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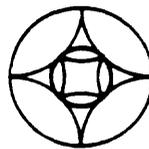
MULTIORGANIZATIONAL ARRANGEMENTS AND COORDINATION:  
AN APPLICATION OF INSTITUTIONAL ANALYSIS

by

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*WORKSHOP IN  
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## 24. Multiorganizational Arrangements and Coordination: An Application of Institutional Analysis

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### Abstract

*Two linked action situations are examined in this chapter using the method of institutional analysis previously described in Chapter 22. The first arena is the one in which public officials are elected. The most influential model of this arena was developed by Anthony Downs. The second arena is the one in which elected officials bargain with the heads of administrative agencies (sponsors) over the amount of the budget to be allocated and the amount and type of goods or services to be produced. William Niskanen developed an important model of this process. The central question addressed in this chapter is how multiple organizations, competing according to sets of rules, tend to enhance the responsiveness of public officials and bureau chiefs to the preferences of the citizens they serve in both of these arenas. Empirical evidence supporting the proposition that competition among potential producers of a public good will enhance performance is presented related to the provision of solid waste removal services in American cities.*

### 24.1 Introduction

Some interesting and important institutional arrangements for coordinating complex chains of actions among large numbers of actors involve multiple organizations competing with one another according to a set of rules. Markets are the most frequently studied institutional arrangements that achieve coordination by relying primarily on rule-governed competitive relationships among organizations. Rule-governed competition among two or more political parties is considered by many analysts to be an important requisite for a democratic polity (see Frey 1982). Less studied, but potentially as important a means for achieving responsiveness and efficiency in producing public goods and services, are arrangements that allow rule-ordered competition among two or more potential *producers* of public goods and services.

Most of the efforts to analyze the effects of institutional arrangements in the public sector have focused primarily on single arenas such as elections, legislatures, administrative agencies, courts, etc. A complex series of processes must be channeled through many simultaneous and sequential action arenas, however, for citizens to receive bundles of public goods and services. Thus, the public sector does not consist of only an election, a legislature, an executive, or a court as isolable units, but as separable structures that function in relation to one another in complex interrelationships. Citizens receive and pay for bundles of goods and services as a result of actions taken in a series of linked action arenas.

Both theory and research are usually confined to examining a single action arena. Models of legislative choice, for example, have most frequently pursued the question of which legislative decisions are likely to result and be stable. Models of elections have focused on predicting the type of proposed policies that winning candidates will pursue. Models of the bargaining process between elected officials and bureau chiefs have focused on the budget to be allocated to the bureau. When these action arenas are linked, however, strategies adopted by participants in one arena may strongly affect the resulting strategies and outcomes in several simultaneous and linked action arenas. A legislator may vote for a bill in a legislature and: (1) affect the future policies that administrative agencies will be expected to enforce, (2) affect the legislator's own power position inside the legislature, and (3) affect the legislator's own potential for re-election. The same vote is a move that simultaneously affects outcomes in at least three action arenas.

In this chapter I will examine two linked action arenas. The first arena is the one in which public officials are elected and has been modeled in an influential book by Anthony Downs (1957). The second is the arena in which these elected officials bargain with the heads of administrative agencies over the amount of the budget to be allocated and the amount and type of goods or services to be produced. William Niskanen (1971) developed an important model of this process. Many others have based their own analysis of the public sector on the Downs and/or Niskanen models. The first part of this chapter will examine the working parts of Downs's and Niskanen's original models of these linked action arenas and of the modifications in structure proposed by other analysts. Substantively, I will examine how multiple organizations competing according to sets of rules tend to enhance the responsiveness of public officials and bureau chiefs to the preferences of the citizens they serve in both of these action arenas. In addition to the substantive content, this chapter illustrates the method of institutional analysis described in Chapter 22.

