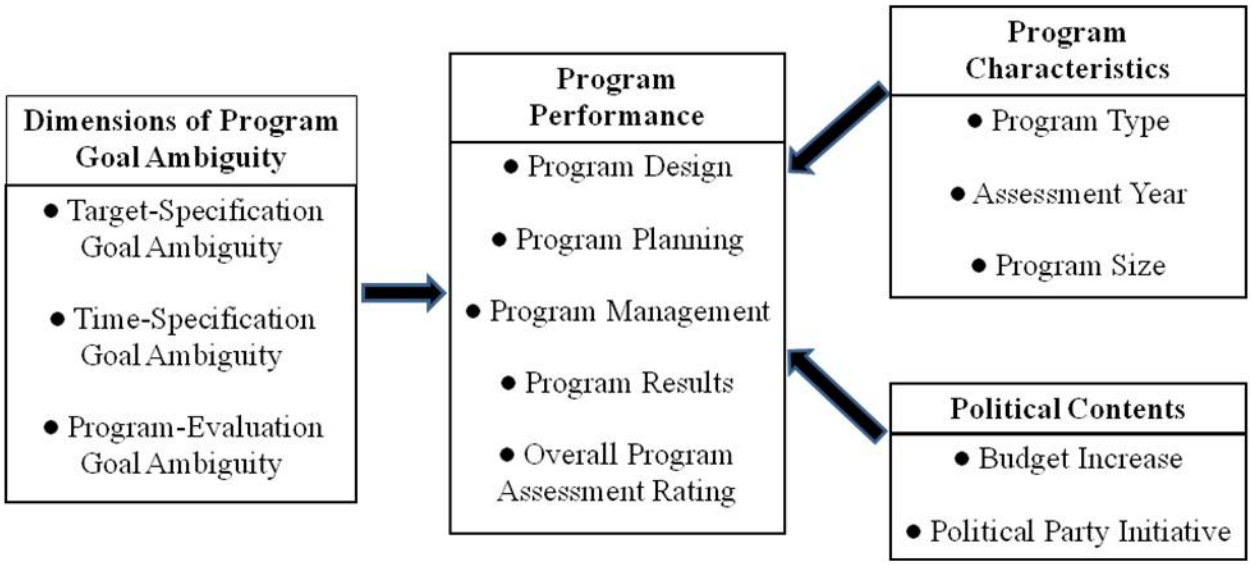

Figure 5.1 A Framework for Program Performance[43]

Some analysts emphasize external factors that influence performance. Seashore and Yuchtman (1967), who developed the system resource model, argued that organizational performance means "the ability to exploit its environment in the acquisition of scarce and valued

[42] According to Bandura (1989), intensions of goals do not automatically facilitate motivation or performance. Different properties of goal structures can affect motivation or performance differently. Thus, this study tries to develop three kinds of goal ambiguity at the federal program level by employing the three properties of program goals, that is, target specificity, proximity, and the possibility of external evaluation.

[43] A point can be made about causality and also model specification, that is, why this study does not try to include dependent variables in 2006 as a control for estimations of dependent variables measured in 2007. The reason is that many good and bad performers get the same scores during this period. In other words, it can be difficult for program managers to dramatically change performance scores in a year. Therefore, this study does not include the performance scores in 2006 as a control for the estimations of the performance scores in 2007.

In addition, there can be more questions about methodological issues related to program goal ambiguity measures and performance measures in this study. The section "5.5 Methodological Issues" in this chapter will provide discussions about the additional methodological questions.

resources to sustain its functioning" (p. 393). In this model, inputs are more important than outputs for the survival of the organization. As important external factors for government agencies and programs, political contents of a government program (Gilmour and Lewis, 2006a), such as budget increase and political party-initiative, can also influence program performance.

Figure 5.1 also shows, as performance criteria, the categories of performance indicators that OMB includes in the PART and that serve as dependent variables. These include program design, planning, management, results, and overall assessment rating scores, which this study drew from the 2007 PART data. For its overall PART rating, a program can receive one of five potential ratings: Effective, Moderately Effective, Adequate, Ineffective, and Results Not Demonstrated. However, this study uses the numerical scores from 0 to 100, instead of these five ordinal ratings including the rating "Results Not Demonstrated."[44] The overall assessment rating score combines the numerical ratings from 0 to 100 on the four categories, with weights on the categories. "Program assessments are comprised of four sections. Each section addresses a different aspect of the program with different weights for the overall program assessment rating: program purpose and design (20%), planning (10%), management (20%), and results and accountability (50%)" (OMB, 2007). In addition, this research employs, as independent variables, target-specification goal ambiguity, time-specification goal ambiguity, program evaluation goal ambiguity, program type, assessment year, program size, budget increase, and political party initiative (political content) from the data of 2006.

[44] The overall program assessment rating ranges in descending order: Effective, Moderately Effective, Adequate, and Ineffective (OMB, 2004). A rating of "Results Not Demonstrated" is given to programs which do not demonstrate the progress of achieving results because of failure in establishing acceptable performance or having supportive performance data (OMB, 2004). Yet the programs with the rating "Results Not Demonstrated" receive performance scores in percent for the four sections from OMB. Therefore, the PART actually has five potential categories for the overall program assessment ratings of individual federal programs: Effective, Moderately Effective, Adequate, Ineffective, and Results Not Demonstrated (OMB, 2006b).

5.2 Literature Review and Hypotheses

5.2.1 Program Goal Ambiguity and Program Performance

In their analysis of goal ambiguity in 115 U.S. Federal agencies, Chun and Rainey (2005a) used four dimensions of organizational goal ambiguity: mission comprehension ambiguity, evaluative goal ambiguity, directive goal ambiguity, and priority goal ambiguity. Since all organizations have multiple goals and goals have multiple dimensions (Cyert and March, 1963), this study needs a multidimensional construct for programs goals as well. The present study conceptualizes and measures the three new dimensions of program goal ambiguity: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity.

Target-Specification Goal Ambiguity and Program Performance

Target-specification goal ambiguity refers to the lack of clarity in deciding on the precise quantity and/or quality of work toward the achievement of a program's performance goals. As explained later, this study measures this construct as the proportion of a program's stated goals for which the PART report does not state performance targets. (For some of the goals reported in PART reports, such target information is stated. For other goals, it is not.) Some motivation theorists posit that more specific goals lead to higher performance (Bandura, 1989; Lee, Locke, and Latham 1989). "Explicit standards regulate performance by designating the type and amount of effort required to attain them by furnishing unambiguous signs of accomplishments" (Bandura, 1989, p. 42). Reviewing 14 laboratory experiments and 8 field studies, Latham and Lee (1986) concluded that specific goals produce higher levels of performances than non-specific ones. Numerous studies have found that more specific goals facilitate performance more than do

general intentions, such as "do your best" (Bandura and Cervone, 1983; Locke and Latham, 2002; Locke, et al., 1981).

Hypothesis 9-1: Target-specification goal ambiguity will be negatively related to program design performance.

Hypothesis 9-2: Target-specification goal ambiguity will be negatively related to program planning performance.

Hypothesis 9-3: Target-specification goal ambiguity will be negatively related to program management performance.

Hypothesis 9-4: Target-specification goal ambiguity will be negatively related to program results performance.

Hypothesis 9-5: Target-specification goal ambiguity will be negatively related to program overall assessment performance.

Time-Specification Goal Ambiguity and Program Performance

Time-specification goal ambiguity refers to the level of ambiguity that the PART statement allows in deciding on the distinction between annual goals versus long-term goals. Federal programs' PART reports sometimes specify annual performance objectives, and sometimes specify long-term performance objectives. Sometimes they state the same objective as both an annual and a long-term objective.[45] The U.S. Government Accountability Office (GAO, 1997) contended that executives in public agencies find it difficult to specify results expected for long-term goals and to translate the long-term goals into annual performance goals (Heinrich, 2003). According to goal-setting theory (Bandura, 1989), the time span of goals can influence employees' motivation and performance. Proximate goals like annual goals help to

[45] In this study, duplicate performance objectives mean the objectives stated as both annual and long-term without any explanations or any progressive steps to attain final targets.

activate self-efficacy and heighten performance, while more distant goals like long-term goals provide less effective incentives to facilitate current performance. However, Bandura (1989) argued that when long-range goals can be employed as the comparative standards, and where there is clarity about the steps to progress for complete achievement, present achievements can mobilize intrinsic interest and long-range goals can be helpful to increase performance. Based on goal-setting theory, annual performance objectives will have different effects from longer-term performance objectives on the achievements of goals and higher performance. Unlike annual performance objectives, long-term performance objectives need to offer progressive steps to attain final targets for higher performance in program management. Thus, clear time-specification of goal setting can lead to better motivation and higher performance:

Hypothesis 10-1: Time-specification goal ambiguity will be negatively related to program design performance.

Hypothesis 10-2: Time-specification goal ambiguity will be negatively related to program planning performance.

Hypothesis 10-3: Time-specification goal ambiguity will be negatively related to program management performance.

Hypothesis 10-4: Time-specification goal ambiguity will be negatively related to program results performance.

Hypothesis 10-5: Time-specification goal ambiguity will be negatively related to program overall assessment performance.

Program Evaluation Goal Ambiguity and Program Performance

For program evaluation goal ambiguity, this study follows Chun and Rainey's (2005a) definition of evaluative goal ambiguity at the federal agency, as "the level of interpretive leeway

that a program goal allows in evaluating the progress toward the achievement of the goal" (p. 4). The present research uses a different measure, however, as explained in the previous chapters. This measure of goal ambiguity is associated with the degree to which people outside the federal programs, such as the public, legislators, and bureaucrats, can understand and evaluate the performance goals. The PART has requested higher accountability for program performance, requiring federal agencies to set performance goals and measures and make their performance results known to the public (Heinrich, 2007). According to public management scholars, such as Heinrich (2007) and Grizzle (1982), program managers who transform program goals into performance indicators and targets for use in performance evaluation will achieve higher levels of performance. Tullock (1965) argued that ambiguity regarding performance indicators or performance evaluation can lead to information distortion in vertical communications and such distortions can make the improvement of performance difficult.

Hypothesis 11-1: Program evaluation goal ambiguity will be negatively related to program design performance.

Hypothesis 11-2: Program evaluation goal ambiguity will be negatively related to program planning performance.

Hypothesis 11-3: Program evaluation goal ambiguity will be negatively related to program management performance.

Hypothesis 11-4: Program evaluation goal ambiguity will be negatively related to program results performance.

Hypothesis 11-5: Program evaluation goal ambiguity will be negatively related to program overall assessment performance.

5.2.2 Program Characteristics and Program Performance

Federal Program Type and Program Performance

Chun and Rainey (2005b) found that the type of program or policy that a federal agency carries out shows a relationship to goal ambiguity and to organizational performance. Scholars have proposed various typologies of public policies. Lowi's (1972) system of classifying public policies included distributive policy, regulative policy, constituent policy, and redistributive policy. Meier (2000) and Ripley and Franklin (1982) used variants of this typology in analyzing government agencies. Chun and Rainey (2005b) compared agencies carrying out regulatory policy, non-regulatory policy, and hybrid policy responsibilities, and found that regulatory agencies showed higher levels of certain types of goal ambiguity than other types of agencies. Federal programs carrying out different types of policies face different political situations and different policy processes (Lowi, 1972; Meier, 2000; Ripley and Franklin, 1982). Therefore, this study hypothesizes that different types of programs will show different levels of performance.

This study uses a different classification of policy types, however, because of several considerations. First, the distinction between distributive and redistributive policy is often unclear. Second, Chun and Rainey's (2005b) classification applies to the analysis of federal agencies, not federal programs. A federal agency typically manages multiple programs.[46] Instead of using typologies that apply at the agency level, this study uses Frederickson and Frederickson's (2006) system for classifying public programs. Their categories of program types include direct programs (direct federal, credit, regulatory, and capital assets & service acquisition) and third-party programs (block & formula grant, competitive grant, and research & development), based on the classifying system of OMB. Third-party programs are grant- and contract-based (Frederickson and Frederickson, 2006). In relation to this classification, Salamon

[46] As a representative example, Department of Agriculture has more than 50 programs of different kinds.

(2002) divided public "tools" into two groups: direct and third-party tools. Direct tools with medium coerciveness[47], high directness[48], and high visibility[49] include direct government, government corporations, economic regulation, public information, and direct loans. Third-party tools have medium coerciveness, low or medium directness, and low or medium visibility. They include contracting, loan guarantees, grant, tax expenditures, fees and charges, insurance, tort law, vouchers, government-sponsored enterprises.

Direct programs experience less intervention and influence in the policy process from multiple constituencies, as compared with third-party programs. Direct programs should therefore have higher performance than third-party ones, since managers have more discretion in improving performance (Behn, 2001; Lowi, 1979; Wilson, 1980). In a comparison of 2006 PART performance scores between direct and third-party programs, direct programs show higher overall PART scores and management scores (Frederickson and Frederickson, 2006). On the basis of these results, Frederickson and Frederickson (2006, p. 182) claimed that "quality of management and the nature of accountability in hollowed-out third-party-operated federal programs are very different from the management and accountability of directly operated federal programs."

Hypothesis 12-1: Third-party programs are likely to have lower levels of program design performance than direct ones.

Hypothesis 12-2: Third-party programs are likely to have lower levels of program planning performance than direct ones.

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[47] "*Coerciveness* measures the extent to which a tool restricts individual or group behavior as opposed to merely encouraging or discouraging it" (Salamon, 2002, p. 25).
[48] "*Directness* measures the extent to which the entity authorizing, financing, or inaugurating a public activity is involved in carrying it out. A direct tool is one in which authorization, funding, and execution are all carried out by essentially the same entity" (Salamon, 2002, p. 27).
[49] "*Visibility* measures the extent to which the resources devoted to a tool show up in the normal government budgeting and policy review processes" (Salamon, 2002, p. 35).

Hypothesis 12-3: Third-party programs are likely to have lower levels of program management performance than direct ones.

Hypothesis 12-4: Third-party programs are likely to have lower levels of program results performance than direct ones.

Hypothesis 12-5: Third-party programs are likely to have lower levels of program overall assessment performance than direct ones.

Assessment Year and Program Performance

One might also predict that assessment year would have an influence on the performance of federal programs. This study hypothesizes that the assessment year of a program will be positively related to performance. OMB (2007) said that "assessment year is the year of the most recent program assessment. Programs are reassessed when significant changes have been made to improve the rating of the program." In addition, the Bush administration emphasized strategic planning as a means of "managing for results." If a federal program is assessed later than others in the administration, one would expect that the manager of the program would devote effort to collecting more information and to following carefully the guidelines of OMB through learning process, to improve performance scores and to get larger budget allocations (Browne and Wildavsky, 1984; Matland, 1995).

Hypothesis 13-1: Federal programs assessed more recently are likely to have higher levels of program design performance.

Hypothesis 13-2: Federal programs assessed more recently are likely to have higher levels of program planning performance.

Hypothesis 13-3: Federal programs assessed more recently are likely to have higher levels of program management performance.

Hypothesis 13-4: Federal programs assessed more recently are likely to have higher levels of program results performance.

Hypothesis 13-5: Federal programs assessed more recently are likely to have higher levels of program overall assessment performance.

Program Size and Program Performance

According to the U.S. Government Accountability Office (GAO, 2004), PART scores have been higher for smaller programs. In addition, although the units of analysis and performance measures were different, Chun and Rainey's (2005b) research showed that organizational size related negatively to organizational performance indicators, such as customer service orientation, perceived productivity, and perceived work quality. Thus, this study hypothesizes that program size will decrease performance scores for the federal programs. Larger federal programs usually have more long-term performance goals and annual performance goals than smaller ones, and a greater variety of functions. Hence, larger programs face more challenges in performing well on their multiple goals.

Hypothesis 14-1: Smaller federal programs are likely to have higher levels of program design performance.

Hypothesis 14-2: Smaller federal programs are likely to have higher levels of program planning performance.

Hypothesis 14-3: Smaller federal programs are likely to have higher levels of program management performance.

Hypothesis 14-4: Smaller federal programs are likely to have higher levels of program results performance.

Hypothesis 14-5: Smaller federal programs are likely to have higher levels of program overall assessment performance.

5.2.3 Program Political Contents and Program Performance

Increased Funding Level from the Federal Government and Program Performance

The Republican administration expressed the intention to base budget allocations to programs on the PART performance measures (OMB, 2006). In their study using the PART data, Gilmour and Lewis (2006a) suggested that "low budgets could be a cause of poor performance" (p. 170). Cut budgets can contribute to decreasing organizational or program performance by hindering needed human and capital investments, dampening employees morale, and increasing employee turnover (Gilmour and Lewis, 2006a; Rainey, 2003). Similarly, this research hypothesizes that public programs with higher levels of increased budget will have higher levels of performance. Conversely, those with lower levels of increased budget will have lower levels of performance. Aside from the question of whether budget decision-makers allocate increased budgets to programs with good PART scores, increasing budgets can provide advantages to a program in achieving improved performance. It is therefore important to take into account whether a program has received a budget increase, in analyzing influences on performance.

Hypothesis 15-1: Federal programs with higher levels of budget increase are likely to have higher levels of program design performance.

Hypothesis 15-2: Federal programs with higher levels of budget increase are likely to have higher levels of program planning performance.

Hypothesis 15-3: Federal programs with higher levels of budget increase are likely to have higher levels of program management performance.

Hypothesis 15-4: Federal programs with higher levels of budget increase are likely to have higher levels of program results performance.

Hypothesis 15-5: Federal programs with higher levels of budget increase are likely to have higher levels of program overall assessment performance.

Political Party Initiative and Program Performance

OMB officials and some researchers contend that the PART is transparent and policy-neutral (Please see Appendix D). Others, such as Democratic members of Congress, complain that it was established through an administrative process and reflects the perspectives of OMB and the Bush White House and that it is subject to political bias (Moynihan, 2008). To take into account potential political party bias, this study follows the procedure developed by Gilmour and Lewis (2006a) to characterize a program's political party association. They contended that the department that houses a program serves as "a reasonable proxy for the political content of the program," since "some departments do work that is more central to the agenda of the Democratic Party than other departments" (p. 177). (They referred to this construct as program content, this study refers to it using that term, but also as "political party initiative.") They compared programs that receive more attention and support from Democratic officials with those of greater interest to Republicans. They hypothesized that, during the Bush administration, programs housed in Democratic departments would receive weaker support than programs housed in Republican departments in the Republican administration.

Hypothesis 16-1: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program design performance than those housed in Republican agencies.

Hypothesis 16-2: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program planning performance than those housed in Republican agencies.

Hypothesis 16-3: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program management performance than those housed in Republican agencies.

Hypothesis 16-4: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program results performance than those housed in Republican agencies.

Hypothesis 16-5: In a Republican Administration, Programs housed in Democratic agencies are likely to have lower program overall assessment performance than those housed in Republican agencies.

5.3 Data Sources and Sample

The programs analyzed here represent a variety of federal programs that are different from each other in various ways and represent an array of goals and functions. According to OMB (2006a; 2006b), the PART data represents efforts to assess and improve program performance in order to achieve better results, by assessing the program's design, strategic planning, management, results, overall assessment rating, performance goals, performance measures and program improvement plans. To explain the method of assessment, OMB tells us, "We use a standard questionnaire called the Program Assessment Rating Tool, or PART, for short. The PART asks approximately 25 important, yet common sense, questions about a program's performance and management… Once each assessment is completed, we develop a program improvement plan so we can follow up and improve the program's performance" (OMB, 2006a).

Thus, the PART data provides access to information for the five dimensions of program performance as the dependent variables of this study and some independent variables such as budget increase, budget size, and assessment year, as explained below. In addition, one can see standardized performance objectives and performance measures for developing three dimensions of program goal ambiguity in the PART. The sample for this study includes all the federal programs that are included in the PART data for both 2006 and 2007, like in Chapter 4. The sample size is 767 programs.

Using the PART developed by OMB as data sources for the five dimensions of performance and the three dimensions of program goal ambiguity in federal programs gives us several meaningful advantages in alleviating methodological complications that have hindered previous studies on goals. The first advantage is the standardization of terms and evaluations that can reduce measurement errors caused by variation in measurement procedures from archival sources (Chun and Rainey, 2005a; Van de Van and Ferry, 1980), since all federal agencies prepare the data for the PART "under the same guidelines provided by OMB" (Chun and Rainey, 2005a, p. 11). Second, in terms of program goal ambiguity, OMB makes it clear that federal programs should describe their goals based on statutory mandates (OMB, 2006a). This links goal statements more directly to statutes than in cases where researchers have had to rely on goals identified indirectly from formal mandates (e.g., Meyers, Riccucci, and Lurie, 2001; Perry, et al., 1999).

5.4 Measures

5.4.1 Measures of the Dependent Variables (Program Performance)

According to OMB (2006), the PART is used to evaluate four dimensions of performance: design, planning, management, and results. As described above, the four sections

have different weights for the calculation of overall program assessment rating. Each PART questionnaire includes approximately 30 questions that are divided up into the four sections, as shown below and in Appendix C.[50]

Program Design Performance OMB (2006a) explained that "the first section (design) of questions asks whether a program's purpose is clear and whether it is well designed to achieve its objectives." This performance score was calculated by combining the scores of 5 questions asking yes-or-no answers, according to OMB (2006a), as shown in Appendix C. The combined score ranges from 0 to 100.

Program Planning Performance According to OMB's (2006a) explanation, "the second section (planning) involves strategic planning, and weighs whether the agency establishes valid annual and long-term goals for its programs."[51] For this performance, OMB (2006a) provided 8 or 10 yes-or-no questions and combined the scores of the questions, as shown in Appendix C. The combined score also ranges from 0 to 100.

Program Management Performance OMB (2006a) explained that "the third section (management) rates the management of an agency's program, including financial oversight and program improvement efforts." This performance score, which ranges from 0 to 100, consisted of the combined scores of 7 or 11 questions asking yes-or-no answer, as provided in Appendix C.

Program Results Performance OMB (2006a) discussed that "the fourth section (results) of questions focuses on results that programs can report with accuracy and consistency." As shown in Appendix C, evaluation of this performance was combined by the scores of 5 or 6 yes-or-no questions which OMB provides.

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[50] The explanations below about program assessment sections reflect well Rainey and Steinbauer's (1999) definition of effectiveness or performance.

[51] The reference to valid annual and long-term goals in the measure of program planning performance may raise questions about the distinction between this measure and the time-specification goal ambiguity measure used as an independent variable in this analysis. Section 5.5 below clarifies the distinction between program planning performance and time-specification goal ambiguity.

Program Overall Assessment Performance The scores of all the four above sections are presented as percentages. For the overall assessment rating scores of programs, this study uses the total weighted score for the program by using the weights of four assessment sections: program design (20%), planning (10%), management (20%), and results (50%) (OMB, 2007).

As did Gilmour and Lewis (2006a), this research uses as measures of performance the scores of the four sections and the overall assessment rating. In this study, therefore, the degree of all the dimensions of performance for a program uses the scores from 0 to 100 for program performance provided by OMB.

5.4.2 Measures of the Independent Variables

The main independent variables in this analysis are the three dimensions of program goal ambiguity.

Target-Specification Goal Ambiguity Target-specification goal ambiguity is related to the overall degree of target specificity in the expression of goals of each federal program. It represents the lack of clarity in deciding on the precise quantity and/or quality of work for achieving the program's performance goals. In other words, this concept of goal ambiguity reflects the presence of unclear targets for program goals. It is measured by the proportion of performance objectives without concrete targets to the total number of performance objectives in individual programs.

Time-Specification Goal Ambiguity In relation to time span, there are two kinds of indicators for federal programs in the PART data – the number of long-term performance objectives and the number of annual performance objectives. In addition, many programs have some performance objectives that are stated as both long-term and annual without any explanations or any progressive steps to attain final targets. This study refers to these

performance objectives as duplicate objectives. Thus, the measure of time-specification goal ambiguity is calculated by the proportion of duplicate performance objectives to the total number of performance objectives in individual programs.

Program Evaluation Goal Ambiguity The PART assesses four different categories of performance indicators – outcome measures, output measures, outcome-oriented efficiency measures, and output-oriented efficiency measures (OMB, 2006).[52] The measure of program evaluation goal ambiguity is calculated as the proportion of output-oriented performance measures (as opposed to outcome-oriented performance measures), among all performance indicators stated for a federal program.