## 24.2 Electoral and Budgetary Bargaining Arenas

### The Actor

Both Downs and Niskanen rely upon a *rational choice model of the actor*. Downs provides a clear overview of this model:

"A rational man is one who behaves as follows: (1) he can always make a decision when confronted with a range of alternatives; (2) he ranks all the alternatives facing him in order of his preference in such a way that each is either preferred to, indifferent to, or inferior to each other; (3) his preference ranking is transitive; (4) he always chooses from among the possible alternatives that which ranks highest in his preference ordering; and (5) he always makes the same decision each time he is confronted with the same alternatives. All rational decision-makers in our model . . . exhibit the same qualities." (Downs 1957: 6)

Each of the specific actors in these linked situations are assumed to *maximize an externally objective function*. This enables the analyst to derive specific predictions about results and eliminates the tautology of assuming that individuals maximize whatever they maximize. Elected officials are assumed by Downs to maximize the

probability of their being re-elected. Voters are assumed to maximize the difference between the flow of expected net benefits from future policies plus positive values they receive from voting minus the costs of voting.<sup>1</sup> Bureau chiefs are assumed by Niskanen to maximize the budget of their bureau.

### **The Situations and Predicted Results**

Downs assumes a situation containing two types of participants – politicians and voters. Politicians form themselves into two teams that function as political parties and are modeled as corporate actors. One team holds the position of being the government and the other team holds the position of being the opposition. In his initial model, Downs assumed that both parties had full information about citizen preferences. While Downs later changes to an assumption of uncertain information, most of the models based on Downs's work use his initial assumption of certainty. I will continue to assume that politicians have full information about voters' preferences and voters have full knowledge of both politicians' promises and their past performance since Niskanen and others discussed below rely entirely on Downs's initial model in this regard.<sup>2</sup> Downs models each of the political parties as offering platforms containing alternative sets of policies to voters. Voters then vote for one party or the other based on their evaluation of the estimated net sum of future benefits and costs flowing from the alternative sets of policy proposals. The party that gains a majority commands public bureaus to produce the policy outcomes preferred by that party in its efforts to obtain re-election. Downs does not overtly include the administrative chiefs of public bureaus as participants. They are modeled as a mechanism that carries out the commands of the governing party with efficient precision.

From his theory, Downs concludes that electoral procedures based on plurality vote will constrain a governing party to select (and therefore produce) the output/cost combination most preferred by the median voter within a community. Downs describes his own process of inference in the following way:

"According to our hypothesis, governments continue spending until the marginal vote gain from expenditure equals the marginal vote loss from financing. The determinants of vote loss and vote gain are the utility incomes of all voters and the strategies of opposition parties. Thus governments are engaged in political warfare as well as maximization problems.

Under conditions of certainty, a government's best strategy is to adopt choices which are favored by a majority of voters. Before making any expenditure, it takes a hypothetical poll to see how voters' utility incomes are affected by the expenditure and the necessary financing. If it fails to adopt the majority's views, its opponents will do so and will fight the election on this issue only, thereby insuring defeat for the incumbents." (Downs 1957: 73)

The Downsian model predicts an optimal equilibrium in terms of responsiveness (allocative efficiency). Movements away from these results would enable the other party to win the next election by offering a policy package with the optimal combination of outputs and costs. Downs' prediction of optimal performance results from his analysis of the behavior of elected officials under the threat of being voted out of office by a competing party. It is the presence of a competitor ready to snatch any advantage that pushes the government party toward constant attention to what citizens prefer.