Federal Program Type The method of classifying program types in this study follows Frederickson and Frederickson's (2006). Table 4.1 illustrates the differences between direct and third-party programs, Salamon's (2002) application of the distinction, and the application of the distinction this study uses. The PART includes seven types of programs – direct federal, credit, research & development, block & formula grant, competitive grant, capital assets & service acquisition, and regulatory. The category of direct programs (coded as "0") includes direct federal programs, regulatory programs, credit programs, and capital assets & service acquisition programs. Third-party programs (coded as "1") include block & formula grant, competitive grant, and research & development programs on the basis of Frederickson and Frederickson's (2006) classification.

Assessment Year This study uses the latest assessment year for each program, as reported in the PART data.

[52] The performance indicators in the previous research consisted of four evaluative goals: subjective goals, objective goals, workload-oriented goals, and results-oriented goals (Chun and Rainey, 2005a).

Program Size This study follows the same measurement method that GAO (2004) and Gilmour and Lewis (2006a) used for program size. The program size is divided size into three categories – small (coded as "0"), medium-sized (coded as "1"), and large (coded as "2") federal programs – based on program budget size, although this dissertation uses different standards for the categories because of the different years covered by the data this research uses, as explained in Section 4.3.

Increased Budget Level This research employs the information on the 2005 actual budget and 2006 enacted budget in the PART data. The increase in budget level for each program is calculated by dividing the amount of the 2006 increase (2006 budget-2005 budget) by the 2005 budget.

Political Party Initiative As mentioned above, political party initiative refers to which political party has the strongest association with the agency or department in which a program is located. This measure follows Gilmour and Lewis's (2006a; 2006b). All the programs in the Departments of Commerce, Education, Energy, Housing and Urban Development (HUD), Labor, and Health and Human Services (HHS) and the Environmental Protection Agency (EPA) are coded as "1," which means that they are Democratic programs, or as this research puts it, represent Democratic party initiatives (Gilmour and Lewis, 2006a). Three (Commerce, Energy, and Education) have missions which the Republican party has opposed because their missions are not consistent with federalism or markets (Gilmour and Lewis, 2006b). And the other four (HUD, Labor, HHS, and EPA) have missions matching the Democratic party's agenda (Gilmour and Lewis, 2006b, p. 746). The present study codes all other programs with a "0," which means that they are Republican party-oriented programs.

5.5 Methodological Issues

A question about the use of the data for the variables can be raised, especially in relation to program management capacity and program planning capacity as independent variables of program goal ambiguity, as discussed in Chapter 4, and program planning performance and management performance as dependent variables, as discussed in this chapter. All of these four variables used the PART performance scores. However, these four variables are different at least in terms of the following three points. First, in terms of time point, management capacity and planning capacity, as presented in Chapter 4, use performance scores from the 2006 PART, while planning performance and management performance, as presented in this chapter, use performance scores from the 2007 PART. That is, the PART performance scores used in both chapters have different time points. Second, in relation to the composition of the individual variables, management capacity as an independent variable, as presented in Chapter 4, combines (averages) the 2006 PART management scores and the 2006 PART results scores. Next, planning capacity as another independent variable, as used in chapter 4, combines (averages) the 2006 PART design scores and the 2006 PART planning scores. However, in this chapter, planning performance as a dependent variable uses planning performance scores from the 2007 PART and management performance as another dependent variable employs the management performance scores from the 2007 PART. Third, according to the correlation analysis among these four variables, we can judge that they are not the same variables, as shown in Table 5.1 below.

The correlation coefficient between management capacity ’06 and management performance ’07 is 0.5438. In addition, the correlation coefficient between planning capacity ’06 and planning performance ’07 is 0.6947. These two correlation coefficients are relatively high, but they are not at the level at which we can judge them to be the same variables. Furthermore,

the correlated variables (management capacity and management performance, and planning capacity and planning performance) are used in different models and different ways.

Table 5.1 Correlation Results among Management Capacity, Planning Capacity, Management Performance, and Planning Performance

	1.Management Capacity 06[53]	2.PlanningCapacity 06[54]	3.Management Performance 07[55]	4.Planning Performance 07[56]
1.	1.000			
2.	0.5350***	1.000		
3.	**0.5438***	0.3868***	1.000	
4.	0.6476***	**0.6947***	0.4306***	1.000

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; N=767

Next, one can point out that some elements of the PART performance scores ("program design performance" and perhaps "planning performance") seem to tap aspects of goal ambiguity rather than actual program outputs and outcomes. Specifically, program design scores seem to be closely associated with target-specification goal ambiguity and program planning scores seem to be closely related to time-specification goal ambiguity. The reason is that the questionnaire items for design scores include "Is the program purpose clear?" and those for planning scores

[53] Management capacity as an independent variable for program goal ambiguity in Chapter 4 is measured by the following method: (Management performance score of the 2006 PART + Result performance score of the 2006)/2.
[54] Planning capacity as an independent variable for program goal ambiguity in Chapter 4 is measured by the following method: (Design performance score of the 2006 PART + Planning performance score of the 2006)/2.
[55] Management performance as a dependent variable for program goal ambiguity in this chapter uses the Management performance score from the 2007 PART.
[56] Planning performance as a dependent variable for program goal ambiguity in this chapter employs the Planning performance score from the 2007 PART.

include “Does the program have a limited number of specific annual performance measures that can demonstrate progress toward achieving the program’s long-term goals?”

Regarding this point, this study conducts correlation analyses between 2007 PART performance scores and the new program goal ambiguity measures, as shown in the correlation matrix below. According to the correlation results, there is not a strong correlation between PART design performance scores and target-specification goal ambiguity and between PART planning performance scores and time-specification goal ambiguity. In addition, as shown below, the scatter plots between the variables support the correlation results.

Table 5.2 Correlation Results among 2007 PART Performance Scores and Program Goal Ambiguity Measures

	1	2	3	4	5	6	7
1.Design Scores	1.00						
2. Planning Scores	.258***	1.00					
3. Management Scores	.168***	.329***	1.00				
4. Results Scores	.226***	.578***	.332***	1.00			
5. Overall Assessment Rating	.452***	.677***	.526***	.856***	1.00		
6.Target-Specification Goal Ambiguity	-.120***	-.323***	-.242***	-.397***	-.441***	1.00	
7. Time-Specification Goal Ambiguity	-.101***	-.034***	-.094***	-.118***	-.136***	-.037	1.00
8. Program Evaluation Goal Ambiguity	-.098***	-.050	-.029	-.060*	-.066*	-.017	-.113***

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; N=767

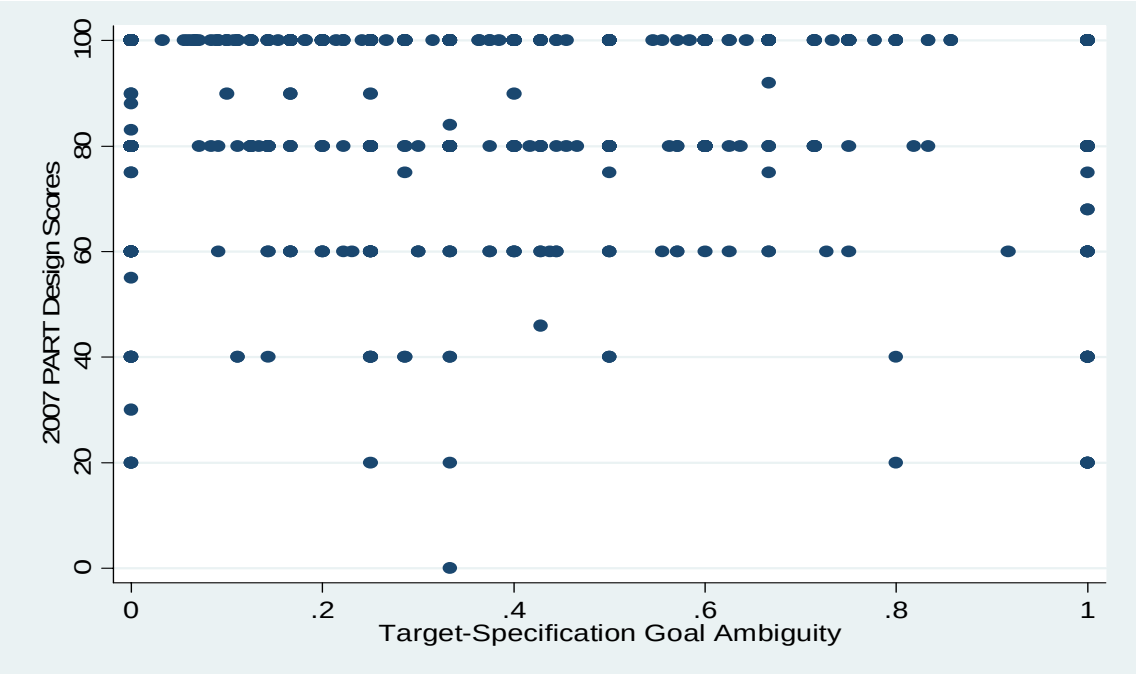

Figure 5.2 Scatter Plots between Target-Specification Goal Ambiguity and PART Design Scores

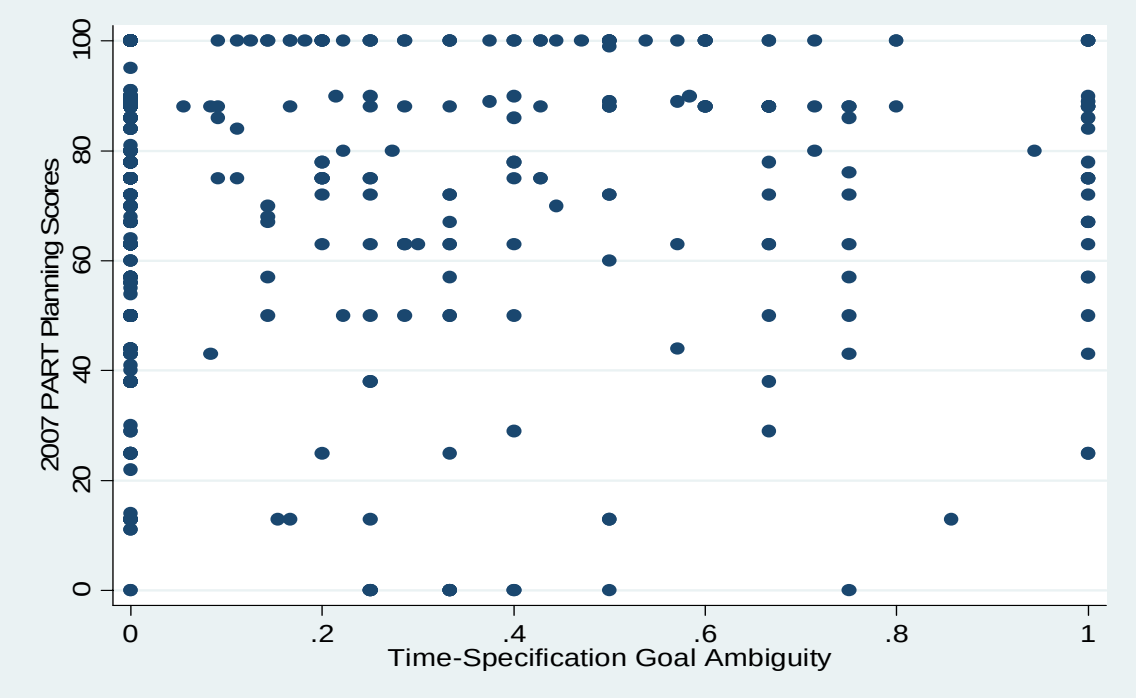

Figure 5.3 Scatter Plots between Time-Specification Goal Ambiguity and PART Planning Scores

Furthermore, the methods used to measure program target-specification goal ambiguity and time-specification goal ambiguity are independent from the PART performance evaluation of OMB. In detail, one questionnaire item (a simple yes-or-no question) which seems closely related to target-specification goal ambiguity, "Is the program purpose clear?," for design performance, is not related to the new method to conceptualize and calculate target-specification goal ambiguity in this study. There is a program purpose for each federal program. For target-specification goal ambiguity, however, this study uses performance objectives instead of program purpose. Next, the above-mentioned question (a simple yes-or-no question) for planning performance scores is not related to the new way to conceptualize and measure time-specification goal ambiguity, using the number of performance objectives related to time span in individual federal programs.

5.6 Analysis and Results

The dependent variables from the PART data are expressed as percentages but for analytical purposes this study must treat them as proportions. OLS (Ordinary Least Squares) is heteroskedastic for proportions, so this research employs the logit transformation of the proportions[57] so that it can use OLS models (Greene, 2000). These new dependent variables are included in the OLS models.[58] (The results are essentially the same with and without this transformation.) In addition to homoskedasticity, after logit transformation of the dependent variables, this study tested OLS assumptions about normality, multicollinearity, and model specification. The results of the tests showed that there are no problems about the assumptions about normal distribution, multicollinearity, and no-omitted variables of the models in this study.

[57] The formula of logit transformation is as follows: $\ln(\pi/1-\pi)$, where π is proportion. Furthermore, according to Cox (1970), $\ln(\pi/1-\pi)$ has an approximately normal distribution and, thus, "the method of ordinary least squares (OLS) can be applied to estimate parameters" (Loehman and Vo Hu De, 1982, p. 477). In addition, we need to pay more attention to interpret the OLS results in case of logit transformation.

[58] After logit transformation, White's test shows that there is no serious heteroskedasticity and normality problem for the five performance scores.

As Table 5.3 shows, the five dependent variables – program design, planning, management, results, and overall program assessment rating scores – are transformed into logit values from percentages, which range from 0 to 100. Three dimensions of goal ambiguity have proportion values and budget increase has ratio value as its units. The other independent variables, including program type, program size, and political party initiative, are dummy variables.

The tables below present the regression results for the five dimensions of program performance. The five models are all significant ($p < .001$). Target-specification goal ambiguity and program evaluation goal ambiguity, among all the independent variables, show the most statistically significant and the strongest relations to program performance scores. These relations are in the directions hypothesized earlier.

Table 5.3 Descriptive Statistics of Performance Dimensions and Independent Variables

Variables	Unit	Mean	Standard Deviation	Min	Max
Program Performance					
Program Design	Logit Transformed	4.232	3.048	-6.907	6.907
Program Planning	Logit Transformed	2.138	2.873	-6.907	6.907
Program Management	Logit Transformed	2.953	2.718	-6.907	6.907
Program Results	Logit Transformed	-0.237	1.968	-6.907	6.907
Overall Program Assessment Rating Scores	Logit Transformed	0.798	0.979	-2.143	6.907
Program Goal Ambiguity					
Target-specification Ambiguity	Proportion	0.312	0.332	0	1
Time-specification Ambiguity	Proportion	0.132	0.266	0	1
Program Evaluation Ambiguity	Proportion	0.481	0.288	0	1
Program Characteristics					
Program Type	0, Direct; 1, Third-Party	0.472		0	1
Assessment Year	Assessed Year-2000	3.823	0.993	2	5
Program Size	Category	0.934		0	2
Political Contents					
Budget Increase	Ratio	0.014	0.307	-1	4.147
Political Party Initiative	0, Republican; 1, Democratic	0.433		0	1

Table 5.4 OLS Results for Program Design

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Program Goal Ambiguity				
Target-specification Ambiguity	-1.160***	0.375	-0.126	-3.09
Time-specification Ambiguity	-1.070**	0.430	-0.093	-2.49
Program Evaluation Ambiguity	-0.919**	0.388	-0.087	-2.37
Program Characteristics				
Program Type (Third-Party)	-0.579**	0.255	-0.095	-2.27
Assessment Year	0.190*	0.112	0.062	1.70
Program Size (Medium)	0.294	0.257	0.046	1.14
Program Size (Large)	-0.132	0.292	-0.020	-0.45
Political Contents				
Budget Increase	0.325	0.362	0.033	0.90
Political Party Initiative (Democratic)	1.450	2.910	0.236	0.50
Constant	1.730			
Specific agency effects are included				

Note: $R^2 = .187$; *Adjusted* $R^2 = .128$; F value=3.17***; Sample size=767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

Table 5.4 shows that in relation to program design scores for the programs in the analysis, target-specification goal ambiguity, time-specification goal ambiguity, program evaluation goal ambiguity, program type, and assessment year have a significant relationship. This model accounts for approximately 13 percent of the variation in program design scores. The negative influence of target-specification goal ambiguity on program design is the strongest, with beta = -0.126. The data supports the three hypotheses about the negative relationship between the three new measures of program goal ambiguity and program design scores. An increase of one standard deviation (0.332) in target-specification goal ambiguity decreases the program design score by 0.126 standard deviation (-0.126*3.048=-0.384) (beta = -0.126, $p < .01$). A one standard deviation (0.266) increase in time-specification goal ambiguity is associated with a 0.093 standard deviation (-0.093*3.048=-0.283) decrease in the program design score (beta = -0.093, $p < .05$). Although the impact of program evaluation goal ambiguity on program design is smaller than that of the other goal ambiguity dimensions, it is significant (beta = -0.087, $p < .05$). These results strongly indicate that federal programs with lower target-specification, time-specification, and program evaluation goal ambiguity receive higher PART ratings on design.

The hypothesis regarding program type predicts that third-party programs have lower program design scores than direct programs. The result supports the hypothesis (beta = -0.095, p < .05). Specifically, third-party programs significantly show lower program design scores than direct ones by 0.524 percent.[59] In terms of program assessment year, federal programs with a later assessment of one standard deviation year (0.993) significantly have higher program design scores by 0.062 standard deviation (0.062*3.048=0.189) (beta = 0.062, $p < 0.10$). This result suggests that more recently assessed programs have higher program design scores.

[59] In order to calculate the impact of program type on program design scores, this study uses the following formula: $\ln(\pi/1-\pi)$ = beta (= -0.095). The methods to calculate the impacts of dummy variables on program performance scores are the same in this study using logit transformation.

Table 5.5 OLS Results for Program Planning

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Program Goal Ambiguity				
Target-specification Ambiguity	-1.891****	0.328	-0.218	-5.76
Time-specification Ambiguity	-0.067	0.377	-0.006	-0.18
Program Evaluation Ambiguity	-1.025***	0.340	-0.103	-3.01
Program Characteristics				
Program Type (Third-Party)	-0.511**	0.224	-0.089	-2.29
Assessment Year	0.324***	0.098	0.112	3.32
Program Size (Medium)	0.294	0.225	0.048	1.30
Program Size (Large)	0.236	0.256	0.038	0.92
Political Contents				
Budget Increase	0.179	0.317	0.019	0.56
Political Party Initiative (Democratic)	0.870	2.549	0.150	0.34
Constant	0.950			
Specific agency effects are included				

Note: $R^2 = .298$; *Adjusted* $R^2 = .246$; F value=5.82***; Sample size=767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

According to Table 5.5, the significant variables for program planning scores are different from those for program design scores. Program planning performance scores have a significant relationship with four variables: target-specification goal ambiguity, program evaluation goal ambiguity, program type, and program assessment year. This model explains roughly 25 percent of the variation in program planning scores. A one standard deviation increase in target-specification goal ambiguity (0.332) and in program evaluation goal ambiguity (0.288) decreases program planning scores, respectively, by 0.218 standard deviation (-0.218*2.873=-0.626) (beta = -0.218, $p < .001$) and 0.103 standard deviation (-0.103*2.873=-0.296) (beta = -0.103, $p < .01$). Although time-specification goal ambiguity does not have a significant relationship with this dimension of program performance, the direction of the relationship is as expected. These results indicate that the lower the target-specification and program evaluation goal ambiguity levels, the higher the program planning scores.

Regarding program type, this study hypothesizes that program planning performance scores of third-party programs are lower than those of direct programs. The data supports the hypothesis (beta = -0.089, $p < .05$). Specifically, direct programs significantly have higher planning performance scores than third-party programs by 0.522 percent. This result suggests that federal programs with more intervention from multiple constituencies have lower program planning performance. In addition, this study predicts the positive relationship between program assessment year and program planning performance. The result demonstrates that federal programs more recently assessed significantly have higher planning performance scores (beta = 0.112, $p < .01$). The impact of assessment year on planning score (0.112*2.873=0.322) is larger than that on design score (0.062*3.048=0.189) for a one standard deviation increase.

Table 5.6 OLS Results for Program Management

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Program Goal Ambiguity				
Target-specification Ambiguity	-1.301****	0.316	-0.159	-4.11
Time-specification Ambiguity	-0.695*	0.363	-0.068	-1.92
Program Evaluation Ambiguity	-0.571*	0.327	-0.061	-1.75
Program Characteristics				
Program Type (Third-Party)	-0.359*	0.215	-0.066	-1.67
Assessment Year	0.250***	0.094	0.091	2.65
Program Size (Medium)	-0.190	0.217	-0.033	-0.88
Program Size (Large)	-0.893****	0.246	-0.150	-3.62
Political Contents				
Budget Increase	0.722**	0.305	0.081	2.37
Political Party Initiative (Democratic)	-4.711*	2.455	-0.859	-1.92
Constant	6.645			
Specific agency effects are included				

Note: $R^2 = .272$; *Adjusted* $R^2 = .219$; F value=5.14***; Sample size=767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant .001 level

Table 5.6 shows that for program management as a performance indicator, more of the independent variables have significant effects on the dependent variable than in the other four OLS models in this study. This model accounts for about 22 percent of the variation in program planning scores. Program target-specification goal ambiguity also shows the strongest relationship with the management score, out of the eight significant independent variables. Associated with a one standard deviation (0.332) increase in this variable is a decrease of 0.159 standard deviation (-0.159*2.718=-0.432) in program management (beta = -0.159, $p < .001$). An increase of one standard deviation of program evaluation goal ambiguity negatively has less influence on program management (0.061 standard deviation = -0.061*2.718 =-0.166, beta = -0.061, $p < .10$) than on program design and planning. Next, a one standard deviation (0.266) increase in program time-specification goal ambiguity is associated with a 0.068 standard deviation (-0.068*2.718=-0.185) decrease in the program management score (beta = -0.068, $p < .10$). These results indicate that program management scores are higher when target-specification, time-specification, and program evaluation goal ambiguity are lower.

As in the above two models, this model has an expected relationship between program type and program management performance. That is, third-party programs significantly have lower management performance scores than direct programs by 0.516 percent (beta = -0.066, $p < .10$). As hypothesized, assessment year also has a significantly positive influence on the management score (beta = 0.091, $p < .01$). When budget increase changes by one standard deviation (0.307), management score positively changes by 0.081 standard deviation (0.081 *2.718=0.220). As predicted, large programs significantly have lower management scores than small programs by 0.537 percent. In addition, Democratic party-oriented programs significantly have lower management scores than Republican party-oriented programs by 0.702 percent.

Table 5.7 OLS Results for Program Results

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Program Goal Ambiguity				
Target-specification Ambiguity	-1.465****	0.216	-0.247	-6.78
Time-specification Ambiguity	-0.345	0.248	-0.047	-1.39
Program Evaluation Ambiguity	-0.786****	0.224	-0.115	-3.52
Program Characteristics				
Program Type (Third-Party)	-0.232	0.147	-0.059	-1.58
Assessment Year	0.052	0.064	0.026	0.80
Program Size (Medium)	0.325**	0.148	0.078	2.19
Program Size (Large)	0.274*	0.168	0.064	1.63
Political Contents				
Budget Increase	0.274	0.208	0.043	1.31
Political Party Initiative (Democratic)	-0.253	1.677	-0.064	-0.15
Constant	0.396			
Specific agency effects are included				

Note: $R^2 = .353$; *Adjusted* $R^2 = .306$; F value=7.48***; Sample size=767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

As shown in Table 5.7, this model for program results performance has four significant antecedents: target-specification goal ambiguity, program evaluation goal ambiguity, and program size (medium and large). This model explains approximately 31 percent of the variation in program planning scores. Target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity show an expected direction of relationship with program results scores. The impact of a one standard deviation change in program target-specification goal ambiguity, the strongest influence in the analysis, is a negative change of 0.247 standard deviation (-0.247*1.968=-0.486) in program results (beta = -0.247, $p < .001$). This is larger than that of program evaluation (beta = -0.115, $p < .001$) and time-specification goal ambiguity (-0.115*1.968=-0.226 and -0.047*1.968=-0.092, respectively). These results demonstrate that lower target-specification goal ambiguity and program evaluation goal ambiguity lead to higher program results performance scores.

In terms of program type, assessment year, budget increase, and political party initiative, although their coefficients are not statistically significant, the relationships with results performance scores are as expected. However, regarding program size, inconsistent with the hypotheses is the evidence that program size has a positive relationship with program results performance scores. Specifically, medium-size programs (beta = 0.078, $p < .05$) and large programs (beta = 0.064, $p < .10$) significantly have higher PART results scores than small programs as the base group by 0.519 percent and 0.516 percent, respectively. These results suggest that unlike the expectation, federal programs with larger budget are likely to have higher PART results scores. Out of the independent variables in the categories of program characteristics and political contents, only program size has a significant but unexpected relationship with PART results performance scores.

Table 5.8 OLS Results for Overall Assessment Rating Scores for Federal Programs

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Program Goal Ambiguity				
Target-specification Ambiguity	-0.874****	0.102	-0.296	-8.54
Time-specification Ambiguity	-0.280**	0.117	-0.076	-2.39
Program Evaluation Ambiguity	-0.396****	0.106	-0.117	-3.74
Program Characteristics				
Program Type (Third-Party)	-0.130*	0.070	-0.066	-1.86
Assessment Year	0.032	0.031	0.032	1.04
Program Size (Medium)	0.108	0.070	0.052	1.53
Program Size (Large)	-0.003	0.080	-0.001	-0.03
Political Contents				
Budget Increase	0.245**	0.099	0.077	2.48
Political Party Initiative (Democratic)	-0.194	0.795	-0.098	-0.24
Constant	0.970			
Specific agency effects are included				

Note: R^2 = .412 ; *Adjusted* R^2 = .369 ; F value=9.60****; Sample size=767

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level

As Table 5.8 indicates, the overall assessment rating scores, based on the total weighted score for the four program performance dimensions, relate significantly to the five independent variables, that is, all the three new dimensions of program goal ambiguity, program type, and budget increase, in the hypothesized directions. This model accounts for roughly 37 percent of the variation in the overall assessment rating scores for federal programs. Regarding program goal ambiguity, the results suggest that federal programs have higher PART overall assessment rating scores when they have lower target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. A one standard deviation (0.332) increase of target-specification goal ambiguity, which still has the strongest relationship, lowers the overall rating scores by 0.296 standard deviation (-0.296*0.979=-0.290) (beta = -0.296, $p < .001$). An increase of one standard deviation of evaluation goal ambiguity negatively changes the overall rating score by 0.117 standard deviation (-0.117*0.979=-0.115) (beta = -0.117, $p < .001$). Additionally, a one standard deviation increase in program time-specification goal ambiguity is associated with a 0.076 standard deviation (-0.076*0.979=-0.074) decrease in the overall program assessment score (beta = -0.076, $p < .05$).

The result for program type is the same as those in the other models, as hypothesized. That is, third-party programs significantly have lower overall assessment rating scores than direct programs by 0.516 percent (beta = -0.066, $p < .10$). For the PART overall program assessment rating, budget increase shows a significant and positive relation. A standard deviation of budget increase is positively associated with a change in the overall rating scores by 0.077 standard deviation (0.077*0.979=0.075) (beta = 0.077, $p < .05$).

5. 7 Discussion

Program performance is important as an ultimate goal of a program because it can be considered critical in accountability of public programs (Chun and Rainey, 2005a). In addition, the improvement of performance was one of the objectives emphasized in the Bush administration. The present study examines the antecedents affecting program performance by developing new dimensions of program goal ambiguity, including target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity as well as a measure of program type in the PART data of 2007. For this purpose, this study employs the 2006 and the 2007 PART data which were produced by OMB and includes 767 federal programs. For target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity, the 2006 PART data is used. Program performance measures as the dependent variables are based on the 2007 PART data, while the independent variables including the three program goal ambiguity are drawn from the 2006 PART data or various sources.

Evaluating the performance of public programs is a challenge of obvious significance that receives much obvious emphasis among reformers, analysts and officials, and that needs much more theoretical and conceptual development by scholars. While one can debate the merits of the PART evaluation procedure, it affords a rare opportunity to analyze the relationships among systematically developed performance evaluation scores and other important variables. This analysis of the data for 767 federal programs confirms the hypotheses about the influences on performance scores of variables including program goal characteristics, program type (direct or third-party), program size, and program budget increases. The results for these variables are generally consistent with recent research (Chun and Rainey, 2005a; 2005b; Gilmour and Lewis, 2006a). Such evidence can support development of both theoretical and practical decisions

about performance evaluation for government activities. Explaining variation is basic to theory development. Theorists can pursue more refined explanations of why certain government agencies have certain goal characteristics, as well as other characteristics of the sort analyzed here, with implications for performance evaluation. For example, this research supports theoretically-relevant hypotheses about distinctions between direct and third-party programs, with evidence and procedures similar to those in previous studies that have provided evidence supporting frequent academic observations about differences between regulatory agencies and other types of agencies (Chun and Rainey, 2005a). Very significantly, the observations about agency and program types supported in this study are observations that abound in the literature and resound in the work of prominent scholars, but that have virtually never received the analytical attention in large-sample empirical studies provided as that provided in the present study and the few recent ones cited here.

Practical and policy decisions can take into consideration variations among programs and agencies that can influence their performance scores, and consider whether those variations can be taken into account in program design. Alternatively, they may be taken into account in designs of performance evaluations, which in some cases may need to acknowledge that some programs and activities should not seek premature specification of their goals. Other cases can be identified where goal specification is feasible, but underdeveloped. In this regard, critics of the PART might point to an alternative explanation contending that stating clear goals and plans is simply easier for some federal programs than for others, and the PART is simply biased towards awarding higher scores to programs for which goal clarification is easier. Or, program managers may simply improve at developing convincing PART reports, including reports with clearer-seeming goals. The findings about goal ambiguity, the finding that third-party programs

receive lower scores on some PART categories, and that later assessment years relate to better scores on some categories, could be cited as evidence of such biases. This is not a strong alternative, however, since more specifically stated goals and targets also make it easier to detect when goals are not met, and the findings for assessment year and third-party programs (program type) are not particularly strong and consistent as support for such an alternative explanation. Even if the PART does contain a bias towards programs where goals can be stated clearly, however, improved understanding of how to define and measure goal ambiguity, and of antecedents that increase or decrease it, and its relation to performance can help to avoid and remove such biases from assessment procedures. Explaining when goal ambiguity is elevated due to external political influences, for example, or due to the nature of programs, policies, and tasks, can help to avoid inappropriate "one size fits all" application of such procedures. It can help to avoid the challenges inherent in goal clarification, such as premature or inappropriate quantification of qualitative dimensions. Thus, by no means does this study interpret the evidence here as indicating that program goal clarification offers a panacea, and that agency and program managers can readily improve performance by specifying goals. The findings do, however, support the conclusion that appropriate efforts to clarify goals can benefit performance (Latham, Borgogni, and Petitta, 2008; Wright, 2004). More importantly, the evidence here extends the stream of research seeking to clarify the concept of goal ambiguity (or clarity), find ways of measuring it, and deepen our understanding of it.

As argued in the Introduction, major scholars' claims about the important role of goal ambiguity as an influence on other characteristics of government agencies make the topic central to the theory of public organizations. In spite of this centrality, very little large-sample empirical research has provided evidence about the goal characteristics of government agencies, or

analysis of goal characteristics. The results reported here add to recent research on goal ambiguity (Chun and Rainey, 2005a; 2005b) that indicates that government agencies' goal characteristics can be conceived, measured, and analyzed. The present study provides evidence that such analysis can be conducted at the program level, in addition to the agency level. It provides new measures and conceptions of goal ambiguity, the analytical success of which suggests the robustness of this concept and its theoretical and practical value. For example, while many of the observations in the literature have generalized across government organizations about organizational goal characteristics, the results in the recent studies and this research suggest that variations among government agencies and programs can be analyzed systematically. These variations can be drawn into confirming and disconfirming theoretical propositions about agencies of different types and with different characteristics.

More specifically, the finding that target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity have negative impacts on all dimensions of program performance that OMB addresses is consistent with the theoretical arguments this study reviewed earlier. Moreover, the results about the relationship between the three dimensions of goal ambiguity and performance extend the results of Chun and Rainey (2005b) to federal programs.

In terms of program evaluation goal ambiguity, the present research develops a new program evaluation goal ambiguity measure which shows a significant and negative influence on five dimensions of program performance,[60] indicating that program performance is higher when there are more program performance goals with an outcome-orientation (OMB, 2007). Besides program evaluation goal ambiguity, this study develops two new measures of program goal

[60] Thus, the present research also ascertained that a newly developed goal ambiguity at the federal program level has the stronger impact on program performance than the previous goal ambiguity developed at the federal agency level.

ambiguity, target-specification goal ambiguity and time-specification goal ambiguity, on the basis of goal-setting theory (Bandura, 1989; Lee, Locke, and Latham 1989). According to the OLS results above, these new concepts of goal ambiguity of programs, instead of agencies, have a strong effect on the five kinds of program performance. The results imply that program managers should seek to make targets for performance goals, time spans of goals, and the better possibility of external evaluation in order to improve program performance and attain higher budgets (Latham and Lee, 1986). The results of this study practically and empirically show the importance of specifying program goals for higher performance (Salamon, 2002).

In relation to program type, this study has the expected result of the hypothesis that third-party programs have lower levels of performance than direct ones. This study can expect that third-party programs have more competing demands from multiple constituencies than direct ones. In the case of third-party programs, multiple participants in political compromise in the policy processes of strategic planning and management may play a role of reducing performance, based on the previous argument that more various stakeholders lead to higher ambiguity of goals or less management discretion (Chun and Rainey, 2005a). In addition, policies of different types have different degrees of politics and complexity (Lowi, 1972; Matland, 1995). According to Bozeman (2000), the failure to consider differences among agencies is one of the reasons the reform did not receive a successful assessment. The previous performance management reforms could be "one-size-fits-all" approaches by failing to address discrepancies between programs (Moynihan, 2008; Radin, 2000). In the same context, the new administration should approach a great variety of federal programs by considering the differences among federal programs managed by different agencies for higher performance. The result of this study implies this fact

and further suggests the value of continuing research on the relations between program types and both performance and goal ambiguity.

Turning brief attention to the variables besides goal ambiguity and program type, this research notes that if the program's budget increased, the increase related positively to the overall PART rating, but did not show a significant relation to several of the PART category scores. The positive relation to the overall rating could reflect the administration's efforts to tie budget increases to PART scores, and it could indicate that programs with increasing budgets are able to perform better. The absence of strong, consistent relations across the PART categories, however, and especially the program results category, provides no support for a conclusion that some programs are simply privileged by increasing budgets that enable them to perform well.

The finding that assessment year (i.e., a later year of assessment) relates significantly and positively to the scores for program design, program planning, and program management, but not to the scores for program results and the overall assessment scores, are particularly interesting. This evidence supports the interpretation that there may be a learning or development process in which program managers become better at preparing PART reports about design, planning, and management, but not at showing actual results. This coincides with the point the present research made earlier about clearer goals increasing the ability of observers to detect failure to achieve the goals.

These variables including program type, program budget increase, and program assessment year suggest various influences on PART scores, some of which might bias the scores in certain ways. Even so, this study emphasized earlier, the analysis of the relationship between goal ambiguity and PART scores took these variables into account and the relationship is still strong.

To sum up the results of this study, different dimensions of program performance have different significant antecedents and the degrees of impacts of the antecedents on program performances are also different. Therefore, policymakers and managers should take program-based differences into consideration when they develop strategic methods for improving program performance. The same logic is true when they employ several antecedents in this research for looking for and diagnosing problems related to performance (Chun and Rainey, 2005a).

In addition to the alternative interpretation discussed above, a limitation of this study comes from uncertainties about the future of the PART as the presidential administration changed. Uncertainties about whether the PART or some variant of it will continue in turn create uncertainties about extension and replication of the present study. Nevertheless, the success reported here in developing measures of goal ambiguity and other variables at the program level, using methods similar to but newly adapted from research at the agency level (i.e., Chun and Rainey 2005a), justifies optimism about using similar methods with other forms of goal setting and performance measurement in government. Still another limitation comes from ongoing controversies over the validity and adequacy of the PART, and whether it asks the right questions and measures the right things, but this study has described the strong defenses against those criticisms and provided evidence that does not support them.

Even in view of these limitations, the present analysis provides valuable evidence about the PART, performance measurement systems in government, and goal ambiguity (or clarity) of government activities. It contributes to the stream of research that is advancing understanding of those topics and influences on them.

This section provides discussions about the implications of the findings regarding the relationship between various dimensions of program performance and their antecedents. The

methodological or conceptual concerns in this research and future research directions for program performance will be discussed in the conclusion chapter. In the next chapter, the unit of analysis will be changed from U.S. federal programs to U.S. federal agencies.

CHAPTER 6

MEASURING AND EXPLAINING ORGANIZATIONAL PERFORMANCE: EFFECTS OF GOAL AMBIGUITY, CAPACITY, SIZE, AND POLITICAL CONTENTS ON ORGANIZATIONAL PERFORMANCE

This chapter presents a new measure of organizational performance using the actual program goal achievements. I also suggest an explanatory and comprehensive model including 12 antecedents for the organization performance. In the next section, I develop the 12 hypotheses from the literature on various topics including goal ambiguity and organizational performance. Then data and methods used to examine the hypotheses are described and the summary of the results are provided. Finally, this chapter discusses the theoretical and practical implications of the findings.

6.1 Conceptual Framework for Organizational Performance

According to Rainey and Steinbauer (1999), agency effectiveness or performance[61] refers to whether the agency does well that which it is supposed to do, whether people in the agency work hard and well, whether the actions and procedures of the agency and its members are well suited to achieving its mission, and whether the agency actually achieves its mission. Although the present study uses the actual achievement rates of program goals as federal agencies' performance, the data (Program Assessment Rating Tool, PART) include diverse dimensions of

[61] According to Selden and Sowa (2004), "scholars often use the terminology 'effectiveness' and 'performance' interchangeably to describe the same phenomenon, the overall ability of organizations to perform well or effectively pursue their mission" (p. 396).

goals, such as outcome-oriented goals, output-oriented goals, and efficiency goals. Therefore, this study can include a more objective performance measure consisting of more diverse sub-dimensions of organization performance than the previous research on organizational performance, since all federal agencies in this study have multiple goals and the goals have multiple dimensions in terms of both organizational performance and goal ambiguity (Cyert and March, 1963).

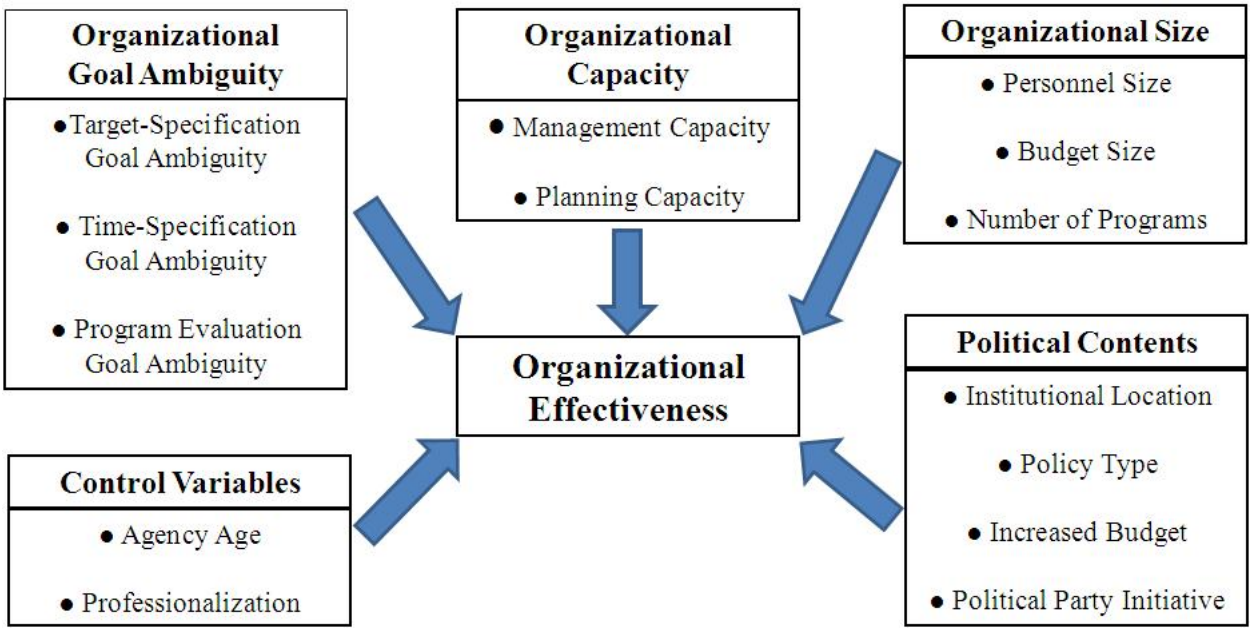

Figure 6.1 A Framework for Organizational Performance[62]

Antecedents that affect organizational effectiveness or performance can be roughly characterized as internal and external factors. All public agencies seek to achieve explicit and implicit goals as internal factors. Thus, the characteristics of goals exert a significant effect on organizational performance (Pfeffer, 1982; Price, 1972). The goal characteristics of this study are three newly measured dimensions of organizational goal ambiguity: target-specification goal

[62] This study uses the measure of organizational performance as the dependent variable from the 2007 data and the measures of independent variables from the 2006 data.

ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. Besides these goal characteristics, researchers have focused on other internal factors of organizational performance, such as organizational capacity including management capacity, organization size, and communication systems (Chun and Rainey, 2005b; Selden and Sowa, 2004). This research includes management capacity and planning capacity as organizational capacity. The dimensions of organization size are personnel size, budget size, and number of programs.

On the other hand, some analysts emphasize external factors of organizational performance. According to the system resource model developed by Seashore and Yuchtman (1967), organizational performance is defined as the ability of the organization to exploit its environment to obtain lacking and valuable resources for the sustainment of its functions. As important external factors for the performance of public agencies and public programs, political contents, such as policy type, budget increase, political party initiative, and politically appointed leaders, have been suggested (Gilmour and Lewis, 2006a; Lewis, 2008; Lowi, 1972). In this study, the political contents are institutional location, policy type, budget increase, and political party initiative.

6.2 Literature Review and Hypotheses

6.2.1 Organizational Goal Ambiguity[63] and Organizational Performance

Target-Specification Goal Ambiguity and Organizational Performance

Target-specification goal ambiguity refers to the lack of clarity in deciding on the precise quantity and/or quality of work toward the achievement of an agency's program performance goals. For some of the objectives of federal programs reported in the PART, concrete target information is stated. For other goals, however, it is not. This research measures this construct

[63] For all the three dimensions of goal ambiguity in this chapter, the variation of the number of federal programs in each federal agency ranges from 1 to 22. In addition, the number of program performance objectives in 97 federal agencies varies from 2 to 293 in this chapter.

as calculating the proportion of the number of federal program performance objectives without concrete targets to the total number of federal program performance objectives in each agency. Etzioni (1964) defined modern organizations as social units deliberately constructed to seek specific goals and planned to enhance the realization of them. According to goal-setting theory, more specific goals lead to higher performance (Bandura, 1989; Lee, Locke, and Latham, 1989; Locke and Latham, 2002). "Explicit standards regulate performance by designating the type and amount of effort required to attain them by furnishing unambiguous signs of accomplishments" (Bandura, 1989, p. 42). Some empirical studies have concluded that specific goals facilitate performance more than do non-specific ones (see Bandura and Cervone, 1983; Latham and Lee 1986; Locke, et al., 1981). Thus, this study hypothesizes the negative relationship between target-specification goal ambiguity and organizational performance.

Hypothesis 17: Target-specification goal ambiguity will be negatively related to organizational performance.

Time-Specification Goal Ambiguity and Organizational Performance

In this study, time-specification goal ambiguity refers to the lack of clarity in deciding on the distinction between annual goals and long-term goals in a public agency. Public programs of U.S. federal agencies in PART reports have two types of performance objectives in terms of time span: annual performance objectives or long-term performance objectives. The present study adds a new type of performance objective, duplicate objectives, to refer to those stated as both annual and long-term performance without any explanations or any progressive steps to attain final targets. According to goal-setting theory, the time span of goals can influence employees' motivation and performance. While proximate goals, such as annual goals, help activate self-efficacy and thus increase performance, distant goals, such as long-term goals, offer less

effective stimuli to heighten current performance (Bandura, 1989). Bandura (1989) argued, however, that when managers employ long-term goals as the comparative standard and establish clear steps of progress for complete achievement, present achievements can activate intrinsic interest; thus, long-term goals can help to facilitate performance. On the basis of this logic of goal-setting theory, the effects of annual performance objectives will be different from those of longer-range performance objectives in the PART reports on higher performance of federal programs and federal agencies. Long-term performance objectives need to provide annual or biannual progressive phases to achieve their targets for higher performance, unlike annual performance objectives. However, many federal programs in the PART do not offer clear progressive phases of long-term performance objectives and, thus, they show certain levels of ambiguity in differentiating between annual and long-term performance objectives. Therefore, federal agencies have the program performance objectives that do not clearly belong to the categories of annual and long-term objectives. The proportion of these duplicate goals can increase time-specification goal ambiguity and decrease program and organization performance.

Hypothesis 18: Time-specification goal ambiguity will be negatively related to organizational performance.

Program Evaluation Goal Ambiguity and Organizational Performance

For program evaluation goal ambiguity, this study follows Chun and Rainey's (2005a, p. 4) definition of evaluative goal ambiguity, as the level of interpretive leeway that a program goal allows in evaluating the progress toward the achievement of the goal. This study, however, uses a different name because the measure in this study differs from the previous one, as explained below. This measure of goal ambiguity is associated with the degree to which people outside the federal programs, such as the public, legislators, and bureaucrats, can understand and evaluate

the performance goals. The PART has requested higher accountability for program performance, requiring federal agencies to set performance goals and measures and make their performance results known to the public (Heinrich, 2007). According to some authors, such as Heinrich (2007) and Grizzle (2002; 1982), program managers who transform program goals into performance indicators and targets for use in performance evaluation will achieve higher levels of performance. Tullock (1965) argued that ambiguity regarding performance indicators or performance evaluation can lead to information distortion in vertical communications and such distortions can make the improvement of performance difficult. In addition, Walker and Boyne (2006) suggested goal clarity (opposite of goal ambiguity) to be one characteristic of performance measurement systems leading to higher performance of U.K. local government.

Hypothesis 19: Program evaluation goal ambiguity will be negatively related to organizational performance.

6.2.2 Organizational Capacity and Organization Performance

Management Capacity and Organizational Performance

Ingraham and Kneedler (2000) defined management capacity as the ability of government to develop, direct, and control its necessary resources to support the fulfillment of its policy and program responsibilities. Program refers to the specific public service the organization provides (Selden and Sowa, 2004). Specifically, the term "management capacity" in this study is related to such management activities as financial management, structuring relationships with various partners related to the programs, and performance management that OMB (2006a) regards important for evaluating program management.[64] Since management capacity can provide a basis to sustain and improve programs in the organization, better management capacity will be positively related to better program performance and organizational

[64] The related questions, which OMB uses, are described in Appendix C.

performance (Letts, Ryan, and Grossman, 1999). Selden and Sowa (2004) demonstrated that some measures of management capacity have a positive impact on organizational performance in their multi-dimensional model of organizational performance. Thus, this research hypothesizes that higher management capacity will lead to better organizational performance.

Hypothesis 20: Federal agencies with higher management capacity are likely to have higher levels of organizational performance.

Planning Capacity and Organizational Performance

Planning capacity should also play a critical role in improving the work group's or organizational performance (Weldon and Weingart, 1993). According to McGrath's (1984) definition, a performance plan is "a description of a time-and-function-linked series of actions that, if executed, will (it is supposed) lead to a specific goal/outcome/consequence" (p. 128). The planning capacity of an organization is defined as the ability of the organization to assign works across organization members and the methods used to integrate their actions (Weldon, Jehn, and Pradhan, 1991). Specifically, in this study, planning capacity is related to planning activities including making the purpose clear, designing a goal to achieve its objectives, and establishing valid short-term and long-term goals for its programs that OMB (2006a) regards important for evaluating program planning performance. Public employees as organizational members should be motivated to improve organizational performance by effective planning capacity, since they understand that more effective or efficient work methods lead to improved organizational performance. Many policy scholars have also emphasized that planning capacity is a critical foundation for the success of a policy (e.g., Baum, 1976; Berman, 1978; Berman and McLaughlin, 1976; Hambleton, 1983). Therefore, this research hypothesizes the relationship between organizational planning capacity and organizational performance as follows:

Hypothesis 21: Federal agencies with higher planning capacity are likely to have higher levels of organizational performance.