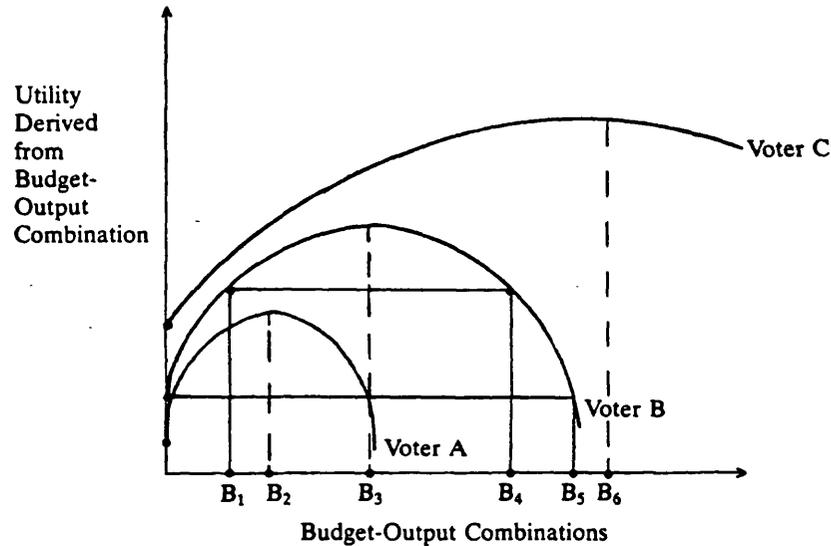
When Niskanen examines how bureaucracy affects the linkage between citizen preferences and government performance, he focuses on the process of bargaining between the team of elected officials (called the *sponsor* by Niskanen) and *bureau chiefs* assigned the responsibility to direct agencies producing the desired goods and services. Voters are now modeled as a mechanism that would only oust a government if the marginal budget assigned to a bureau *exceeded* the benefits received minus the cost of that level of output. In Niskanen's model, not only are voters left out as active participants but they are no longer viewed as trying to obtain the maximal difference between benefits and costs. Niskanen assumes that a bureau chief attempts to obtain as large a budget as possible for a bureau in order to secure the most private gain and to produce the most goods and services for a community. Niskanen's elected officials, like Downs's, know the preferences of the citizens that elect them. So do the bureau chiefs. However, elected officials do not know the production costs of the bureau. Nothing exists to require bureau chiefs to reveal costs or provide information on alternative budget-output combinations.

The *bargaining process* is initiated in Niskanen's model by the bureau chief offering to produce the maximum output that is just sufficient to produce a small marginal benefit for the median voter. This is a "take it or leave it" offer. Niskanen presumes that elected officials are forced to accept this offer since it is slightly better than no output at all. The equilibrium predicted by the model is not responsive to citizen preferences since more than optimal levels of output are produced. On the other hand, Niskanen assumes that the bureau is able to produce this greater than preferred level of output at the least possible cost. The result is thus technically efficient, but unresponsive to the preferences of those served.

The difference between the optimal performance predicted by Downs and the nonoptimal performance predicted by Niskanen is illustrated in Figure 1 using a simple model of a three-person community. Voters A, B, and C are represented as having varying levels of utility for a budget devoted to producing a particular public output. Voter C places a higher value on this output at every budgetary level than either B or A, while Voter B is uniformly more positive than A. Each utility curve intersects the horizontal axis at the level of utility that a voter derives from a zero budget allocated to the production of this good. All of the utility curves initially rise as more budget is devoted to this good and then fall when diminishing marginal returns for this good occur.  $B_2$ ,  $B_3$ , and  $B_6$  represent the optimal level of the budget devoted to this output from the perspective of each of the three voters.

In this arena, Voter B is the *median voter*. Downs *predicts* that the representation process would lead a government team to offer and deliver the budget-output combination ( $B_3$ ) most preferred by the median voter. Niskanen predicts that the bureau chief would demand a budget just to the left of  $B_3$ . The difference between  $B_3$  and  $B_5$  is the amount of budget allocated to the production of a good beyond the optimal level. This budget is barely preferred by the median voter to the situation of having *no* budget allocated to the production of this good. In this nonoptimal world, the median voter is only a constraint on the size of the budget demanded by the bureau chief, while in the Downsian model, the predicted result is exactly the median's voter's most preferred position.

Despite their differences, both Downs and Niskanen see the *electoral and bargaining arenas as intertwined in mutual interdependence*. The outcome of an



$B_3$  – Budget-output combination predicted by Downs.

$B_5$  – Budget-output combination predicted by Niskanen.

$B_4$  – Budget-output combination predicted by Romer and Rosenthal if status quo budget is  $B_1$  and reversion rule is status quo.

Adapted from Mackay and Weaver (1978: 147).