6.2.3 Organizational Size and Organizational Performance

Personnel Size and Organizational Performance

Organization theorists have long debated organizational employee size and its effect on organizational performance. The results have not been consistent (Boyne, 2003; Gooding and Wagner, 1985). Some researchers report a negative relationship between personnel size and organizational performance (Chun and Rainey, 2005b; Fiedler and Gillo, 1974; Katzell, Barrett, and Parker, 1961; Pandey and Garnett, 2006). The negative relationship has been attributed to members' free-riding (Fleishman, 1980) or high coordination costs (Steiner, 1972). Other scholars, however, have found a positive effect of employee size as an organizational resource on organizational performance (Glisson and Martin, 1980; Meier and Keiser, 1996). Furthermore, Gooding and Wagner (1985) concluded in their literature review that personnel size is positively related to productivity as a dimension of organizational performance. In recent, Brewer (2005) also argued that U.S. federal agencies with more staffing would perform better and excessive workforce reductions would decrease organizational performance by using the 2000 Merit Principles Survey conducted by the U.S. Merit Systems Protection Board.

Hypothesis 22: Federal agencies with more employees are likely to have higher levels of organizational performance.

Budget Size and Organizational Performance

Many scholars have also paid attention to the relationship between financial size as a dimension of organizational size and organizational performance. We can find that the arguments about this relationship have been inconsistent (e.g., Armandi and Mills, 1982; Bradley,

Jones, and Millington, 2001; Bohte, 2001). Although public choice theorists have claimed that inefficient bureaucrats fritter away extra money, Boyne (2003) reported in his review of eighteen studies that more studies have shown the positive relationship between financial resources and performance. According to the explanation of Gooding and Wagner (1985) and Pfeffer and Salancik (1978), organizations with larger financial resources are more likely to acquire better control over environmental entities that mediate critical resources and possess a level of resource certainty to insure continued productive viability. Thus, this study also hypothesizes that more organizational budget will lead to higher organizational performance.

Hypothesis 23: Federal agencies with larger budgets are likely to have higher levels of organizational performance.

Number of Programs and Organizational Performance

The present study also considers number of programs as a dimension of organizational size. Number of programs refers to the number of federal public programs which belong to each federal agency. All federal agencies except one agency in this study have plural public programs. Although some federal programs belong to the same agency, they have their own goals and interests. The differences in goals and interests of program groups can be the important causes of intra-organizational conflict in relationships between the groups (Axelrod, 1970; Deutsch, 1971; March and Simon, 1958). In addition, the power of each federal agency will be dispersed to the program officials. In the empirical research on determinants of intra-organizational conflict in 380 city government organizations, Kochan, Huber, and Cummings (1975) contended that the more power disperses among many city officials, the more internal conflict is likely to occur. Some theorists have argued that intra-organizational conflict might increase the social uncertainty and decrease task and organizational performance (Deutsch, 1949; Schachter, 1959).

Furthermore, some empirical research has demonstrated that increased conflict or decreased familiarity tends to result in lower performance (Jehn and Mannix, 2001; Shah and Jehn, 1993). Thus, one would expect that the number of programs in a public organization will be negatively related to the organizational performance.

Hypothesis 24: Federal agencies with more programs are likely to have lower levels of organizational performance.

6.2.4 Organizational Political Contents and Organizational Performance

Institutional Location and Organizational Performance

In this research, institutional location refers to whether a federal agency is inside (department agencies) or outside (independent agencies) the jurisdiction of the executive department (Chun and Rainey, 2005a). Independent agencies have more autonomy than the department agencies (Meier, 2000). Regarding institutional location of a federal agency, there are various reasons to gain the independent status: to avoid presidential and legislative control (Thatcher, 2002), to avoid clientele pressures in departments with strong clientele ties (Meier, 2000), to try new approaches to policy (Seidman and Gilmour, 1986), and to focus on relatively narrow functions (Chun, 2003). However, the executive departments are composed of several agencies which manage federal programs (Meier, 2000). Thus, department agencies operate with less autonomy vis-à-vis the department (Meier, 2000). In addition, one of the New Public Management assumptions is that the performance of public agencies can be improved if government devolves more autonomy to them (Verhoest, 2005). Some scholars demonstrate that less control from the central government or more managerial autonomy leads to the improvement of organizational performance or managerial performance (Gellatly and Irving, 2001; Verhoest, 2005). Therefore, the present study expects that the performance of independent agencies would

be higher than that of department agencies, since the former can have more managerial autonomy than the latter.

Hypothesis 25: Federal (independent) agencies outside the executive departments are likely to have higher levels of organizational performance than those inside them.

Policy Type and Organizational Performance

The policy type that federal agencies implement can also be a predictor of organizational performance in federal agencies. In this study, policy type refers to whether a federal agency has regulatory or non-regulatory policy responsibility (Chun and Rainey, 2005a). Students in public administration have argued that different policy types are related to different patterns of politics (Chun, 2003; Chun and Rainey, 2005a; Lowi, 1972). These different patterns of politics result in different consequences in policy implementation (Chun and Rainey, 2005a; Meier, 2000; Ripley and Franklin, 1982).

Regulatory policies have high political visibility because they usually impose costs rather than provide benefits (Chun and Rainey, 2005a; Meier, 2000; Ripley and Franklin, 1991). In addition, they tend to divide winners and losers (Chun and Rainey, 2005a; Meier, 2000; Ripley and Franklin, 1991). Due to the confrontation between winners and losers, regulatory subsystems often are less effective than non-regulatory subsystems (Anderson, 1994). In contrast, non-regulatory policies, which generally provide benefits rather than impose costs, do not create clear winners and losers (Chun, 2003). In comparison with regulatory policies, they have a higher level of cooperation through policy subsystems (Chun and Rainey, 2005a; Meier, 2000). Thus, we can expect that federal agencies with non-regulatory policy responsibility will have higher performance than those with regulatory policy responsibility. Furthermore, according to Chun and Rainey's (2005b) empirical research, the type of policy that a federal

agency carries out has a significant relationship to organizational performance, such as productivity, work quality, and customer service satisfaction, as expected.

Hypothesis 26: Non-regulatory agencies are likely to have higher levels of organizational performance than regulatory agencies.

Budget Increase and Organizational Performance

This study includes budget increase as one of the organizational political contents. The reason is that budgeting is a political decision affected by the political content of federal agencies (Gilmour and Lewis, 2006a). Cut budgets can contribute to decreasing organizational performance by hindering needed human and capital investments, dampening employee morale, and increasing employee turnover (Gilmour and Lewis, 2006a; Rainey, 2003). Thus, decreased budgets can be a cause of lower performance in federal agencies. Accordingly, this research hypothesizes that public agencies with higher increased budget will perform better.

Hypothesis 27: Federal agencies with higher levels of budget increase are likely to have higher levels of organizational performance.

Political Party Initiative and Organizational Performance

Measuring the political content of a federal agency is not easy. This study considers political party initiative as one of the reasonable proxies for the political content of the federal agency (Gilmour and Lewis, 2006a). Political party initiative refers to whether a federal agency is Democratic- or Republican-oriented, that is, whether a federal agency does work that is more focused on the agenda of the Democratic party than others (Gilmour and Lewis, 2006a). (They referred to this construct as program content, while this research refers to it using that term, but also as "political party initiative.") Gilmour and Lewis (2006a) compared programs that receive more attention and support from Democratic officials with those of greater interest to

Republicans. They hypothesized that, during the Bush administration, programs housed in Democratic departments would receive weaker support than programs housed in Republican departments in the Republican administration. Thus, federal agencies with Republican party initiative would receive more attention and support from Republican officials and politicians than those with Democratic party initiative, in a Republican administration.

Hypothesis 28: In a Republic Administration, federal agencies with Republican party initiative are likely to have higher levels of organizational performance than those with Democratic party initiative.

6.3 Data Sources and Sample

This study places a focus on U.S. federal agencies. As explained in 5 U.S. Code 306 (f), "U.S. federal agencies include executive departments, sub-departmental 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" (Chun and Rainey, 2005b).

In the 2007 PART, all federal agencies have from 1 to 22 programs. Additionally, each program includes multiple goals. The PART data provides the assessment information this study analyzes. The present study employs the 2007 and the 2006 PART data for actual goal achievements as the dependent variable and target-specification goal ambiguity, program evaluation goal ambiguity, and time-specification goal ambiguity as the main independent variables. This study aggregates the actual goal achievement rates, capacity scores, and goal ambiguity scores at the level of federal agencies.

Using the PART data affords several advantages that help to alleviate methodological complications that have often hindered previous studies on goals.[65] The first advantage, in relation to program goal achievement rates and goal ambiguity, is the standardization of terms, which addresses a frequent problem in gathering organizational data from archival sources (Chun and Rainey, 2005a; Van de Van and Ferry, 1980). All federal agencies prepare the data for the PART under the same guidelines provided by OMB (Chun and Rainey, 2005a). Second, in terms of goal ambiguity, OMB makes it clear that federal programs should describe their goals based on statutory mandates (OMB, 2006a). This linked goal statements more directly to statutes than in cases where researchers have had to rely on goals identified indirectly from formal mandates (e.g., Meyers, Riccucci, and Lurie, 2001; Perry et al., 1999). The sample for this study includes all the federal agencies that have programs in the PART data for 2007. The sample size is 97 federal agencies. This study regards some sub-agencies in the same departments as different agencies, since they play different roles or functions and have "an individual identity apart from any umbrella organizations" (Wolf, 1993, p. 162). However, in

[65] Scholars have suggested conflicting arguments about the validity of the PART data. The OMB Watch, a nonprofit organization that monitored the PART process, pointed out that it was difficult to determine whether the PART measured the right types of outcomes and whether it measured federal programs accurately and in a value-neutral way (Radin, 2006). In addition, the PART has some problems, such as variation in the OMB examiners' expertise, insufficient or inconsistent program definition across federal programs, and evidence of unequal standards for highly or lowly graded programs (Lewis, 2008).

On the other hand, Lewis (2008) asserted that since the PART system attempts to consider variations in the environment of program management, "we have performance data on a sample of programs and managers that is large enough and representative enough to make statistically reliable claims" (p. 42) about performance goals and performance scores of U.S. federal programs. The reason is that with a degree of outside involvement and transparency unusual for OMB, the PART was developed (Frederickson and Frederickson, 2006; Moynihan, 2008). Specifically, some independent groups, including the Performance Measurement Advisory Council and a group from the President's Council on Integrity and Efficiency, brought in experts on performance management to review and comment on the questionnaire of the PART (OMB, 2004; Moynihan, 2008). Then the National Academy of Public Administration arranged a workshop to obtain feedback (OMB, 2004; Moynihan, 2008). After these processes, the PART was published and OMB solicited comments from researchers, agencies, and others (Moynihan, 2008). Therefore, some scholars have recognized that the PART is systematic, evidence-based, and transparent (Lewis, 2008; Moynihan, 2008; Frederickson and Frederickson, 2006). Moynihan (2008) pointed out "the OMB has worked to ensure consistency, designing standardized questions, training raters, providing a ninety-two-page guide, and even forming a team to conduct a consistency check on 10 percent of the assessments" (p. 127).

Therefore, the criticisms do not diminish the usefulness of the PART system in measuring and evaluating comparative program goal ambiguity or more objective organizational performance in this dissertation.

case that gathering the data for some independent or dependent variables is not possible for sub-agencies, the departments such as the Department of Energy and the Department of State are regarded as an individual agency.

6.4 Measures

6.4.1 Measure of Organizational Performance

Actual Goal Achievement In this study, the program goal achievement rates of each agency are calculated by averaging the actual achievement rates (expressed as proportion values) of all the performance goals in all the federal programs that each agency has. For example, the performance goal "Increase accuracy rate for application of USDA grading and certification services" of the program "Agricultural Commodity Grading and Certification" in the Agricultural Marketing Service has 90% as its target for 2006 and reports 88% as its actual achievement for 2006. Therefore, the actual goal achievement rate was 0.978. The actual achievements of all the other program performance goals are calculated in the same way and then this study gains the average scores of actual program goal achievements for 97 federal agencies. As Price (1972) asserted, "it is very difficult to compare the results of different programs without standardized measures" (p. 13). Therefore, the present study employs the proportion of the actual achievements to the targets for federal agencies' organizational performance.

6.4.2 Measures of Organizational Goal Ambiguity

Target-Specification Goal Ambiguity Target-specification goal ambiguity refers to the overall degree of specificity in the expression of all the program goals of each federal agency. It represents the lack of clarity in deciding on the precise quantity and/or quality of work for achieving the program's performance goals. In other words, this concept of goal ambiguity

reflects the presence of unclear targets. It is measured by the proportion of performance objectives without concrete targets to the total number of performance objectives in all the programs that each federal agency has.

Time-Specification Goal Ambiguity In terms of time span, the PART provides two kinds of performance indicators: long-term performance objectives and annual performance objectives. In addition, many programs have some performance objectives that are stated as both long-term and annual without any explanations or any progressive steps to attain final targets. This study refers to these performance goals as duplicate goals. As defined above, time-specification goal ambiguity refers to the lack of clarity in deciding on the distinction between annual goals and long-term goals in an agency. Thus, the measure of time-specification goal ambiguity is calculated by the proportion of duplicate performance objectives to the total number of performance objectives in all the programs that each federal agency has.

Program Evaluation Goal Ambiguity The PART assesses four different categories of performance indicators – outcome measures, output measures, outcome-oriented efficiency measures, and output-oriented efficiency measures (OMB, 2006a).[66] The measure of program evaluation goal ambiguity is calculated as the proportion of output and output-oriented performance measures (as opposed to outcome and outcome-oriented performance measures), among all performance indicators stated for all the programs that each federal agency has in the 2007 PART.

6.4.3 Measures of Organizational Capacity

Management Capacity As explained above, the term "management capacity" in this study is related to management activities including financial management, structuring

[66] The performance indicators in the previous research consisted of four evaluative goals – subjective goals, objective goals, workload-oriented goals, and results-oriented goals (Chun and Rainey, 2005a).

relationships with various partners related to the programs, and performance management that OMB (2006a) regards important for evaluating program management. There have been numerous studies contending that management capacity is a significant factor for improving organizational performance. Wenger, O'Toole, and Meier (2008) contended, in the research on goal conflict and accommodation in the U. S. unemployment insurance program, that good management may have an important impact on the improvement of outputs and outcomes of policy goals. In addition, Ingraham, Joyce, and Donahue (2003) presented the meaningful results through the Government Performance Project (GPP) that management capacity has a critical impact on the ability to improve organizational performance.

Therefore, in order to measure the management capacity of each federal agency, this study uses the average score of management for all the programs that each federal agency has in the 2006 PART data. OMB (2006a; 2006b) explained the management section as follows: "The third section (management) rates the management of an agency's program, including financial oversight and program improvement efforts." In this study, thus, the degree of management capacity for each federal agency is calculated by averaging the scores of the management section that are given by OMB for all federal programs in the agency.

Planning Capacity As mentioned above, planning capacity in this study is related to planning activities, including making the purpose clear, designing a goal to achieve its objectives, and establishing valid short-term and long-term goals for its programs that OMB (2006a) regards important for evaluating program planning performance. In the public policy field, the significance of planning for the success of a policy has been discussed for a long time by policy scholars (e.g., Baum, 1976; Berman, 1978; Berman and McLaughlin, 1976; Hambleton, 1983).

In the present study, the measure of planning capacity is the average score of strategic planning section for all the programs each federal agency has in the 2006 PART data. OMB (2006a; 2006b) explained the section of strategic planning as follows: "The second section (planning) involves strategic planning, and weighs whether the agency establishes valid annual and long-term goals for its programs" (OMB, 2006a; 2006b). Thus, the level of planning capacity for each federal agency is calculated by averaging the scores of the strategic planning section given by OMB for all the programs in the agency.

6.4.4 Measures of Organizational Size

Personnel Size Chun and Rainey's (2005b) research showed that organizational size relates negatively to organizational performance indicators, such as customer service orientation, perceived productivity, and perceived work quality. In addition, Price and Mueller (1986) argued that the number of full-time employees is one of the most used measures for agency size. Thus, this study also uses the log value of 2006 full-time employees in each federal agency.

Budget Size This study, as mentioned above, uses total program budget size as the financial size of each federal agency. Individual federal agencies have from 1 to 22 programs in the 2006 PART. For program budget size, this research aggregates and log-transforms the budgets of all the programs in each federal agency in the 2006 PART.

Number of Programs This variable can be considered as one dimension of federal agency size. The reason is that federal agencies with more programs will be larger than ones with fewer programs. Therefore, this study uses the number of programs each federal agency has in the 2006 PART data as the organizational size.

6.4.5 Measures of Organizational Political Contents

Institutional Location As explained above, institutional location refers to whether a federal agency is inside (department agencies) or outside (independent agencies) the jurisdiction of the executive department (Chun and Rainey, 2005a). Department agencies are coded as "0" and independent agencies are coded as "1"; these dichotomous values are based on the classification of federal agencies provided in U.S. Governmental Manual (2006-2007 Edition).

Policy Type Lowi (1972) assumed that "policies determine politics." Different types of federal programs face different political situations, which cause differences in policy processes (Lowi, 1972; Meier, 2000; Ripley and Franklin, 1982). This study divides the policy type of federal agencies into non-regulatory and regulatory. Regulatory agencies are coded as "0" and non-regulatory agencies are coded as "1," based on the *Congressional Quarterly's Federal Regulatory Directory* (2008), which includes all the federal agencies with regulatory responsibility (Chun, 2003; Chun and Rainey, 2005a).

Program Budget Increase Gilmour and Lewis (2006a) suggested that "low budgets could be a cause of poor performance" (p. 170). The PART provides information about the budget for every federal program in the dataset, in order to make it easy to check the present condition of the budget for the program. To measure the budget increases, this study employs the information on the 2005 actual budget and the 2006 enacted budget in the PART data. First, this study calculates the increase in funding level for each program by dividing the amount of the 2006 increase (2006 budget-2005 budget) by the 2005 budget. Second, this research averages the budget increases for all the programs in each federal agency.

Political Party Initiative As mentioned above, political party initiative refers to which political party has the strongest association with the agency or department in which a program is

located. As did Gilmour and Lewis (2006a), the Departments of Education, Energy, Housing and Urban Development (HUD), Labor, Commerce, Health and Human Services (HHS), and the Environmental Protection Agency (EPA) are coded as "1," which means that they were established under the Democratic administrations, or as we sometimes put it, represent Democratic party initiatives (Gilmour and Lewis, 2006a). Three (Commerce, Energy, and Education) have missions which the Republican party has opposed because their missions are not consistent with federalism or markets (Gilmour and Lewis, 2006b). And the other four (HUD, Labor, HHS, and EPA) have missions matching the Democratic party's agenda (Gilmour and Lewis, 2006b, p. 746). This study codes all other departments with "0," which means that they were established under the Republican administrations and represent Republican party missions.

6.4.6 Control Variables

Agency Age This variable can be considered as a factor related to organizational performance. In Chun and Rainey's (2005b) empirical research, organizational age has a negative impact on one dimension of organizational performance – productivity. Thus, the present study includes the age of each federal agency as a control variable by calculating the years after the federal agency's establishment in *Government Agencies*, edited by Whitnah (1983), or the website of each federal agency.

Professionalization The proportion of professional staff is used as the degree of professionalization of each federal agency in the present study. In the previous empirical research, professionalization affects positively diverse dimensions of organizational performance, such as managerial performance, customer service orientation, productivity, and work quality (Chun and Rainey, 2005b). The present study measures this variable by the proportion of the job

category of "professional" to the number of full-time employees in each federal agency from OPM (the U.S. Office of Personnel Management) website.

6. 5 Analysis and Results

This study tests the hypotheses with ordinary least squares (OLS) regression.[67] Table 6.1 shows the descriptive statistics of the dependent and independent variables.

As shown in Table 6.1, eight variables – the dependent variable, three dimensions of goal ambiguity, two dimensions of organizational capacity, budget increase, and professionalization – use proportion or ratio as their units. Budget and personnel size are log-transformed based on the previous research. Institutional location, agency type, and political party initiative are dummy variables. In addition, number of programs and agency age are integral numbers.

Table 6.2 presents zero-order correlations for the variables. The largest correlation coefficient is 0.446. Organizational performance as a dependent variable has significant correlations with seven independent variables: target-specification goal ambiguity, time-specification goal ambiguity, management capacity, planning capacity, number of programs, institutional location, and political party initiative. Organizational performance has the strongest and positive correlations with planning capacity and management capacity. However, the performance is negatively correlated to two dimensions of program goal ambiguity. In terms of goal ambiguity, the correlations among the dimensions of goal ambiguity provide the evidence for the multidimensionality of organizational goal ambiguity. That is, there is no significant correlation among the goal ambiguity dimensions. This indicates that the three dimensions are distinct dimensions of organizational goal ambiguity, as discussed in Chapter 3.

[67] The data were tested for assumptions of normality, multicollinearity, homoskedasticity, and model pecification. According to the results of tests for normality, heteroskedasticity, and model specification, this study cannot reject the assumptions of normality, homoskedasticity, and no-omitted variables of the model. In addition, the VIF (Variance Inflation Factor) was used. All the VIFs existed within the acceptable degrees (the largest VIF was 2.21), which indicated that there were no multicollinearity problems among the independent variables (Chun and Rainey, 2005b).

Table 6.1 Descriptive Statistics of Organizational Performance and Independent Variables

Variables	Unit	Mean	SD	Min	Max
Organizational Performance	Proportion	0.967	0.121	0.632	1.250
Target-Specification Ambiguity	Proportion	0.218	0.200	0	0.733
Time-Specification Ambiguity	Proportion	0.124	0.212	0	0.905
Program Evaluation Ambiguity	Proportion	0.273	0.172	0	0.846
Management Capacity	Proportion	0.838	0.127	0.523	1
Planning Capacity	Proportion	0.788	0.162	0.288	1
Personnel Size	Employees(log)	7.571	1.841	3.850	12.201
Budget Size	Log	5.979	1.661	2.833	11.831
Number of Programs	Programs	6.155	8.144	1	50
Institutional Location	0, Inside Departments; 1, Outside Departments	0.196		0	1
Policy Type	0, Regulatory; 1, Non-Regulatory	0.371		0	1
Increased Program Budget	Ratio	0.012	0.137	-0.322	0.563
Political Party Initiative	0, Republican; 1, Democratic	0.381		0	1
Agency Age	Years	69.629	49.760	3	226
Professionalization	Proportion	0.271	0.213	0	0.781

Table 6.2 Correlation Results among Organizational Performance and Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Organizational Performance	1.00														
2. Target-Specification Ambiguity	-.354***	1.00													
3. Time-Specification Ambiguity	-.316***	.090	1.00												
4. Program Evaluation Ambiguity	-.152	.051	.089	1.00											
5. Management Capacity	.400***	-.221**	-.083	.153	1.00										
6. Planning Capacity	.402***	-.350***	-.154	-.130	.457***	1.00									
7. Personnel Size	.086	-.036	.075	.101	.043	.005	1.00								
8. Budget Size	-.060	.019	-.065	-.119	-.137	-.163	.513***	1.00							
9. Number of Programs	-.319***	.289***	.441***	.140	-.114	-.241**	.230**	.058	1.00						
10. Institutional Location	.163*	.175*	.133	.053	.250**	.069	.047	-.005	.298***	1.00					
11. Policy Type	.113	.071	-.107	.094	.143	.103	-.184*	-.111	.114	.266***	1.00				
12. Increased Program Budget	.049	-.147	-.104	-.082	.107	.158	.241**	.147	-.030	-.039	-.217**	1.00			
13. Political Party Initiative	-.185*	.231**	-.042	-.072	-.269***	-.125	-.313***	-.050	.192*	-.281***	.100	-.171*	1.00		
14.Aency Age	.088	-.088	-.085	-.014	.039	-.020	.446***	.240**	.117	-.035	.016	.153	-.173*	1.00	
15. Professionalization	.074	.115	-.068	.241**	.173*	.010	.005	-.116	.108	.049	.141	-.115	.200**	-.011	1.00

*Significant at .10; **Significant at .05 level; ***Significant at .01 level; Sample Size = 97

Table 6.3 OLS Results for Organizational Performance

Independent Variables	Unstandardized Coefficients	Standard Error	Standardized Coefficients	T-Ratio
Organizational Goal Ambiguity				
Target-Specification Ambiguity	-.152***	.058	-.252	-2.64
Time-Specification Ambiguity	-.108*	.056	-.190	-1.94
Program Evaluation Ambiguity	-.130**	.064	-.186	-2.04
Organizational Capacity				
Management Capacity	.199**	.098	.210	2.04
Planning Capacity	.056	.078	.076	0.72
Organizational Size				
Personnel Size	.017**	.008	.267	2.17
Budget Size	-.011	.008	-.146	-1.40
Number of Programs	-.004**	.002	-.257	-2.23
Political Content				
Institutional Location (Independent Agencies)	.077**	.031	.255	2.44
Policy Type (Non-Regulatory)	.013	.023	.052	0.55
Program Budget Increase	-.060	.079	-.068	-0.75
Political Party Initiative (Democratic)	.022	.027	.089	0.81
Control Variables				
Agency Age	.00004	.0002	.021	0.21
Professionalization	.035	.052	.062	0.68
Constant	.752***			

Note: $R^2 = .440$; *Adjusted* $R^2 = .344$; F value=4.60***; Sample size=97
*Significant at .10; **Significant at .05 level; ***Significant at .01 level

Table 6.3 presents the results of the OLS regression analysis with organizational performance as the dependent variable. The overall model of organizational performance is significant ($F = 4.60$, $p < .001$). In addition, the goodness of fit of this model as the full model is .344. As shown above, the results of testing the OLS regression assumptions demonstrate that this model does not have any serious problem about the assumptions, such as normality, multicollinearity, homoscedasticity, and model specification.

The results support 7 out of 12 hypotheses for organizational performance. First, this study supports Hypothesis 17, that program target-specification goal ambiguity would likely be negatively related to organizational performance (*beta* = -.252, $p < .01$), indicating that federal agencies with lower target-specification goal ambiguity tend to have higher levels of organizational performance. Hypothesis 18 also predicts a negative relationship between program time-specification goal ambiguity and organizational performance. The result modestly supports Hypothesis 18 (*beta* = -.190, $p < .10$): Lower program time-specification goal ambiguity is likely to lead to heightening organizational performance. Hypothesis 19 also states that program evaluation goal ambiguity would be negatively associated with organizational performance. The result also show the expected impact of program evaluation goal ambiguity on organizational performance (*beta* = .186, $p<.05$). Regarding the impacts of program goal ambiguity on organizational performance, the present research provides consistent results; that is, the three new dimensions of program goal ambiguity are consistently and negatively related to organizational performance as well as program performance.

In relation to organizational capacity, the present study suggests two hypotheses. Hypothesis 20 predicts a positive relation between program management capacity and organizational performance. The relation is statistically significant (*beta* = .210, $p<.05$).

Management capacity is one of the critical factors for the improvement of organizational performance. Hypothesis 21, indicating that program planning capacity would be positively associated with organizational performance, is not accepted. However, the direction of the association is as hypothesized. Therefore, these results show that in order to increase organizational performance, public managers or leaders should try to heighten organizational capacities, including at least management and planning capacity.

In terms of organizational size, this study includes three independent variables for organizational performance. Hypothesis 22, stating that the number of public employees would relate positively to organizational performance, is accepted (*beta* = .267, $p<.05$). The result reveals that this variable has the strongest relation with organizational performance. Unlike the personnel size, Hypothesis 23, concerning the budget size, is not supported. However, with respect to number of programs, this study hypothesizes a negative relation with organizational performance and provides the expected results (*beta* = .257, $p<.05$). According to these results, one can see that different dimensions of organizational size show different relations to organizational performance.

Out of the four hypotheses related to political contents, only Hypothesis 25, stating that independent federal agencies outside the executive departments are likely to have higher organizational performance, is accepted (*beta* = .255, $p<.05$). The other three hypotheses about agency type, budget increase, and political party initiative do not show any significant relations with organizational performance. In this study, the impacts of political contents are smaller than those of the other categories of independent variables, goal ambiguity, organizational capacity, and organizational size. The two control variables (agency age and professionalization) do not show significant relationships with organizational performance.

6.6 Discussion

This study examines whether the three newly developed dimensions of goal ambiguity for federal programs show variation among federal agencies and whether they have significant relations with the organizational performance measure based on the goal approach. The present study investigates the several kinds of program goals (goals related to targets, time span, and possibility of external evaluation) which 97 federal agencies have and newly measured target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity for the agencies. Most importantly, this study provides an objective measure of organizational performance by calculating the actual program goal achievement rates (expressed as the proportion of the actual achievements to targets in the PART data) of federal agencies in order to measure the organizational performance. Therefore, the present study is theoretically and practically meaningful in that it measures more objective values of organizational performance and organizational goal ambiguity and shows significant and negative relationships between them in addition to other antecedents of the new organizational performance measure for around 100 federal agencies.

Evaluating the performance of public organizations as well as public programs has been recognized as very significant but challenging work which has received much obvious attention among scholars, practitioners, and reformers. In addition, many scholars have asserted that the performance evaluation in the public sector needs much more theoretical and conceptual development (Kettl, 1993; Rainey, 1993). As discussed in Chapter 2 and Appendix D, some scholars may criticize the merits of the PART data. However, the PART system provides one of the best sources of data providing a rare opportunity to measure new objective measures of organizational performance and organizational goal ambiguity and, furthermore, to examine the

relationships among the systematically measured objective performance and other significant antecedents. The analysis of the data for 97 federal agencies confirms hypotheses about the impacts on organizational performance of variables including the three new dimensions of goal ambiguity, management capacity, personnel size, number of programs, and institutional location.

The results for these variables are generally consistent with those of recent research (Chun and Rainey, 2005b; Gellatly and Irving, 2001; Jehn and Mannix, 2001; Pandey and Garnett, 2006; Selden and Sowa, 2004; Verhoest, 2005). The evidence in this analysis can support development of both theoretical and practical decisions about the evaluation of organizational performance for federal governmental activities. Through the analysis of the explanatory and comprehensive model for organizational performance, theorists can seek more refined explanations of why certain federal agencies have certain levels of organizational performance and, additionally, have certain levels of goal ambiguity analyzed in this study, with implications for performance evaluation. For example, this research supports theoretically-relevant hypotheses about the influences of organizational goal ambiguity on organizational performance, with more refined evidence and procedures for more refined empirical goal ambiguity theory than those in the previous studies that have not presented evidence supporting frequent academic and practical observations about the negative impact of goal ambiguity on performance (Chun and Rainey, 2005b). Very importantly, the observations about the influence of management capacity and institutional location on organizational performance supported in this study are observations that abound in the literature and resound in the work of prominent scholars, but that have virtually not often received analytical attention in large-sample empirical studies such as that provided in the present study and the few recent ones cited here.

Practically, public managers and leaders can take into account variations of goal ambiguity among federal agencies that can affect their organizational performance. In addition, they can consider whether those variations can be taken into account in designs of organizational or program performance system. In the practical perspective, the reason is that "the greater the clarity [of the goals] the more likely that the implementers will work effectively to bring about successful implementation" (see Van Meter and Van Horn, 1975, pp. 461-462). Alternatively, the variations may be taken into consideration in the designs of organizational performance evaluations, which in some cases may need to acknowledge that some federal agencies or programs should not seek premature specification of their goals. Other cases can be identified where goal specification is feasible, but underdeveloped.

The role of goal ambiguity in the context of the public organizations has been recognized as one of the major topics in the theory of public management through prominent scholars' claims about the significant influences of this goal concept on various characteristics of government agencies, such as performance and motivation. Despite theoretical importance of goal ambiguity in public management theory, very little large-sample empirical research has been conducted except for Chun and Rainey's (2005b). Therefore, scholars in public management have not been provided enough evidence about the goal ambiguity of government agencies or analysis of the goal characteristics for refined empirical goal ambiguity theory. The results reported here add to recent research on organizational goal ambiguity (Chun and Rainey, 2005a; 2005b) that indicates that federal agencies' goal ambiguity can be conceived, measured, and analyzed. The present study provides three new different conceptions and measures of goal ambiguity, its negative relationship with organizational performance, and the analytical success of which suggests the robustness (e.g., validity and reliability) of the sub-concepts and its

theoretical and practical values. For example, while many of the observations in the literature have generalized across federal organizations about goal characteristics, the results in these recent studies suggest that variations among federal agencies and programs can be analyzed systematically. These variations can be considered when confirming and disconfirming theoretical propositions about agencies of different types and with different characteristics.

The three newly developed dimensions of goal ambiguity for federal programs in the previous research (Jung and Rainey, 2008) – target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity – also show negative and strong relationships with the objective organizational performance at the organizational level, as expected in the hypotheses. The results had additional meaning in extending arguments suggested in the previous empirical studies, which were based on goal-setting theory and done in one group or several groups or organizations, to U.S. federal agencies, as well as filling the research voids by ascertaining the variation of organizational goal ambiguity and the relations with organizational performance. According to goal-setting theory (Bandura, 1989), goal is a construct for motivating employees to improve their performance. Thus, the results of this study practically imply that when managers or leaders set organizational goals or program goals clearly and specifically, they can improve the organizational performance by reducing the goal ambiguity in the several dimensions and facilitating public employees' motivation. That is, the results of this study practically and empirically show the importance of specifying program goals for higher performance (Salamon, 2002).

More specifically, in terms of target-specification goal ambiguity, one can expect that it will be more helpful to provide more concrete numbers for targets instead of setting "do your best" or "decrease traffic accidents" as the goal for higher organizational performance. Next, in

relation to time-specification goal ambiguity, Bandura (1989) argued that proximate goals, such as annual goals, could activate self-efficacy and heighten job performance better than distant goals, such as long-term goals. However, he also contended that when long-range goals are employed as the comparative standard, present achievements can mobilize intrinsic interest and long-range goals can be helpful to increase performance. Thus, managers have to be more concerned about the long-term goals in the phase of setting goals in order to motivate public employees and get higher performance from the long-term goals. Overall, when managers or leaders set goals for agencies or programs, it is expected that the efforts to set more concrete goals in terms of targets and time will improve organizational performance. With respect to program evaluation goal ambiguity, developing more refined manageable outcome or outcome-oriented goals is required for higher organizational performance. Furthermore, this study finds that there is much room to reduce goal ambiguity of programs which federal agencies managed.

In the present study, management capacity, as one of the organizational capacities, shows a stronger impact on organizational performance than do the three dimensions of program goal ambiguity. Actually, federal agencies with higher management capacity scores evaluated by OMB in 2006 show higher levels of actual program goal achievements in 2007, which were evaluated not by OMB but in this study. Thus, one can see that besides reassuring the previous arguments about the positive impact of management capacity on organizational performance, the guidelines related to management capacity suggested by OMB are helpful for federal agencies to improve actual organizational performance. This analytical result can support an additional merit of the PART data. For better organizational performance, practical decisions can improve financial management, structuring relationships with important partners, and the performance management system, which were included in the measure of management capacity by OMB.

In relation to personnel size, the arguments about its relationship with organizational performance have been conflicting, as discussed above (Boyne, 2003; Gooding and Wagner, 1985). The result of this study supports the arguments about the positive impact of the number of organizational members in the agency. However, the number of programs as a different dimension of organizational size is negatively related to organizational performance. Through these results, one can expect that conflict and the coordination costs would be higher among federal programs than among organizational members in each federal agency. In addition, the result concerning the institutional location, showing that independent agencies have higher organizational performance than do department agencies, demonstrates the argument that managerial discretion or autonomy could lead to increasing organizational performance.

The momentum of this study is to compare, both theoretically and practically, organizational performance away from the value-laden prescriptive evaluation criteria among federal agencies, measure an objective organizational performance measure, and examine the relationships of organizational performance with the antecedent variables, such as organizational goal ambiguity, management capacity, organizational size variables, and political contents. This study reveals that there are actually variations of the newly measured organizational performance among federal agencies through the statistically significant variables in the present research: the three dimensions of goal ambiguity, management capacity, the number of organizational members, the number of programs, and institutional location. Through these results, this study provides to scholars and practitioners, as explained above, some theoretical and practical implications for more refined empirical performance theory and more improved organizational performance.

In this section, I discuss implications of the findings about the relationships between the newly measured organizational performance and its determinants. The next chapter, "Conclusions," presents the methodological or conceptual issues of this empirical study and future research directions for organizational performance.

CHAPTER 7

CONCLUSIONS

The main concepts discussed in this dissertation are program goal ambiguity, program performance, and organizational performance. The Introduction presents the voids and the need for research on the three concepts. Little large-sample empirical research using objective measures has been conducted on program goal ambiguity and program and organizational performance. In addition, the previous arguments and empirical studies on the three main concepts have left many hypotheses untested. Therefore, through a literature review, Chapter 2 examines the research issues of goal ambiguity and performance, and the Program Assessment Rating Tool (PART) as the main data of this study. Through identifying and using the goal systems in the PART and conducting construct validity tests, Chapter 3 conceptualizes, measures, and validates three new dimensions of program goal ambiguity: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. Next, Chapter 4 presents various antecedents of program goal ambiguity. Chapter 5 examines antecedents, including the three program goal ambiguity dimensions, of program performance, while Chapter 6 measures actual achievement rates of program goals as organizational performance and examines its antecedents.

This chapter presents a summary of findings and implications of the present research. Also provided in this chapter are discussions about several methodological and conceptual

limitations of this study and suggestions for future research directions related to program goal ambiguity and program and organizational performance.

7.1 Findings and Implications

Program goal ambiguity, newly developed in this dissertation, is the main concept explored in the four empirical studies in Chapters 3, 4, 5, and 6. Through a review of the previous research on goal ambiguity, Chapter 3 provides some methodological limitations, such as the lack of a clear concept of program goal ambiguity, the use of single-dimension goal ambiguity, and exclusive dependence on perceptual data. Recognizing these limitations and identifying the program goal systems in the PART, I conceptualize program goal ambiguity and its three sub-dimensions: target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity. In addition, this chapter develops the objective measures of the three new dimensions of program goal ambiguity and then provides the empirical evidence of the construct validity, including convergent validity and discriminant validity (multidimensionality), and the reliability of the program goal ambiguity measures by using various alternative measures and correlation analyses. The intention of this chapter is to build a foundation for the future research related to program goal ambiguity by developing and validating the objective measures of the three new dimensions of the concept. To this purpose, the current research focuses on U.S. federal programs, using a considerably large sample consisting of 767 U.S. federal programs.

In Chapter 4, variations of goal ambiguity among 767 U.S. federal programs are demonstrated by various influences of its antecedents: management capacity, planning capacity, program type (direct or third-party), assessment year, program size, budget increase, political party initiative (Republican or Democratic), and agency type (regulatory or non-regulatory).

Specifically, the results of the analysis show that target-specification goal ambiguity is likely to be lower for federal programs with higher management capacity, higher planning capacity, larger program size, and direct program type, and for those with the Republican party initiative. Additionally, federal programs that have higher management capacity, are direct programs, have Democratic party initiative, and are included in non-regulatory agencies, are likely to have lower time-specification goal ambiguity. Next, federal programs that have higher planning capacity and larger budget increase, are assessed more recently, and are larger were likely to have lower program evaluation goal ambiguity. Finally, through the multiple regression analyses, this chapter demonstrates that different antecedents are differently related to different dimensions of program goal ambiguity.

In Chapter 5, I also use the same sample, 767 U.S. federal programs, in order to investigate antecedents including the three newly developed dimensions of program goal ambiguity on five dimensions of program performance: program design, program planning, program management, program results, and overall assessment rating scores. This chapter also uses multiple regression analysis with logit transformation, showing that different dimensions of program performance are differently related to different antecedents.

Specifically, program design as a dimension of program performance is likely to be higher, when the program has lower target-specification goal ambiguity, lower time-specification goal ambiguity, and lower program evaluation goal ambiguity; when it is a direct program type; and when it is assessed more recently. Next, performance of program planning is negatively related to target-specification goal ambiguity and program evaluation goal ambiguity. In addition, third party programs are likely to have lower program planning performance than direct programs and the planning performance of programs more recently assessed is likely to be higher.

The results demonstrates that program management performance is likely to be higher for programs that meet the following criteria: lower target-specification goal ambiguity, lower time-specification goal ambiguity, and lower program evaluation goal ambiguity; a direct program type; larger budget increase; more recent assessment year; smaller program size; and Republican party initiative. In terms of program results performance, federal programs with higher performance are likely to have lower target-specification goal ambiguity, program evaluation goal ambiguity, and larger program size. For higher program overall assessment rating scores (comprehensive program performance), federal programs are likely to have lower target-specification goal ambiguity, lower time-specification goal ambiguity, lower evaluation goal ambiguity; a direct program type; and larger budget increase. According to the results concerning the five dimensions of program performance, different dimensions of program performance have different relationships with different antecedents. Furthermore, the finding that target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity have negative impacts on all dimensions of program performances that OMB addresses is consistent with the theoretical arguments this study reviewed earlier. In terms of program type, the observations consistently supported in this chapter that third-party programs have a lower level of performance than direct ones are observations that abound in the literature and resound in the work of prominent scholars, as described in the previous chapters.

Chapter 6, which suggests an explanatory and comprehensive model of organizational performance, presents an objective measure of organizational performance by measuring actual achievement rates of all the program goals in 97 U. S. federal agencies. The results demonstrates that the objective performance measure varies among federal agencies through various independent variables including target-specification goal ambiguity, time-specification goal

ambiguity, program evaluation goal ambiguity, management capacity, personnel size, the number of programs, and institutional location.

According to the results of the analysis for organizational performance, all the newly developed dimensions of program goal ambiguity (target-specification goal ambiguity, time-specification goal ambiguity, and program evaluation goal ambiguity) are also significantly and negatively related to performance at the organizational level as well as the program level. In terms of organizational capacity, better management capacity is positively associated with organizational performance. Regarding organizational size, personnel size relates positively to organizational performance, whereas number of programs is negatively associated with performance. Among the four political content variables, only institutional location shows a significant effect on the organizational performance. That is, federal agencies inside executive departments show lower organizational performance than independent agencies.

This empirical study raised the concern that it would not obtain any significant findings, given that no scholar had conducted large-sample empirical research examining variations in U.S. federal program goal ambiguity with objective measures. However, the results from this first large-sample research on program goal ambiguity appear encouraging and promising. They suggest that, distinct from a finding of "nothing," the objective measures of program goal ambiguity are statistically and meaningfully related to the antecedent variables and performance scores described above in ways that scholars in political science, public policy, public administration, and public management would predict and think reasonable.

To sum up, this study shows some meaningful implications and contributions to empirical goal ambiguity theory and the public management literature. First, in order to extend the range of empirical goal ambiguity theory from the organizational level to the program level,

this study conceptualizes program goal ambiguity as a multi-dimensional construct through conceptualizing three new dimensions of program goal ambiguity, and develops and validates the three new objective measures of program goal ambiguity. Second, the present study enhances the understanding of the newly developed concept, program goal ambiguity, by suggesting an explanatory model and examining its antecedents. Third, to better understand program performance, its antecedents are also examined by using the PART performance scores that OMB provides. Fourth, this research suggests an explanatory and comprehensive model of organizational performance and an objective measure of organizational performance by calculating the actual program goal achievement rates of 97 U.S. federal agencies and examines antecedents of the new measure. Fifth, this study shows that all three newly developed dimensions of program goal ambiguity are consistently, significantly, and negatively related to the program performance OMB provides as well as to the newly and independently developed objective measure of organizational performance. Therefore, this study aims to contribute to the refinement of empirical goal ambiguity theory.

Why do public agencies try to decrease goal ambiguity of their programs and their organizations? One of the reasons is that goal clarity contributes to identifying present and future directions (Nutt and Backoff, 1992, p. 45). Even though clarifying goals is difficult in the public sector, it is a critical mission in the strategic management of public agencies (Nutt and Backoff, 1992; Pandey and Garnett, 2006). A better understanding of goal ambiguity and performance is important, since the clarification of a program's goals and the investigation of antecedents of performance have been considered critical to the improvement of performance and accountability of public programs (Chun and Rainey, 2005a; Salamon, 2002). Gormley and Balla (2004) contended that federal services with ambiguous or conflicting goals are likely to

perform poorly. Policymakers and managers should take program- and agency-based differences into consideration when they develop strategic methods for clarifying goals and improving performance. The same logic is true when they employ several antecedents in this research for looking for and diagnosing problems related to goal clarification and performance improvement (Chun and Rainey, 2005a). In the practical perspective, these results in this dissertation are needed to be considered, since "the greater the clarity [of the goals] the more likely that the implementers will work effectively to bring about successful implementation" (see Van Meter and Van Horn, 1975, pp. 461-462).

Evaluating the performance of public programs and public agencies – a challenge of obvious significance that receives much emphasis among reformers, analysts and officials – still needs much more theoretical and conceptual development by scholars. While one can debate the merits of the PART evaluation procedure, it affords a rare opportunity to analyze the relationships among systematically developed performance evaluation scores and other important variables. These analyses of the data for 767 federal programs and 97 federal agencies confirms the hypotheses about the influences on performance scores of variables including program goal characteristics (the three new developed dimensions of program goal ambiguity), program type (direct or third-party), program budget size, program budget increases, political party initiative (Republican or Democratic), the number of programs, management capacity, personnel size, and institutional locations (department agencies or independent agencies). The results for these variables are generally consistent with those of recent research (Chun and Rainey, 2005a; 2005b; Gilmour and Lewis, 2006a). Such evidence can support development of both theoretical and practical decisions about performance evaluation for government activities. Explaining variation is basic to theory development. Theorists can pursue more refined

explanations of why certain government programs and agencies have certain goal characteristics, as well as other characteristics of the sort analyzed here, with implications for performance evaluation. For example, this research supports theoretically-relevant hypotheses about the distinctions between direct and third-party programs, with evidence and procedures similar to those in previous studies that have provided evidence supporting frequent academic observations of the differences between regulatory agencies and other types of agencies (Chun and Rainey, 2005a). Very significantly, the observations about agency and program types supported in this study are observations that abound in the literature and resound in the work of prominent scholars, but that have virtually never received the analytical attention in large-sample empirical studies as that provided in the present study and the few recent ones cited here.

Practical and policy decisions can take into consideration variations among programs and agencies that can influence their performance scores and goal ambiguity, and consider whether those variations can be taken into account in program design. Alternatively, they may be taken into account in designs of performance evaluations, which in some cases may need to acknowledge that some programs and activities should not seek premature specification of their goals. Other cases can be identified where goal specification is feasible, but underdeveloped. In this regard, even if the PART does contain a bias towards programs where goals can be stated clearly, improved understanding of how to define and measure goal ambiguity, and of antecedents that increase or decrease it, and its relation to performance can help to avoid and remove such biases from assessment procedures. Explaining when goal ambiguity is elevated due to external political influences, for example, or due to the nature of programs or agencies, policies, and tasks, can help to avoid inappropriate "one size fits all" application of such procedures. It can help to avoid the challenges inherent in goal clarification, such as premature

or inappropriate quantification of qualitative dimensions. Thus, by no means does this study interpret the evidence here as indicating that program or agency goal clarification offers a panacea, and that agency and program managers can readily improve performance by specifying goals. The findings do, however, support the conclusion that appropriate efforts to clarify goals can benefit performance (Latham, Borgogni, and Petitta, 2008; Wright, 2004). More importantly, the evidence here extends the stream of research seeking to clarify the concept of goal ambiguity (or clarity), find ways of measuring it, and deepen our understanding of it.

7.2 Methodological and Conceptual Issues

Several methodological and conceptual limitations of this study are discussed in this section, in addition to some methodological issues discussed above.

First, the issues of external validity, that is, generalizability of the results of this study, must be addressed. This study uses as the sample 767 U.S. federal programs commonly included in both the 2006 and 2007 PART data except for 17 programs without necessary information. That is, this study virtually includes almost all the federal programs in the 2006 and 2007 PART data, instead of sampling. The number of the federal programs in the PART system was exactly 1026 in 2008. The sample of this study is around 75 % of the total number of U.S. federal programs in the PART system. Therefore, the findings of this dissertation should be generalizable to the other U.S. federal programs in the PART system. With the generalizability, however, using all the large sample can present the problem of increasing confounding factors, since the sample included the U.S. federal programs with a variety of characteristics like functions (Chun, 2003).

However, it is a more difficult question to answer whether the findings in this research are generalizable to public programs and agencies at the state or local government levels. As

noted above, the PART system emphasizes clear and measurable goals and performance measures of federal programs, based on the motto "managing for results." Yet public programs at lower government levels might have systems different from the PART evaluation system for federal programs. In other words, the clarification of goals and performance measures and management issues for their results might be less important than in federal programs (Chun, 2003). In addition, their program evaluation systems may be less systematic than the PART systems. Therefore, the results of this study, such as the differences of three dimensions of program goal ambiguity depending on the characteristics of programs, the variations of organizational performance scores, and the impacts of program goal ambiguity on program performance or organizational performance, would be different in public programs and agencies of the state or local governments. Furthermore, the generalizability of the results to different countries can also be limited by various factors such as different systems of program goals and program evaluation.

Another issue concerns the validity of the PART data, as discussed in Chapter 2 and Appendix D. The criticisms of the validity of the data used in this study focus on whether the PART performance assessments measured the right types of outcomes and whether the PART measured federal program performance in an accurate, consistent, and value-neutral way (Radin, 2006). In fact, there might not be any data without any weakness. On the other hand, the PART data was developed with third-party review and is also recognized as evidence based, systematic, and transparent to the process (Moynihan, 2008). Furthermore, Frederickson and Frederickson (2006) argued that the PART data addresses two significant weaknesses in the GPRA data that Chun and Rainey (2005a; 2005b) used for measuring organizational goal ambiguity, by receiving third-party reviews and setting up several program types. At present, the PART data can be the

most systematic and strongest data available for large-sample empirical studies on federal programs, despite the criticisms of the validity.

The construct validity of program goal ambiguity can raise a methodological issue regarding the unit of analysis. Concerning the measures of program goal ambiguity, the analysis units are federal programs and federal agencies in this study. However, for the three new measures of program goal ambiguity, the convergent validity, one of the critical components of construct validity, is demonstrated at the level of federal agency, since the data for the alternative measures of the new program goal ambiguity measures are not available for federal programs but available for federal agencies. Yet assessing the construct validity at the level of federal agencies instead of federal programs could be a meaningful and alternative method to establish the construct validity of the new program goal ambiguity measures, since program performance goals or measures are most of the federal agencies' performance goals or measures except for their missions (which are not included in this study) (OMB, 2006a; 2006b).

Also worthy of consideration are the limitations on the measures of some antecedents of goal ambiguity, program performance, and organizational performance. In relation to classifying program types into third-party and direct programs, a criticism of the validity of the classification can be raised, especially regarding 91 research and development (R&D) programs. According to Bozeman's (2008) explanation, knowing how R&D programs relate to the PART would require knowing a great deal about the specific R&D appropriations and programs of specific agencies. For example, the Department of Energy has R&D grants, contracts, cooperative agreements; performs its own R&D programs; performs at National Laboratories; provides money through grants to universities; and has cooperative centers, national user facilities, and international facilities. Some of the R&D programs may be third-party programs, while others may not

(Bozeman, 2008). This can be another formidable project. Therefore, the current research follows the classification of Frederickson and Frederickson (2006) with the simple explanation that third-party programs are grant- and contract-based but suggests more refined investigation of this question related to the classification of program types as future research.

A federal program also has several management dimensions, such as financial management, capital management, human resource management, information technology management, and management for results (Gormley and Balla, 2004). Thus, for higher performance, it will be meaningful to examine which dimensions of management in programs of different characteristics are more related to program performance.

In addition, program types are associated with different patterns of politics, as noted above. Some scholars have argued that the political environment can exert a substantial influence on goal ambiguity (e.g., Allison, 1983; Dahl and Lindblom, 1953; Lowi, 1979; Lynn, 1981; Wildavsky, 1979; Wilson, 1989). However, there has been little effort to conceptualize the political environment and to research a large set of federal programs empirically (Chun and Rainey, 2005b). Therefore, for more refined empirical research on performance, there is a need to find political variables affecting performance of federal programs.

Finally, there is a possibility that independent variables can influence and be influenced by each other. Moreover, they can have direct or indirect influences on performance as the dependent variable. Thus, a more advanced statistical method may need to be employed for more refined empirical goal ambiguity theory.

7. 3 Suggestions for Future Research

This study is explanatory, since it is the first to conceptualize program goal ambiguity and its three sub-dimensions, measure them, and examine their antecedents and consequences

(performance). Therefore, many issues including the limitations discussed above call for future research.

First, in terms of the measures of program goal ambiguity, this study has limitations. This research confines the dimensions of goal ambiguity in public programs to just target- and time-specification goal ambiguity and program evaluation goal ambiguity. However, as we can predict that public programs will also have multiple dimensions of goal ambiguity, there is a need and room to develop new additional dimensions of public program goal ambiguity for theoretical contribution to the development of empirical goal ambiguity theory or better practical implications. For example, the PART data and the programs in the PART include the mission and the purpose of the program. Mission is a type of goal located at the top of goal hierarchy. For mission ambiguity, a new measuring method will be needed. Through developing more dimensions and their measures of goal ambiguity reflecting various dimensions in the program goal systems, empirical goal ambiguity theory can be more refined.

With the objective measures of program goal ambiguity, we can consider the development of program goal ambiguity scales using public employees' perception in another useful way. Like the development of public service motivation (Perry, 1996), the construct of perceived program goal ambiguity needs to be developed with respect to the various dimensions of goal ambiguity, such as the three dimensions presented in this research – target-specification, time-specification, and program evaluation. As Chun (2003) pointed out, these measures of program goal ambiguity for U.S. federal programs may not be available for studies in different contexts and it takes too much time to measure objective goal ambiguity relying on just archival sources. Therefore, for the improvement of empirical goal ambiguity theory, researchers need to develop subjective program goal ambiguity scales with appropriate reliability and validity.

In relation to generalizability, conducting this study in different settings, such as a lower government level and different countries, will contribute to the improvement of empirical goal ambiguity theory as well as better program performance through more effective program goal management. The need for this research is connected with Campbell and Stanley's (1963) argument that if successful, research we conduct today will require replication and cross-validation at different times under different conditions, before it can be theoretically and empirically accepted with confidence. In addition, for more definitive causality between program goal ambiguity and its antecedents and between program goal ambiguity and program performance, future scholars should cumulate data and analysis results by conducting the research at different times in order to overcome this study's limitation of employing cross-sectional data.

Furthermore, more antecedents of program goal ambiguity should be examined at the program and organizational level. Many different antecedents, in addition to independent variables in this study, can affect goal ambiguity. Through three alternative models of goal ambiguity, Pandey and Rainey (2006) argued that the external political context through formal and informal channels, individual attitudes (e.g., organizational commitment, job involvement, role ambiguity and professionalization), and internal organizational structures and processes (e.g., internal communication, formalization, and red tape) can influence goal ambiguity. The efforts to examine more antecedents of objective and subjective measures of program or organizational goal ambiguity will theoretically and practically contribute to more systematic understanding of program goal ambiguity and the clarification of program goals.

In relation to antecedents of program or organizational goal ambiguity, future research on the characteristics of the main work which individual public programs or individual public

organizations do can contribute to refining empirical goal ambiguity theory and developing strategies to reduce goal ambiguity and improve performance. Scholars and practitioners need to take into consideration which programs or agencies have high or lower goal ambiguity or which dimensions of goal ambiguity are high or low in individual programs and agencies. Regarding this topic, scholars can conduct comparative analyses among federal programs and federal agencies. For example, federal programs and federal agencies related to emergencies and education, for which goal setting is very difficult, are likely to show higher goal ambiguity, while federal programs and federal agencies, such as the U.S. Mint and National Science Foundation, for which goal setting is relatively easy, are likely to have lower goal ambiguity.

In terms of its consequences, program goal ambiguity can influence public employees' motivation, interpersonal conflict, leadership, and various attitudes, including job satisfaction and organizational commitment, at the public organizational context. These can also be future research topics. For example, some public management researchers have suggested that goal theory is very important in understanding the motivational context of public organizations (Perry and Porter, 1982; Selden and Brewer, 2000; Wright, 2007; 2004). Additionally, in their review of antecedents of organizational commitment, Mathieu and Zajac (1990) suggested that goals can indirectly affect employees' commitment. Therefore, these research suggestions can be empirically realized in public management by gaining and cumulating the necessary data and using various statistical methods, such as OLS, SEM (Structural Equation Modeling), and HLM (Hierarchical Linear Modeling).

Through results about the relationships between program types and program goal ambiguity or program performance, we can expect that certain aspects of policy process will be similar within the same type of programs and will be different systematically across the program

types (Ripley and Franklin, 1982). The aspects which we expect to make the success of programs different can include the identity of primary participants in policy process (such as the levels of bureaucracy, beneficiaries, clients, and Congress), the characteristics of the relationships among primary actors, the relative difficulty of achieving successful implementation, and the critical processes for achieving success (Ripley and Franklin, 1982, p.86; Kettl, 1993). Further research on these different aspects for successful program performance is clearly needed to make more refined explanations for the results of this study and for better management approaches depending on program types.

The two empirical studies of Chapter 4 and Chapter 5 presented in this dissertation provide the possibility of a more comprehensive model of program goal ambiguity. Both program goal ambiguity and program performance have some common antecedents: program type, assessment year, program size, budget increase, and political party intitiative. Considering that program goal ambiguity is also one of the antecedents for program performance, it is possible to make a more comprehensive model, which includes program goal ambiguity as a moderator. For instance, Ripley and Franklin (1982) suggested the possibility of the intervening effects of ambiguous goals in the policy implementation process. In this case, more advanced statistical methods will be needed, such as moderated hierarchical regression and SEM.

As discussed above, this research, like most studies using cross-sectional data, cannot definitively resolve questions about causality between program goal ambiguity and its antecedents and between program goal ambiguity and program or organizational performance. In addition, this study has several methodological and conceptual limitations and, therefore, several future research topics. Nevertheless, the results of this research have theoretical and practical implications, as mentioned in the discussion parts of Chapter 3, 4, 5, and 6. Thus, the

overall findings in this dissertation can suggest an important start for a comprehensive model of program goal ambiguity and performance, more systematic understanding of program goal ambiguity, and better program and organizational performance through better goal management.

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Appendix A. U.S. Federal Programs with Their Agencies in This Study (N=767)

Appalachian Regional Commission (N=1)
Appalachian Regional Commission
Commodity Futures Trading Commission (N=1)
Enforcement of Commodity Futures and Options Markets
Consumer Product Safety Commission (N=1)
Consumer Product Safety Commission
Corporation for National and Community Service (N=2)
AmeriCorps State and National Grants AmeriCorps National Civilian Community Corps
Court Services and Offender Supervision Agency for the District (N=2)
District of Columbia: Community Supervision Program
District of Columbia: Pretrial Services Agency
Delta Regional Authority (N=1)
Delta Regional Authority
Denali Commission (N=1)
Denali Commission
Agriculture Marketing Service (N=5)
Agricultural Commodity Grading and Certification Programs
Agriculture Marketing Service-Research and Promotion Programs
Perishable Agricultural Commodities Act Pesticide Data/Microbiological Data Programs
Commodity Purchase Services (Section 32)
Agricultural Research Service (N=2)
Research on Protection and Safety of Agricultural Food Supply
USDA Research: Economic Opportunities for Producers

Animal and Plant Health Inspection Service (N=4)	
Animal Welfare	Emergency Pest and Disease Management Programs
Pest and Disease Exclusion	Plant and Animal Health Monitoring Programs

Cooperative State Research, Education, and Extension Service (N=3)	
Natural Resource Base & Environment	Protection and Safety of Agricultural Food Supply
Research/Extension Grants: Economic Opportunities for Producers	

Economic Research Service (N=1)
Economic Research Service

Farm Service Agency (N=8)	
Agricultural Credit Insurance Fund - Guaranteed Loans	Bioenergy
Agricultural Credit Insurance Fund - Direct Loans	Direct Crop Payments
Agricultural Marketing Loan Payments	Agricultural Crops Counter Cyclical Payments
Dairy Payment Program	Dairy Price Support Program

Foreign Agriculture Service (N=3)	
USDA Food Aid Programs	Agricultural Export Credit Guarantee Programs
USDA Foreign Market Development Programs	

Forest Service (N=7)	
Energy Resource Needs	Forest Legacy Program
Land Acquisition	USDA Wildland Fire Management
Recreation	Invasive Species Program
National Forest Improvement and Maintenance	

Food and Nutrition Service (N=7)	
Food Stamp Program	Commodity Supplemental Food Program
School Breakfast Program	Emergency Food Assistance Program (TEFAP)
National School Lunch	Nutrition Assistance for Puerto Rico
Food and Nutrition Service - Child and Adult Care Food Program	

Food Safety and Inspection Service (N=1)
Food Safety and Inspection Service

Grain Inspection, Packers and Stockyards Administration (N=1)	
Federal Grain Inspection Services	
National Agricultural Statistics Service (N=2)	
Conservation Reserve Program	National Agricultural Statistics Service
Natural Resources Conservation Service (N=7)	
Farmland Protection Program	Environmental Quality Incentives Program
Wetlands Reserve Program	Watershed Protection and Flood Prevention
Wildlife Habitat Incentives Program	Emergency Watershed Protection Program
Resource Conservation and Development	
Rural Development (N=12)	
Intermediary Relending Program	Rural Business Enterprise Grant Program
Multi-Family Housing Programs	Single Family Housing Loan Guarantees
Single Family Housing Direct Loans	Rural Electric Utility Loans and Guarantees
Rural Telecommunications Loan Programs	Rural Water and Wastewater Grants and Loans
Community Facilities Program	Rural Business and Industry Guaranteed Loan Program
Mutual Self-Help Housing -- Technical Assistance Grants	
Rural Business-Cooperative Service Value-Added Producer Grants	
Risk Management Agency (N=1)	
Federal Crop Insurance	
National Institute of Standards and Technology (N=3)	
Advanced Technology Program	Manufacturing Extension Partnership
National Institute for Standards and Technology Laboratories	
Bureau of Economic Analysis (N=1)	
Bureau of Economic Analysis	
Bureau of the Census(N=6)	
Current Demographic Statistics	Intercensal Demographic Estimates
Decennial Census	Survey Sample Redesign
Economic Census	Current Economic Statistics and Census of Governments

Bureau of Industry and Security (N=1)	
Bureau of Industry and Security	
Economic Development Administration (N=1)	
Economic Development Administration	
International Trade Administration (N=3)	
Market Access and Compliance	U.S. and Foreign Commercial Service
Import Administration	
National Oceanic and Atmospheric Administration (N=8)	
National Marine Fisheries Service	Protected Areas
Climate Program	Weather and Related Programs
Ecosystem Research	Coastal Zone Management Act Programs
Navigation Services	Pacific Coastal Salmon Recovery Fund
National Telecommunications and Information Administration (N=1)	
National Telecommunications and Information Administration	
U.S. Patent and Trademark Office (N=2)	
Patents	Trademarks
Minority Business Development Agency (N=1)	
Minority Business Development Agency	
Air Force (N=4)	
Air Combat Program	Air Force Aircraft Operations
Air Force Depot Maintenance	DoD Unmannned Aircraft Systems (UAS)
Transportation Command (N=2)	
Airlift Program	Defense Air Transportation System
Army (N=3)	
Army Land Forces Operations	Chemical Demilitarization
Future Combat Systems/Modularity Land Warfare	

Corps of Engineers (N=10)	
Coastal Ports and Harbors	Regulatory Program
Emergency Management	Coastal Storm Damage Reduction
Environmental Stewardship	Flood Damage Reduction
Hydropower	Inland Waterways Navigation
Recreation Management	Formerly Utilized Sites Remedial Action Program
Defense Research and Engineering (N=2)	
Defense Applied Research Program	Defense Basic Research
Office of the Secretary of Defense (N=12)	
Military Force Management	Defense Communications Infrastructure
Education Activity	National Security Space Weather Programs
Defense Health Care	Training and Education Programs - Basic Skills and Advance
Space Launch	Training and Education Programs - Accession Training
Missile Defense	Defense Small Business Innovation Research/Technology Transfer
Recruiting	Facilities Sustainment, Restoration, Modernization, and Demolition
Installations and Environment(N=1)	
Energy Conservation Investment	
Navy (N=6)	
Navy/Marine Corps Air Operations	Marine Corps Expeditionary Warfare
Navy Ship Operations	Depot Maintenance - Naval Aviation
Navy Shipbuilding	Department of Defense Depot Maintenance: Ship
Office of Elementary and Secondary Education (N=17)	
21st Century Community Learning Centers	Enhancing Education Through Technology
Impact Aid Payments for Federal Property	Improving Teacher Quality State Grants
High School Equivalency Program	Education State Grants for Innovative Programs
Smaller Learning Communities	Advanced Placement
Training and Advisory Services	Impact Aid Construction
Comprehensive School Reform	Education - State Assessment Grants
College Assistance Migrant Program	Comprehensive Regional Assistance Centers

Even Start	Neglected and Delinquent State Agency Program
Impact Aid Basic Support Payments and Payments for Children with Disabilities	

Office of Special Education and Rehabilitative Services (N=17)

IDEA Special Education Grants to States	American Indian Vocational Rehabilitation Services
Vocational Rehabilitation State Grants	IDEA Special Education - Parent Information Centers
American Printing House for the Blind	Assistive Technology Alternative Financing Program
Federal Support for Gallaudet University	Projects with Industry for People with Disabilities
IDEA Special Education Preschool Grants	IDEA Special Education - Research and Innovation
Independent Living for People with Disabilities	
Federal Support for National Technical Institute for the Deaf	
National Institute on Disability and Rehabilitation Research	
IDEA Special Education - Technical Assistance and Dissemination	
IDEA Special Education Grants for Infants and Families	
IDEA Special Education Personnel Preparation Grants	
Vocational Rehabilitation Demonstration and Training Programs	

Office of Innovation and Improvement (N=7)

Charter Schools Grant	Teaching American History
Magnet Schools	Troops-to-Teachers
Transition to Teaching	Ready to Learn Television
Parental Information and Resource Centers	

Federal Student Aid (N=8)

Federal Family Education Loans	Student Aid Administration
Federal Pell Grants	William D. Ford Direct Student Loans
Federal Perkins Loans	Leveraging Educational Assistance Partnership
Federal Work-Study	Supplemental Educational Opportunity Grants

Office of Postsecondary Education (N=15)

Federal Support for Howard University	B.J. Stupak Olympic scholarships
Teacher Quality Enhancement	Child Care Access Means Parents in School
TRIO Student Support Services	Developing Hispanic-serving Institutions
TRIO Talent Search	Graduate Assistance in Areas of National Need

Byrd Honors Scholarships	International Education Domestic Programs
TRIO Upward Bound	Strengthening Historically Black Colleges and Universities
Javits Fellowships	Strengthening Historically Black Graduate Institutions
Gaining Early Awareness and Readiness for Undergraduate Programs	

Institute of Education Sciences (N=2)

National Center for Education Statistics	National Assessment for Educational Progress

Office of Vocational and Adult Education (N=4)

Adult Education State Grants	Tech-Prep Education State Grants
Vocational Education State Grants	
Tribally Controlled Postsecondary Vocational and Technical Institutions	

Office of Safe and Drug-Free Schools (N=2)

Physical Education Program	Safe and Drug Free Schools State Grants

Civilian Radioactive Waste Management (N=1)

Civilian Radioactive Waste Management Program: Yucca Mountain Project

Electricity Delivery and Energy Reliability (N=2)

Distributed Energy Resources

High Temperature Superducting (HTS) Research and Development

Energy Efficiency and Renewable Energy (N=11)

Biomass and Biorefinery Systems	Building Technologies
Geothermal Technology	Federal Energy Management Program
Hydrogen Technology	Industrial Technologies Program
Solar Energy	Vehicle Technologies
Weatherization Assistance	Wind Energy
State Energy Programs	

Environmental Management (N=1)

Environmental Management

Fossil Energy (N=4)	
Coal Energy Technology	Strategic Petroleum Reserve
Oil Technology	Natural Gas Technology

Nuclear Energy (N=4)	
Advanced Fuel Cycle Initiative	National Nuclear Infrastructure
Nuclear Power 2010	Generation IV Nuclear Energy Systems Initiative

Science (N=6)	
Nuclear Physics	Advanced Scientific Computing Research
High Energy Physics	Biological and Environmental Research
Basic Energy Sciences	Fusion Energy Sciences

Defense Programs (N=7)	
Directed Stockpile Work (DSW)	Secure Transportation Asset (STA)
Advanced Simulation and Computing (ASCI)	
Readiness in Technical Base and Facilities (RTBF), Operations	
National Nuclear Security Administration: Weapons Activities - Science Campaign	
National Nuclear Security Administration: Weapons Activities - Readiness Campaign	
Inertial Confinement Fusion Ignition and High Yield Campaign/NIF Construction Program	

Defense Nuclear Nonproliferation (N=5)
Nonproliferation and International Security
International Nuclear Materials Protection and Cooperation
Elimination of Weapons-Grade Plutonium Production Program
National Nuclear Security Administration: Nonproliferation and Verification
National Nuclear Security Administration: Global Initiatives for Proliferation Program

Infrastructure and Environment (N=1)
Facilities and Infrastructure

Naval Reactors (N=1)
National Nuclear Security Administration: Naval Reactors

Defense Nuclear Security (N=1)
Safeguards and Security

Energy Information Administration (N=1)
Energy Information Administration

Bonneville Power Administration (N=1)
Bonneville Power Administration

Southeastern Power Administration (N=1)
Southeastern Power Administration

Southwestern Power Administration (N=1)
Southwestern Power Administration

Western Area Power Administration (N=1)
Western Area Power Administration

Administration on Aging (N=1)
Administration on Aging

Administration for Children and Families (N=22)	
Adoption Assistance	Child Care and Development Fund
Adoption Incentives	Developmental Disabilities Grant Programs
Mentoring Children of Prisoners	Office of Child Support Enforcement
Refugee Social Services	Community Services Block Grant
Independent Living Program	Social Services Block Grant
Runaway and Homeless Youth	Refugee Transitional and Medical Services
Adoption Opportunities	Community-Based Child Abuse Prevention
Assets for Independence	Child Abuse Prevention and Treatment Grants
Human Trafficking	Low Income Home Energy Assistance Program
Foster Care	Temporary Assistance for Needy Families (TANF)
Head Start	Family Violence Prevention and Services Program

Centers for Disease Control and Prevention (N=14)	
Childhood Immunization Program	CDC: Occupational Safety and Health
Domestic HIV/AIDS Prevention	CDC: State and Local Preparedness Grants
Strategic National Stockpile	National Center for Health Statistics

Chronic Disease - Diabetes	Chronic Disease - Breast and Cervical Cancer
CDC: Buildings and Facilities	CDC: Environmental Health
CDC: Global Immunizations	Agency for Toxic Substances and Disease Registry
CDC: Infectious Diseases	CDC: Sexually Transmitted Diseases and Tuberculosis

Health Resources and Services Administration (N=18)

National Bone Marrow Donor Registry	Maternal and Child Health Block Grant
Emergency Medical Services for Children	Trauma-EMS Systems Program
State Planning Grant Program	Healthy Community Access Program
National Health Service Corps	Rural Health Activities
Ryan White HIV/AIDS	Poison Control Centers
Health Centers	Organ Transplantation
Health Professions	Traumatic Brain Injury

National Bioterrorism Hospital Preparedness Program

Nursing Education Loan Repayment and Scholarship Program

Universal Newborn Hearing Screening and Intervention Program

Children's Hospitals Graduate Medical Education Payment Program

Substance Abuse and Mental Health Services Administration (N=8)

Children’s Mental Health Services

Community Mental Health Services Block Grant

Projects for Assistance in Transition from Homelessness

Protection and Advocacy for Individuals with Mental Illness

Substance Abuse Prevention and Treatment Block Grant

Mental Health Programs of Regional and National Significance

Substance Abuse Prevention Projects of Regional and National Significance

Substance Abuse Treatment Programs of Regional and National Significance

Office of Public Health and Science (N=5)

Family Planning	Adolescent Family Life Program
Office of Minority Health	Office on Women's Health

Office of Disease Prevention and Health Promotion

Food and Drug Administration (N=1)	
Food and Drug Administration	
Agency for Healthcare Research and Quality (N=3)	
Pharmaceutical Outcomes	Health Care Patient Safety
Health - Data Collection and Dissemination	
Office for Civil Rights (N=1)	
Health and Human Services - Office for Civil Rights	
National Institutes of Health (N=4)	
HIV/AIDS Research	Extramural Research Programs
Buildings and Facilities	Intramural Research
Indian Health Services (N=6)	
Federally-Administered Activities	Health Care Facilities Construction
Tribally-Operated Health Programs	Resource and Patient Management System
Urban Indian Health Program	Sanitation Facilities Construction Program
Centers for Medicare and Medicaid Services (N=3)	
Medicare	State Children's Health Insurance Program
Medicare Integrity Program	
Office of Global Health Affairs (N=2)	
Afghanistan Health Initiative	United States-Mexico Border Health Commission
Office of the Inspector General (N=1)	
Health Care Fraud and Abuse Control	
United States Coast Guard (N=9)	
Coast Guard: Marine Safety	Coast Guard Marine Environmental Protection
Coast Guard: Drug Interdiction	Coast Guard: Search and Rescue
Coast Guard: Aids to Navigation	Coast Guard Fisheries Enforcement
Coast Guard: Polar Icebreaking Program	Coast Guard Migrant Interdiction Program
Coast Guard: Domestic Icebreaking Program	

United States Customs and Border Protection (N=2)	
Border Patrol	Security Inspections and Trade Facilitation

Federal Emergency Management Agency (N=10)	
Disaster Response	Disaster Recovery
Mitigation Programs	
Preparedness -- Infrastructure Protection Cyber Security	
Preparedness -- Grants and Training Office Training Program	
Preparedness -- Grants and Training Office National Exercise Program	
Preparedness -- Grants and Training Office Technical Assistance Program	
Preparedness -- Infrastructure Protection National Communications Service	
Preparedness -- Grants and Training Office State Homeland Security Grants	
Preparedness -- Grants and Training Office Assistance to Firefighters Grant Program	

Federal Law Enforcement Training Center (N=1)
Federal Law Enforcement Training Center

Immigration and Customs Enforcement (N=4)	
Federal Protective Service	Automation Modernization Program
Detention and Removal	Office of Investigations

Operations Center (N=1)
Homeland Security Operations Center

U.S. Citizenship and Immigration Services (N=1)
Immigration Services

Science and Technology (N=6)	
Biological Countermeasures	Homeland Security University Fellowships
Rapid Prototyping of Countermeasures	Emerging Homeland Security Threat Detection
Threat and Vulnerability, Testing and Assessment	
Standards Development for Homeland Security Technology	

United States Secret Service (N=3)	
Domestic Protectees	Protective Intelligence
Foreign Protectees and Foreign Missions	

Transportation Security Administration (N=8)	
Screener Training	Aviation Regulation and Enforcement
Flight Crew Training	Passenger Screening Technology
Screener Workforce	Air Cargo Security Programs
Federal Air Marshal Service	Baggage Screening Technology

Fair Housing and Equal Opportunity (N=2)	
Fair Housing Assistance Program	Fair Housing Initiatives Program

Public and Indian Housing (N=8)	
Family Self-Sufficiency Program	HOPE VI (Severely Distressed Public Housing)
Homeownership Voucher	Tribal Housing Activities Loan Guarantees
Housing Vouchers	Native American Housing Block Grants
Public Housing	Indian Community Development Block Grant Program

Office of Housing (N=7)	
Housing Counseling	FHA Single-Family Mortgage Insurance
Housing for the Elderly	Manufactured Housing and Standards
Project-Based Rental Assistance	Housing for Persons with Disabilities
FHA Multi-Family Mortgage Insurance	

Policy Development and Research (N=1)
Partnership for Advancing Technology in Housing

Community Planning and Development (N=6)	
Homeless Assistance Grants (Competitive)	Community Development Block Grant (Formula)
National Community Development Initiative	Housing Opportunities for Persons with AIDS
Rural Housing and Economic Development	HOME (Affordable Housing Block Grant)

Healthy Homes and Lead Hazard Control (N=1)
Lead Hazard Grants

Bureau of Alcohol, Tobacco, Firearms, and Explosives (N=2)
Arson and Explosives Program
Firearms Programs -- Integrated Violence Reduction Strategy

Office of Justice Programs (N=8)	
Drug Courts	National Criminal History Improvement Program
Weed and Seed	Department of Justice General Legal Activities
Bureau of Justice Statistics	Multipurpose Law Enforcement Grants
National Institute of Justice	Residential Substance Abuse Treatment
Federal Bureau of Investigation (N=5)	
Cybercrime	Criminal Justice Services
White Collar Crime	Criminal Enterprises
FBI Counterterrorism Program	
Drug Enforcement Administration (N=1)	
Drug Enforcement Administration	
Bureau of Prisons (N=2)	
Prisons Operations	Prison Construction
Executive Office of U.S. Trustees (N=1)	
United States Trustees	
Executive Office of U.S. Attorneys (N=1)	
US Attorneys	
U.S. Marshals Service (N=2)	
Apprehension of Fugitives	Protection of the Judicial Process
Civil Division (N=1)	
Vaccine Injury Compensation Program	
Community Oriented Policing Services (N=1)	
Community Oriented Policing Services	
Employment Standards Administration (N=6)	
Black Lung Benefits Program	Prevailing Wage Determination Program
Federal Employees Compensation Act	Office of Federal Contract Compliance
Office of Labor Management Standards	
Long-shore and Harbor's Workers Compensation Program	

Bureau of Labor Statistics (N=1)
Bureau of Labor Statistics

Employee Benefits Security Administration (N=1)
Employee Benefits Security Administration

Employment and Training Administration (N=13)	
Employment Service	Permanent Labor Certification Program
Work Incentive Grants	Workforce Investment Act - Youth Activities
Job Training Apprenticeship	Unemployment Insurance Administration State Grants
Trade Adjustment Assistance	Community Service Employment for Older Americans
Workforce Investment Act - Native American Programs	
Workforce Investment Act - Dislocated Worker Assistance	
Workforce Investment Act - Adult Employment and Training	
Workforce Investment Act - Migrant and Seasonal Farm workers	
H-1B Work Visa for Specialty Occupations - Labor Condition Application Program	

Bureau of International Labor Affairs (N=1)
International Child Labor Program and Office of Foreign Relations

Bureau of Job Corps (N=1)
Job Corps

Mine Safety and Health Administration (N=2)
Mine Safety and Health Administration

Occupational Safety and Health Administration (N=1)
Occupational Safety and Health Administration

Pension Benefit Guaranty Corporation (N=1)
Pension Benefit Guaranty Corporation

Veterans' Employment and Training Service (N=1)
Veterans' Employment and Training State Grants

Women's Bureau (N=1)
Department of Labor - Women's Bureau

Bureau of International Narcotics and Law Enforcement Affair (N=3)	
Andean Counterdrug Initiative	
International Narcotics Control and Law Enforcement Programs, Africa/Asia	
International Narcotics Control and Law Enforcement Programs, Western Hemisphere	
Bureau of Overseas Buildings Operations (N=1)	
Capital Security Construction Program	
Bureau of International Organizations (N=2)	
Contributions For International Peacekeeping Activities	
Contribution to the United Nations Development Programme	
Bureau of Oceans, International Environmental and Scientific Affairs (N=1)	
Contributions to International Fisheries Commissions	
Bureau of Educational and Cultural Affairs (N=2)	
Global Educational and Cultural Exchanges	
Educational and Cultural Exchange Programs in Near East Asia and South Asia	
Bureau of Population, Refugees and Migration (N=5)	
Refugee Admissions to the US	United Nations High Commissioner for Refugees
Humanitarian Migrants to Israel	Migration and Refugee Assistance -- Protection
Migration and Refugee Assistance -- Other Population, Refugee and Migration Program	
Bureau of Resource Management (N=1)	
Interagency Cooperative Administrative Support Services	
Office of the U.S. Global AIDS Coordinator (N=3)	
President's Emergency Plan For AIDS Relief: Global Fund	
President's Emergency Plan For AIDS Relief: Focus Countries	
President's Emergency Plan For AIDS Relief: Other Bilateral Programs	
Bureau of Diplomatic Security (N=2)	
Worldwide Security Upgrades	Protection of Foreign Missions and Officials
Bureau of South and Central Asian Affairs (N=1)	
South Asia Military Assistance	

Bureau of Consular Affairs (N=1)	
Visa and Consular Services	
Bureau of International Information Programs (N=1)	
International Information Programs	
Bureau of Public Diplomacy and Public Affairs (N=1)	
Public Diplomacy	
Bureau of Political/Military Affairs (N=1)	
Humanitarian Demining	
Coordinator for Counterterrorism (N=2)	
Anti-Terrorism Assistance	Terrorist Interdiction Program
Bureau of Democracy, Human Rights and Labor (N=1)	
Economic Support Fund - Human Rights and Democracy Fund	
Bureau of African Affairs (N=2)	
Economic Support Fund for Africa	Security Assistance to Sub-Saharan Africa
Bureau of Western Hemisphere Affairs (N=2)	
Security Assistance for the Western Hemisphere	
Economic Support Fund for the Western Hemisphere	
International Security and Nonproliferation Bureau (N=3)	
Export Control Assistance	Nonproliferation and Disarmament Fund
Nonproliferation of Weapons of Mass Destruction Expertise	
Bureau of European and Eurasian Affairs (N=3)	
Support for East European Democracy/Freedom Support Act	
Military Assistance to New NATO and NATO Aspirant Nations	
Peace Keeping Operations - Organization for Security and Cooperation in Europe	
Bureau of Indian Affairs (N=13)	
Dam Safety and Dam Maintenance	Economic Development Guaranteed Loans
Forestry Management	Indian Land Consolidation
Tribal Colleges	Job Placement and Training

Tribal Courts	K-12 School Operations
Law Enforcement	K-12 School Construction
Housing Improvement	Operation and Maintenance of Roads
Operation and Maintenance of Irrigation Projects	

Bureau of Land Management (N=7)

Recreation Management	Realty and Ownership Management
Wildlife Habitat Restoration	Energy and Minerals Management
Mining Law Administration	Southern Nevada Land Sales
Department of the Interior – Wild land Fire Management	

Bureau of Reclamation (N=9)

Hydropower	Rural Water Supply Projects
Site Security	Water Management - Operation and Maintenance
Safety of Dams Program	Science and Technology Program
Recreation and Concessions	Water Reuse and Recycling
Water Management - Project Planning and Construction	

The Utah Reclamation Mitigation and Conservation Commission (N=1)

Department of the Interior - Central Utah Project

U.S. Fish and Wildlife Service (N=4)

Partners for Fish and Wildlife	Migratory Bird Management and Conservation
National Fish Hatchery System	National Wildlife Refuge System

Minerals Management Service (N=4)

Minerals Revenue Management	Outer Continental Shelf Environmental Studies
Outer Continental Shelf Minerals Evaluation and Leasing	
Outer Continental Shelf Minerals Regulation and Compliance	

National Park Service (N=9)

Facility Maintenance	Cultural Resource Stewardship
Concessions Management	Natural Resource Stewardship
Technical Assistance	National Historic Preservation

Visitor Services	Land and Water Conservation Fund State Grants
Department of the Interior - Land and Water Conservation Fund Land Acquisition	

United States Geological Survey (N=9)

Energy Resource Assessments	Biological Information Management and Delivery
Geologic Hazard Assessments	Water Information Collection and Dissemination
Biological Research and Monitoring	National Cooperative Geological Mapping
Mineral Resource Assessments	Water Resources Research
Geographic Research, Investigations, and Remote Sensing	

Office of Surface Mining Reclamation and Enforcement (N=3)

State Managed Regulation of Surface Coal Mining

Federal Managed Regulation of Surface Coal Mining

State Managed Abandoned Coal Mine Land Reclamation

Bureau of the Public Debt (N=1)

Administering the Public Debt

Alcohol and Tobacco Tax and Trade Bureau (N=2)

Collect the Revenue Program

Alcohol, Tobacco, and Firearms Consumer Product Safety

Bureau of Financial Crimes Enforcement Network (N=1)

Bank Secrecy Act Data Collection, Retrieval and Sharing

CDFIfund (N=3)

Bank Enterprise Award	Financial and Technical Assistance
New Markets Tax Credit	

Financial Management Service (N=3)

Collections	Payments
Debt Collection	

Internal Revenue Service (N=7)

Examinations	Criminal Investigations
Tax Collection	Taxpayer Advocate Service

Taxpayer Service	Submission Processing
Earned Income Tax Credit Compliance	

Comptroller of the Currency (N=1)

National Bank Supervision

Bureau of Engraving and Printing (N=1)

New Currency Manufacturing

Office of Thrift Supervision (N=1)

Thrift Institution and Savings Association Supervision

United States Mint (N=3)

Coin Production	Protection Program
Numismatic Program	

International Affairs (N=7)

African Development Fund	International Development Association
Tropical Forest Conservation Act	Treasury Technical Assistance
African Development Foundation	Asian Development Fund
Global Environment Facility	

Terrorism and Financial Intelligence (N=1)

Economic and Trade Sanctions Program - Office of Foreign Assets Control

Pipeline and Hazardous Materials Safety Administration (N=3)

Hazardous Materials Transportation Safety

Department of Transportation Pipeline Safety

Hazardous Materials Transportation Safety- Emergency Preparedness Grants

Federal Aviation Administration (N=5)

FAA Aviation Safety	FAA Facilities and Equipment
FAA Air Traffic Services	FAA Grants-in-Aid for Airports
FAA Research, Engineering & Development	

Federal Highway Administration (N=4)	
Highway Infrastructure	Federal Lands Highway Program
Highway Emergency Relief Program	
Highway Research and Development/Intelligent Transportation Systems	
Federal Motor Carrier Safety Administration (N=2)	
Federal Motor Carrier Safety Administration Grant Program	
Federal Motor Carrier Safety Administration - Operations and Programs	
Federal Transit Administration (N=2)	
Federal Transit Administration New Starts	
Federal Transit Administration - Formula Grant Programs	
Maritime Administration (N=3)	
Maritime Security Program	Maritime Administration - State Maritime Schools
Maritime Administration - Merchant Marine Academy	
National Highway Traffic Safety Administration (N=2)	
National Highway Traffic Safety Administration Grant Program	
National Highway Traffic Safety Administration - Operations and Research	
Federal Railroad Administration (N=3)	
Amtrak	Railroad Safety Program
Railroad Research and Development	
Saint Lawrence Seaway Development Corporation (N=1)	
Saint Lawrence Seaway Development Corporation - Operations and Maintenance	
Departmental Management (Veterans Affairs) (N=1)	
Department of Veterans Affairs- General Administration	
National Cemetery Administration (N=1)	
Veterans Burial Benefits	
Veterans Health Administration (N=2)	
Veterans Medical Care	Veterans Health Research and Development

Veterans Benefits Administration (N=5)	
Veterans Pension	Veterans Disability Compensation
Veterans Home Loans	Veterans Life Insurance
Montgomery GI Bill- Veterans Education Benefits	

PDS for District of Columbia (N=1)
Public Defender Service for the District of Columbia

Office of Solid Waste and Emergency Response (N=8)	
Superfund Removal	EPA Support for Cleanup of Federal Facilities
EPA Oil Spill Control	Superfund Remedial Action
Brownfields Revitalization	
Leaking Underground Storage Tank Cleanup Program	
Resource Conservation and Recovery Act Corrective Action	
EPA's Recycling, Waste Minimization, and Waste Management Program	

Office of Water (N=11)	
Surface Water Protection	Public Water System Supervision Grant Program
Drinking Water Research	Underground Injection Control Grant Program
Water Pollution Control Grants	Nonpoint Source Pollution Control Grants
Clean Water State Revolving Fund	Alaska Native Village Water Infrastructure
Drinking Water State Revolving Fund	Ocean, Coastal, and Estuary Protection
U. S.-Mexico Border Water Infrastructure	

Office of Research and Development (N=3)	
Endocrine Disruptors	EPA Ecological Research
EPA Human Health Research	

Office of Air and Radiation (N=9)	
EPA Acid Rain Program	Air Quality Grants and Permitting
Stratospheric Ozone Protection	EPA Climate Change Programs
EPA Indoor Air Quality	National Ambient Air Quality Standards Research
Toxic Air Pollutants - Regulations and Federal Support	
Mobile Source Air Pollution Standards and Certification	
National Ambient Air Quality Standards and Regional Haze Programs	

Office of Enforcement and Compliance Assurance (N=3)	
EPA Pesticide Enforcement Grant Program	EPA Enforcement of Environmental Laws (Civil)
EPA Enforcement of Environmental Laws (Criminal)	

Office of Prevention, Pesticides and Toxic Substances (N=6)	
Pesticide Registration	EPA Lead-Based Paint Risk Reduction Program
Pesticide Reregistration	EPA Existing Chemicals Program
Pesticide Field Programs	EPA New Chemicals Program

American Indian Environmental Office (N=1)
EPA Tribal General Assistance Program

Office of the Administrator-EE (N=1)
EPA Environmental Education

Federal Election Commission (N=1)
Federal Election Laws - Compliance and Enforcement

Public Buildings Service (N=4)
General Services Administration - New Construction
General Services Administration - Real Property Leasing
General Services Administration - Real Property Disposal
Asset Management of General Services Administration-Owned Real Property

Office of Governmentwide Policy (N=1)
General Services Administration - Office of Governmentwide Policy

Federal Acquisition Service (N=7)
General Services Administration - Global Supply
General Services Administration - Vehicle Leasing
General Services Administration - Vehicle Acquisition
General Services Administration - Travel Management
General Services Administration - Transportation Management
General Services Administration - Personal Property Management
General Services Administration - National Information Technology Solutions

Broadcasting Board of Governors (N=5)	
Broadcasting to Africa	Broadcasting to Near East Asia and South Asia
Broadcasting to Latin America	Broadcasting to East Asia and Eurasia
Engineering and Technical Services for International Broadcasting	
Export-Import Bank of the United States (N=1)	
Export Import Bank - Long Term Guarantees	
Overseas Private Investment Corporation (N=2)	
Overseas Private Investment Corporation - Finance	
Overseas Private Investment Corporation – Insurance	
Peace Corps (N=1)	
Peace Corps: International Volunteerism	
US Trade and Development Agency (N=1)	
US Trade and Development Agency	
USAID agency (N=11)	
Inter-American Foundation	International Disaster and Famine Account
Development Credit Authority	Child Survival and Health - Population
Africa Child Survival and Health	Office of Transition Initiatives
USAID's Development Assistance for Sub-Saharan Africa	
Development Assistance to Latin America and the Caribbean	
Child Survival and Health for Latin America and the Caribbean	
Food Aid for Emergencies and Development (Public Law 480 Title II)	
US Agency for International Development Administration and Capital Investment	
NASA (N=9)	
Space Shuttle	Human Systems Research and Technology
Space and Flight Support	NASA Astronomy and Astrophysics Research
Solar System Exploration	NASA Earth-Sun System Research
NASA Education Program	International Space Station
NASA Aeronautics Technology	

National Archives and Records Administration (N=2)	
Records Services Program	Electronic Records Services

National Credit Union Administration (N=2)	
Regulation of Federal Credit Unions	
Credit Union Loan and Technical Assistance Grant Program	

National Science Foundation (N=10)	
Nanoscale Science and Engineering Research	Polar Research Tools, Facilities and Logistics
Support for Small Research Collaborations	Research on Biocomplexity in the Environment
Support for Individual Researchers	Fundamental Science and Engineering Research
Information Technology Research	Construction and Operations of Research Facilities
Support for Research Institutions	Federally Funded Research and Development Centers

Neighborhood Works (N=1)	
Neighborhood Reinvestment Corporation	

Nuclear Regulatory Commission (N=5)	
Reactor Licensing	Reactor Inspection and Performance Assessment
Fuel Facilities Licensing & Inspection	Nuclear Materials Users Licensing & Inspection
Spent Fuel Storage and Transportation Licensing and Inspection	

Office of National Drug Control Policy (N=5)	
Youth Anti-Drug Media Campaign	Drug-Free Communities Support Program
Counterdrug Research & Development	High Intensity Drug Trafficking Areas
Counterdrug Technology Transfer Program	

Office of Personnel Management (N=6)	
Merit System Compliance	Federal Employees Group Life Insurance
Federal Employees Retirement	Federal Employees Health Benefits
Inspector General Oversight of Federal Health Benefits Program	
Center for Talent Services - HR Products and Services for Federal Agencies	

Securities and Exchange Commission (N=3)	
Enforcement	Full Disclosure Program (Corporate Review)
Examining Compliance with Securities Laws	

Small Business Administration (N=8)	
Disaster Loan Program	8(a) Business Development Program
Small Business Surety Bonds	Section 7 (a) Guaranteed Loan Program
Small Business Development Centers	
Historically Underutilized Business Zone – HUB Zone	
Service Corps of Retired Executives Small Business Assistance	
Section 504 Certified Development Company Guaranteed Loan Program	
Smithsonian Institution (N=1)	
Smithsonian Institution Facilities Capital	
Social Security Administration (N=2)	
Supplemental Security Income	Social Security Disability Insurance
Tennessee Valley Authority (N=2)	
Tennessee Valley Authority Power	Tennessee Valley Authority Resource Stewardship

Appendix B. U.S. Federal Agencies in This Study (N=97)

Department of Agriculture (N=13)	
Forest Service	Agriculture Marketing Service
Rural Development	Agricultural Research Service
Farm Service Agency	Animal and Plant Health Inspection Service
Food and Nutrition Service	Natural Resources Conservation Service
Economic Research Service	Food Safety and Inspection Service
Foreign Agriculture Service	National Agricultural Statistics Service
Grain Inspection, Packers and Stockyards Administration	

Department of Commerce (N=8)	
Bureau of the Census	National Oceanic and Atmospheric Administration
Bureau of Economic Analysis	Economic Development Administration
Bureau of Industry and Security	International Trade Administration
U.S. Patent and Trademark Office	
National Telecommunications and Information Administration	

Department of Education (N=6)	
Office of Postsecondary Education	Office of Elementary and Secondary Education
Office of Safe and Drug-Free Schools	Office of Vocational and Adult Education
Institute of Education Sciences	Office of Special Education and Rehabilitative Services

Department of Energy (N=1)
Department of Energy

Department of Health and Human Services (N=9)	
Indian Health Services	Agency for Healthcare Research and Quality
National Institutes of Health	Health Resources and Services Administration
Food and Drug Administration	Centers for Medicare and Medicaid Services

Administration for Children and Families	Centers for Disease Control and Prevention
Substance Abuse and Mental Health Services Administration	

Department of Housing and Urban Development (N=5)	
Office of Housing	Healthy Homes and Lead Hazard Control
Public and Indian Housing	Fair Housing and Equal Opportunity
Community Planning and Development	

Department of Homeland Security (N=1)
Transportation Security Administration

Department of Justice (N=5)	
Bureau of Prisons	Drug Enforcement Administration
U.S. Marshals Service	Office of Justice Programs
Federal Bureau of Investigation	

Department of Labor (N=7)	
Bureau of Labor Statistics	Occupational Safety and Health Administration
Bureau of International Labor Affairs	Veterans' Employment and Training Service
Employment Standards Administration	Mine Safety and Health Administration
Employment and Training Administration	

Department of State (N=1)
Department of State

Department of the Interior (N=6)	
National Park Service	United States Geological Survey
Bureau of Reclamation	Bureau of Land Management
Minerals Management Service	
Office of Surface Mining Reclamation and Enforcement	

Department of the Treasury (N=8)	
United States Mint	Bureau of Financial Crimes Enforcement Network
Bureau of the Public Debt	Bureau of Engraving and Printing
Internal Revenue Service	Financial Management Service
Comptroller of the Currency	Office of Thrift Supervision

Department of Transportation (N=7)	
Federal Transit Administration	Federal Highway Administration
Federal Aviation Administration	Federal Railroad Administration
Maritime Administration	National Highway Traffic Safety Administration
Pipeline and Hazardous Materials Safety Administration	

Department of Veterans Affairs (N=3)	
National Cemetery Administration	Veterans Health Administration
Veterans Benefits Administration	

Environmental Protection Agency (N=1)
Environmental Protection Agency

General Services Administration (N=1)
General Services Administration

Commodity Futures Trading Commission (N=1)
Commodity Futures Trading Commission

Export-Import Bank of the United States (N=1)
Export-Import Bank of the United States

National Aeronautics and Space Administration (N=1)
National Aeronautics and Space Administration

National Archives and Records Administration (N=1)
National Archives and Records Administration

National Science Foundation (N=1)
National Science Foundation

Nuclear Regulatory Commission (N=1)
Nuclear Regulatory Commission

Office of National Drug Control Policy (N=1)
Office of National Drug Control Policy

Office of Personnel Management (N=1)
Office of Personnel Management

Overseas Private Investment Corporation (N=1)
Overseas Private Investment Corporation
Peace Corps (N=1)
Peace Corps
Securities and Exchange Commission (N=1)
Securities and Exchange Commission
Small Business Administration (N=1)
Small Business Administration
Social Security Administration (N=1)
Social Security Administration
United States Agency for International Development Agency (N=1)
United States Agency for International Development Agency
US Trade and Development Agency (N=1)
US Trade and Development Agency

Appendix C. Specific Questions in the Program Assessment Rating Tool (PART)

Section I. Program Design

1.1: Is the program purpose clear?

1.2: Does the program address a specific and existing problem, interest, or need?

1.3: Is the program designed so that it is not redundant or duplicative of any other Federal, State, local or private effort?

1.4: Is the program design free of major flaws that would limit the program's effectiveness or efficiency?

1.5: Is the program design effectively targeted so that resources will address the program's purpose directly and will reach intended beneficiaries?

Section II. Strategic Planning

2.1: Does the program have a limited number of specific long-term performance measures that focus on outcomes and meaningfully reflect the purpose of the program?

2.2: Does the program have ambitious targets and timeframes for its long-term measures?

2.3: Does the program have a limited number of specific annual performance measures that can demonstrate progress toward achieving the program's long-term goals?

2.4: Does the program have baselines and ambitious targets for its annual measures?

2.5: Do all partners (including grantees, sub-grantees, contractors, cost-sharing partners, and other government partners) commit to and work toward the annual and/or long-term goals of the program?

2.6: Are independent evaluations of sufficient scope and quality conducted on a regular basis or as needed to support program improvements and evaluate effectiveness and relevance to the problem, interest, or need?

2.7: Are Budget requests explicitly tied to accomplishment of the annual and long-term performance goals, and are the resource needs presented in a complete and transparent manner in the program's budget?

2.8: Has the program taken meaningful steps to correct its strategic planning deficiencies?

-Specific Strategic Planning Questions by Program Type

2. RG1: Are all regulations issued by the program/agency necessary to meet the stated goals of the program, and do all regulations clearly indicate how the rules contribute to achievement of the goals? (Regulatory)

2. CA1: Has the agency/program conducted a recent, meaningful, credible analysis of alternatives that includes trade-offs between cost, schedule, risk, and performance goals, and used the results to guide the resulting activity? (Capital Assets and Service Acquisition)

2. RD1: If applicable, does the program assess and compare the potential benefits of efforts within the program and (if relevant) to other efforts in other programs that have similar goals? (R&D)

2. RD2: Does the program use a prioritization process to guide budget requests and funding decisions? (R&D)

Section III. Program Management

3.1: Does the agency regularly collect timely and credible performance information, including information from key program partners, and use it to manage the program and improve performance?

3.2: Are Federal managers and program partners (including grantees, sub-grantees, contractors, cost-sharing partners, and other government partners) held accountable for cost, schedule and performance results?

3.3: Are funds (Federal and partners') obligated in a timely manner, spent for the intended purpose, and accurately reported?

3.4: Does the program have procedures (e.g., competitive sourcing/cost comparisons, IT improvements, appropriate incentives) to measure and achieve efficiencies and cost effectiveness in program execution?

3.5: Does the program collaborate and coordinate effectively with related programs?

3.6: Does the program use strong financial management practices?

3.7: Has the program taken meaningful steps to address its management deficiencies?

-Specific Program Management Questions by Program Type

3. CO1: Are grants awarded based on a clear competitive process that includes a qualified assessment of merit? (Competitive Grants)

3. CO2: Does the program have oversight practices that provide sufficient knowledge of grantee activities? (Competitive Grants)

3. CO3: Does the program collect grantee performance data on an annual basis and make it available to the public in a transparent and meaningful manner? (Competitive Grants)

3. BF1: Does the program have oversight practices that provide sufficient knowledge of grantee activities? (Block/Formula Grant)

3. BF2: Does the program collect grantee performance data on an annual basis and make it available to the public in a transparent and meaningful manner? (Block/Formula Grant)

3. RG1: Did the program seek and take into account the views of all affected parties (e.g., consumers; large and small businesses; State, local and tribal governments; beneficiaries; and the general public) when developing significant regulations? (Regulatory)

3. RG2: Did the program prepare adequate regulatory impact analyses if required by Executive Order 12866, regulatory flexibility analyses if required by the Regulatory Flexibility Act and SBREFA, and cost-benefit analyses if required under the Unfunded Mandates Reform Act; and did those analyses comply with OMB guidelines? (Regulatory)

3. RG3: Does the program systematically review its current regulations to ensure consistency among all regulations in accomplishing program goals? (Regulatory)

3. RG4: Are the regulations designed to achieve program goals, to the extent practicable, by maximizing the net benefits of its regulatory activity? (Regulatory)
3. CA1: Is the program managed by maintaining clearly defined deliverables, capability/performance characteristics, and appropriate, credible cost and schedule goals? (Capital Assets and Service Acquisition)
3. CR1: Is the program managed on an ongoing basis to assure credit quality remains sound, collections and disbursements are timely, and reporting requirements are fulfilled? (Credit)
3. CR2: Do the program's credit models adequately provide reliable, consistent, accurate and transparent estimates of costs and the risk to the Government? (Credit)
3. RD1: For R&D programs other than competitive grants programs, does the program allocate funds and use management processes that maintain program quality? (R&D)

Section IV. Program Results

4.1: Has the program demonstrated adequate progress in achieving its long-term performance goals?
4.2: Does the program (including program partners) achieve its annual performance goals?
4.3: Does the program demonstrate improved efficiencies or cost effectiveness in achieving program goals each year?
4.4: Does the performance of this program compare favorably to other programs, including government, private, etc., with similar purpose and goals?
4.5: Do independent evaluations of sufficient scope and quality indicate that the program is effective and achieving results?

-Specific Results Questions by Program Type

4. RG1: Were programmatic goals (and benefits) achieved at the least incremental societal cost and did the program maximize net benefits? (Regulatory)
4. CA1: Were program goals achieved within budgeted costs and established schedules? (Capital Assets and Service Acquisition)

These Questions in the documented titled *Guidance to Assessing the Program Assessment Rating Tool* are available at www.whitehouse.gov/omb/part/fy2006/2006_guidance_final.pdf.

Appendix D. Assessing the Assessment Tool: The Controversy over the PART

The U.S. Office of Management and Budget's (OMB) Program Assessment and Rating Tool (PART) has sparked controversy. Critics include OMB Watch, a nonprofit organization that has monitored the PART process. OMB Watch contends that, "It is hard to determine whether the PART is measuring programs accurately, consistently and in a value-neutral way. Even if it achieves these, there has been little attention paid to the question of whether the PART is measuring the right kinds of outcomes" (Radin 2006, p.125).

Radin (2006, p.125) emphasized more fundamental, systemic reasons for the PART's alleged inadequacies. She argued that, "There are structural characteristics of the American political structure that make the implementation of both GPRA and PART difficult. These include the institutional conflict between the legislative and executive branches, the fragmentation of responsibilities within the legislative branch, tension between OMB and departments and agencies, and differentiated responsibilities and roles inside agencies and department." (GPRA refers to the Government Performance and Results Act of 1993, that requires federal agencies to engage in strategic planning and the specification of goals and of results to be achieved.)

Those who defend the PART usually acknowledge limitations of the procedure, but advance various defenses of its value and use. According to Frederickson and Frederickson (2006, p. 42), "PART…addressed what were believed to be two important shortcomings in the GPRA law. One of the two is that, to respond to the 'one size fits all' criticism of GPRA, PART set up a 'types of program' format with each agency slotted into one of the following types of programs: direct federal, competitive grant, block & formula grant, regulatory, capital assets

& service acquisition, credit, research & development programs… Furthermore, PART has received some good reviews. In the summer of 2005 Harvard University announced that PART was one of ten recipients of its innovations in American Government Award."

Lewis (2008, pp. 173-174) also emphasized the PART's advantages: "The PART system defines good performance in a defensible, transparent, and largely policy-neutral way. It attempts to take into account variations in management environment, and federal managers are required to participate. This means this study has performance data on a sample of programs and manager that is large enough and representative enough to make statistically reliable claims about this important relationship." He further concluded that, "Evidence from interviews with OMB and agency officials and comparisons of PART scores to other measures of performance demonstrates that the scores, while not perfect, measure real differences in objective performance across federal programs. While PART has some demonstrated problems – including evidence of unequal standards for low or high grades across programs, variation in OMB examiner expertise, poor or inconsistent program definition across programs, and different amounts of managerial control in different types of programs – this does not diminish the system's usefulness of evaluating comparative management quality, provided one proceeds carefully" (Lewis, 2008, p. 175).

Moynihan (2008) noted that the PART was developed with a level of outside involvement and transparency unusual for OMB. Specifically, independent groups, including the Performance Measurement Advisory Council and a group from the President's Council on Integrity and Efficiency, provided experts on performance management to review and comment on the PART questionnaire (OMB, 2004; Moynihan, 2008). Then the National Academy of Public Administration arranged a workshop for attaining feedback (OMB, 2004; Moynihan,

2008). After these processes, the PART was published and OMB continued to solicit comments from researchers, agencies, and others (Moynihan, 2008).

The PART makes it possible for the public to examine the fundamental framework of the relationship between federal agencies and budget examiners in a way that they have never done before (Moynihan, 2008). Moynihan (2008) argued that the PART is systematic, evidence-based, and transparent. He pointed out "OMB has worked to ensure consistency, designing standardized questions, training raters, providing a ninety-two-page guide, and even forming a team to conduct a consistency check on 10 percent of the assessments" (Moynihan, 2008, p. 127).

Research using the PART data provides evidence that tends to refute some of the criticisms. Moynihan (2008) described how Democrats in Congress criticize the PART as subject to political bias. They complained that since a Republican administration developed the PART and conducted the assessments, PART results would be biased against programs favored by Democrats. Lewis (2008) reported a careful analysis indicating that programs headed by career civil servants have received better PART scores than those headed by political appointees. This is the opposite of what one would expect if the PART is politically biases. In the present study, this study employs Gilmour and Lewis's (2006a) method of identifying agencies as either primarily Republican or Democratic, based on the consistency of the agency's mission with the political party's agenda and ideology. This analysis reports that this political party distinction shows no strong association with PART scores.

Appendix E. Definitions and Measures of Goal Ambiguity Dimensions in This Study

Program Goal Ambiguity	
▪Definition	The degree to which a group of goals of federal programs allow room for interpretation
The System of Program Performance Objectives in the PART[68]	
▪Target	The quantifiable or otherwise measureable characteristic that tells how well a program must accomplish a performance measure
▪ Time Span	Whether a program performance goal is a long-term goal or an annual goal
▪Evaluation	The degree to which program goals use objective performance indicators in identifying the possibility of accomplishing the performance targets. In relation to evaluation, the PART provides four types of performance measures: *outcome, outcome efficiency, output, and output efficiency*.
→The number of performance goals for all the three dimensions of program goal ambiguity ranges from 1 to 38.	
1) Target-Specification Goal Ambiguity	
▪Definition	The lack of clarity in deciding on the quantity and/or quality of work toward the achievement of a program's performance goals
▪Measure	The percentage of performance objectives without concrete targets among the total number of performance objectives in individual federal programs
▪Examples of Concrete Objectives	· Performance objectives with concrete targets (e.g., "Average time from receipt of full grant applications from States to disposition (explanation: number of days) in 2007: **30 (days)**" and "average unemployment rate in all eight states in 2007: **5.6%**")

[68] This section recomposed the contents and sentences drawn from OMB (2006b). More explanations are available at www.whitehouse.gov/omb/part/index.html.

▪Examples of Ambiguous Objectives	· Performance objectives without any target (e.g., "number of full-time students enrolled at Howard University in 2007: **no target**" in the "Federal Support for Howard University" program of the Department of Education) · Performance objectives with targets that are not concrete: expressions, such as percent reduction and accident reduction are recognized as unclear. (e.g., "**percent reduction** in homicides per site funded under the Weed and Seed program in 2007" in the "Pesticide Field Program" in the Environmental Protection Agency)
2) Time-Specification Goal Ambiguity	
▪Definition	The lack of clarity in deciding on the distinction between annual goals and long-term goals in each program
▪Measure	The percentage of duplicate performance objectives among the total number of performance objectives in individual federal programs * This study newly defined duplicate performance goals as the goals stated as both annual and long-term performance goals without any explanations or any progressive steps to attain final targets.
▪Examples of Concrete Objectives	· Performance goals clearly stated as long-term (e.g., "border miles under operational control: **long-term**" in the "Border Patrol" program) · Performance goals clearly stated as annual (e.g., "apprehensions and seizures at checkpoints: **annual**" in the "Border Patrol" program)
▪Examples of Ambiguous (Duplicate) Objectives	· Performance goals stated as both long-term and annual without any progressive steps and differences between long-term and annual (e.g., "personnel deployed to border enforcement activity: **long-term and annual**" in the "Border Patrol" program)

3) Program Evaluation Goal Ambiguity	
▪Definition	The level of interpretive leeway that a program goal allows in evaluating the progress toward the achievement of the goal
▪Measure	The percentage of *output* and *output-oriented efficiency* measures (as opposed to *outcome* and *outcome-oriented efficiency* measures) among overall performance indicators for each federal program (The classification of the above four types of measures is based on that of OMB.)
▪Examples of Concrete Objectives	· Outcome performance measures (e.g., the number and percentage of people getting a job within one year after finishing the job training program: **outcome measure**) · Outcome-oriented performance measures (e.g., "ratio of reduction in long-term environmental liability to amount spent on cleanup: **outcome efficiency measure**" in the "Space and Flight Support" program in NASA)
▪Examples of Ambiguous Objectives	· Output performance measures (e.g., the number of people who complete the job training program: **output measure**) · Output-oriented performance measures (e.g., "annual utilization factor for operation of test reactor plants: **output efficiency measure**" in the "National Nuclear Security Administration: Naval Reactors Assessment"

Appendix F. Summary of Hypotheses and Significant Results

1. Hypotheses Regarding Program Goal Ambiguity

Hypothesis 1-1: Federal programs with better management capacity are likely to have lower levels of program target-specification goal ambiguity. ***(Supported)***

Hypothesis 1-2: Federal programs with better management capacity are likely to have lower levels of program time-specification goal ambiguity. ***(Supported)***

Hypothesis 1-3: Federal programs with better management capacity are likely to have lower levels of program evaluation goal ambiguity.

Hypothesis 2-1: Federal programs with better planning capacity are likely to have lower levels of program target-specification goal ambiguity. ***(Supported)***

Hypothesis 2-2: Federal programs with better planning capacity are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 2-3: Federal programs with better planning capacity are likely to have lower levels of program evaluation goal ambiguity. ***(Supported)***

Hypothesis 3-1: Third-party programs are likely to have higher program target-specification goal ambiguity than direct ones. ***(Supported)***

Hypothesis 3-2: Third-party programs are likely to have higher program time-specification goal ambiguity than direct ones. ***(Supported)***

Hypothesis 3-3: Third-party programs are likely to have higher program evaluation goal ambiguity than direct ones.

Hypothesis 4-1: Federal programs assessed more recently are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 4-2: Federal programs assessed more recently are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 4-3: Federal programs assessed more recently are likely to have lower levels of program evaluation goal ambiguity. ***(Reversely Significant)***

Hypothesis 5-1: Larger federal programs are likely to have higher levels of program target-specification goal ambiguity. ***(Partially and Reversely Significant)***

Hypothesis 5-2: Larger federal programs are likely to have higher levels of program time-specification goal ambiguity.

Hypothesis 5-3: Larger federal programs are likely to have higher levels of program evaluation goal ambiguity. ***(Partially and Reversely Significant)***

Hypothesis 6-1: Federal programs with higher levels of budget increase are likely to have lower levels of program target-specification goal ambiguity.

Hypothesis 6-2: Federal programs with higher levels of budget increase are likely to have lower levels of program time-specification goal ambiguity.

Hypothesis 6-3: Federal programs with higher levels of budget increase are likely to have lower levels of program evaluation goal ambiguity. ***(Supported)***

Hypothesis 7-1: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program target-specification goal ambiguity. ***(Supported)***

Hypothesis 7-2: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program time-specification goal ambiguity. ***(Reversely Significant)***

Hypothesis 7-3: In a Republican Administration, federal programs with Democratic party initiative are likely to have higher levels of program evaluation goal ambiguity.

Hypothesis 8-1: Federal programs in regulatory agencies are likely to have higher levels of program target-specification goal ambiguity than those in non-regulatory ones.

Hypothesis 8-2: Federal programs in regulatory agencies are likely to have higher levels of program time-specification goal ambiguity than those in non-regulatory ones. ***(Supported)***

Hypothesis 8-3: Federal programs in regulatory agencies are likely to have higher levels of program evaluation goal ambiguity than those in non-regulatory ones.

2. Hypotheses Regarding Program Performance

Hypothesis 9-1: Target-specification goal ambiguity will be negatively related to program design performance. ***(Supported)***

Hypothesis 9-2: Target-specification goal ambiguity will be negatively related to program planning performance. ***(Supported)***

Hypothesis 9-3: Target-specification goal ambiguity will be negatively related to program management performance. ***(Supported)***

Hypothesis 9-4: Target-specification goal ambiguity will be negatively related to program results performance. ***(Supported)***

Hypothesis 9-5: Target-specification goal ambiguity will be negatively related to program overall assessment performance. ***(Supported)***

Hypothesis 10-1: Time-specification goal ambiguity will be negatively related to program design performance. ***(Supported)***

Hypothesis 10-2: Time-specification goal ambiguity will be negatively related to program planning performance.

Hypothesis 10-3: Time-specification goal ambiguity will be negatively related to program management performance. ***(Supported)***

Hypothesis 10-4: Time-specification goal ambiguity will be negatively related to program results performance.

Hypothesis 10-5: Time-specification goal ambiguity will be negatively related to program overall assessment performance. ***(Supported)***

Hypothesis 11-1: Program evaluation goal ambiguity will be negatively related to program design performance. ***(Supported)***

Hypothesis 11-2: Program evaluation goal ambiguity will be negatively related to program planning performance. ***(Supported)***

Hypothesis 11-3: Program evaluation goal ambiguity will be negatively related to program management performance. ***(Supported)***

Hypothesis 11-4: Program evaluation goal ambiguity will be negatively related to program results performance. ***(Supported)***

Hypothesis 11-5: Program evaluation goal ambiguity will be negatively related to program overall assessment performance. ***(Supported)***

Hypothesis 12-1: Third-party programs are likely to have lower levels of program design performance than direct ones. ***(Supported)***

Hypothesis 12-2: Third-party programs are likely to have lower levels of program planning performance than direct ones. ***(Supported)***

Hypothesis 12-3: Third-party programs are likely to have lower levels of program management performance than direct ones. ***(Supported)***

Hypothesis 12-4: Third-party programs are likely to have lower levels of program results performance than direct ones.

Hypothesis 12-5: Third-party programs are likely to have lower levels of program overall assessment performance than direct ones. ***(Supported)***

Hypothesis 13-1: Federal programs assessed more recently are likely to have higher levels of program design performance. ***(Supported)***

Hypothesis 13-2: Federal programs assessed more recently are likely to have higher levels of program planning performance. ***(Supported)***

Hypothesis 13-3: Federal programs assessed more recently are likely to have higher levels of program management performance. ***(Supported)***

Hypothesis 13-4: Federal programs assessed more recently are likely to have higher levels of program results performance.

Hypothesis 13-5: Federal programs assessed more recently are likely to have higher levels of program overall assessment performance.

Hypothesis 14-1: Smaller federal programs are likely to have higher levels of program design performance.

Hypothesis 14-2: Smaller federal programs are likely to have higher levels of program planning performance.

Hypothesis 14-3: Smaller federal programs are likely to have higher levels of program management performance. ***(Partially Supported)***

Hypothesis 14-4: Smaller federal programs are likely to have higher levels of program results performance.

Hypothesis 14-5: Smaller federal programs are likely to have higher levels of program overall assessment performance.

Hypothesis 15-1: Federal programs with higher levels of budget increase are likely to have higher levels of program design performance.

Hypothesis 15-2: Federal programs with higher levels of budget increase are likely to have higher levels of program planning performance.

Hypothesis 15-3: Federal programs with higher levels of budget increase are likely to have higher levels of program management performance. ***(Supported)***

Hypothesis 15-4: Federal programs with higher levels of budget increase are likely to have higher levels of program results performance.

Hypothesis 15-5: Federal programs with higher levels of budget increase are likely to have higher levels of program overall assessment performance. ***(Supported)***

Hypothesis 16-1: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program design performance than those housed in Republican agencies.

Hypothesis 16-2: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program planning performance than those housed in Republican agencies.

Hypothesis 16-3: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program management performance than those housed in Republican agencies. ***(Supported)***

Hypothesis 16-4: In a Republican Administration, programs housed in Democratic agencies are likely to have lower program results performance than those housed in Republican agencies.

Hypothesis 16-5: In a Republican Administration, Programs housed in Democratic agencies are likely to have lower program overall assessment performance than those housed in Republican agencies.

3. Hypotheses Regarding Organizational Performance

Hypothesis 17: Target-specification goal ambiguity is negatively related to organizational performance. ***(Supported)***

Hypothesis 18: Time-specification goal ambiguity is negatively related to organizational performance. ***(Supported)***

Hypothesis 19: Program evaluation goal ambiguity is negatively related to organizational performance. ***(Supported)***

Hypothesis 20: Federal agencies with higher management capacity are likely to have higher levels of organizational performance. ***(Supported)***

Hypothesis 21: Federal agencies with higher planning capacity are likely to have higher levels of organizational performance.

Hypothesis 22: Federal agencies with more employees are likely to have higher levels of organizational performance. ***(Supported)***

Hypothesis 23: Federal agencies with larger budgets are likely to have higher levels of organizational performance.

Hypothesis 24: Federal agencies with more programs are likely to have lower levels of organizational performance. ***(Supported)***

Hypothesis 25: Federal (independent) agencies outside the executive departments are likely to have higher levels of organizational performance than those inside them. ***(Supported)***

Hypothesis 26: Non-regulatory agencies are likely to have higher levels of organizational performance than regulatory agencies.

Hypothesis 27: Federal agencies with higher levels of budget increase are likely to have higher levels of organizational performance.

Hypothesis 28: In a Republic Administration, federal agencies with Republican party initiative are likely to have higher levels of organizational performance than those with Democratic party initiative.

Appendix G. Measures of the Variables in This Study

Program Goal Ambiguity Dimensions	
Target-Specification Goal Ambiguity	= Percentage of performance objectives without concrete targets among the total number of performance objectives
Time-Specification Goal Ambiguity	= Percentage of duplicate performance objectives[69] among the total number of performance objectives
Program Evaluation Goal Ambiguity	= Percentage of output-oriented performance measures (as opposed to outcome-oriented performance measures), among all the performance indicators
Antecedents of Program Goal Ambiguity	
Management Capacity	= Average score of the two sections, program management and program results in the 2006 PART
Planning Capacity	= Average score of the two sections: program design and program planning in the 2006 PART
Program Type	= 1 if third-party and 0 if direct
Assessment Year	= The latest assessment year – 2000
Program Size	= 2 if large, 1 if medium, and 0 if small
Increased Budget	= (2006 budget – 2005 budget)/2005 budget
Political Party Initiative	= 1 if Democratic party-oriented and 0 if Republic party-oriented
Agency Type	= 1 if in non-regulatory agency and 0 in regulatory agency

[69] In this study, duplicate performance objectives mean the objectives stated as both annual and long-term without any explanations or any progressive steps to attain final targets.

Program Performance Dimensions	
Program Design	= 2007 PART design performance score
Program Planning	= 2007 PART planning performance score
Program Management	= 2007 PART management performance score
Program Results	= 2007 PART results performance score
Overall Assessment Rating Scores	= Total weighted score for the program by using the weights of four assessment sections: program design (20%), planning (10%), management (20%), and results (50%)
Organizational Performance Dimension	
Goal Achievement Rates	= Average of the actual achievement rates of all the performance goals in all the federal programs that each agency has
Antecedents of Organizational Performance	
Target-Specification Goal Ambiguity	= Percentage of performance objectives without concrete targets among the total number of performance objectives in each agency
Time-Specification Goal Ambiguity	= Percentage of duplicate performance objectives among the total number of performance objectives in each federal agency
Program Evaluation Goal Ambiguity	= Percentage of output-oriented performance measures (as opposed to outcome-oriented performance measures), among all performance indicators in each federal agency
Management Capacity	= Average of the scores of the management section that are given by OMB for all federal programs in each federal agency
Planning Capacity	= Average of the scores of the planning section that are given by OMB for all the programs in each federal agency
Personnel Size	= Number of full-time employees in each federal agency
Budget Size	= Amount of budgets for all the programs in each federal agency
Number of Programs	= Number of programs each federal agency has
Institutional Location	= 1 if independent and 0 if inside the executive departments

Policy Type	= 1 if non-regulatory and 0 if regulatory
Program Budget Increases	= average of the budget increases for all the programs in each federal agency
Political Party Initiative	=1 if Democratic party-oriented and 0 if Republican party-oriented
Agency Age	= Years after establishment
Professionalization	= Proportion of the job category of “professional” to the number of full-time employees