Fig. 1: Predicted Budget-Output Levels Derived From Models of Downs, Niskanen, and Romer and Rosenthal

election affects the level and type of goods and services that elected officials try to provide to citizens through their relationship with producing agencies. The success that elected officials have in their bargaining with bureau chiefs affects their chances of re-election. Downs succinctly expressed this mutual dependence in commenting that “votes depend upon actions, and actions depend upon votes” (Downs 1957: 73).

Niskanen also tried to include both action arenas in his analysis. Niskanen viewed his book as “an attempt to match a now conventional theory of the demand for government services in a representative government with a new theory of bureaucratic supply” (Niskanen 1975: 617). Despite an electoral arena that yields relatively optimal results, Niskanen predicts nonoptimal results because of the control that bureau chiefs are posited to have over information and their capacity to dominate the agenda for bargaining with sponsors.

The Niskanen model has been strongly criticized by scholars who adopt diverse perspectives (Goodin 1982; Breton and Wintrobe 1975, 1982; Mique and Belanger 1974). The model does, however, capture enough of what many scholars perceive to be essential elements of the bargaining process between elected officials and bureau chiefs that a rich literature has evolved based on the Niskanen formulation.

More recent work has attempted to modify the initial assumptions to make them more realistic.

Romer and Rosenthal (1978) argue, for example, that Niskanen used an unrealistic assumption about what would happen to the budget if no agreement was reached. Niskanen assumed that bureau chiefs could threaten elected officials with *no* output if the officials did not agree to the initial demand. Romer and Rosenthal argue that a more realistic assumption is that the budget would revert to the status quo budget (the one used for the previous year) if the officials did not agree to the initial budgetary request.

Changing this assumption in the model, Romer and Rosenthal continue to predict that the equilibrium budget-output combination represents a nonoptimal, over-supply. Their predicted outcome is, however, less than that predicted by Niskanen. If the status quo were  $B_1$ , for example, the equilibrium budget would be just to the left of  $B_4$  where the median voter receives slightly more utility than the status quo budget. If the status quo budget were relatively close to the optimum preferred by the median voter  $B_3$ , Romer and Rosenthal predict an outcome similar to that originally predicted by Downs. Additional models developed by Mique and Belanger (1974), Breton and Wintrobe (1975), Niskanen (1975), Mackay and Weaver (1978), Denzau and Mackay (1977), Orzechowski (1977), and Miller (1977) all change assumptions to a greater or lesser extent leading to derivations that vary somewhere between the extremes predicted by Downs and by Niskanen.

The most dramatic change in assumptions is made by McGuire et al. (1979) who introduce a second bureau to compete with the monopoly bureau chief in the bargaining arena.<sup>3</sup> Whatever offer is made by one bureau can then be challenged by the second bureau. Over time the offers will approach the same optimal level as predicted by Downs. If one agency proposes too high a budget, the other will be motivated to make a counteroffer of a more optimal budget-output combination. As the number of agencies increases beyond two, the pressure on all potential agencies to offer an optimal budget-output combination also increases.

### 23.3 Inferring the Factors Affecting the Action Arena

The above models have focused directly on the structure of the action arenas and only indirectly on the rule configurations, events in the world, or nature of the community yielding that structure. Niskanen does not specify why he models the bargaining arena presuming that the budget would revert to zero if no agreement were reached. This assumption, however, is part of what leads to his conclusion of nonoptimal performance. Equally important is his assumption that only one bureau can bargain with elected officials. Romer and Rosenthal challenge the first assumption and presume that most jurisdictions would renew the previous budget level of a bureau if no agreement were reached. McGuire et al. challenge the second assumption and show how competition among bureaus would drive the process toward more optimal results.

Without *explicit* analysis of the rules and other factors affecting the structure of an arena, *implicit* assumptions underlying the overt analysis may be the most

important assumptions generating predicted results. If one wants to *use* the analysis at the action situation level to guide behavior in public sector situations toward better, rather than worse, performance, one needs to make explicit these implicit assumptions. One needs to know what rules create the structure as modeled and what implicit assumptions have been made concerning the attributes of events and their transformation and about the community. The first factor – rules – may be changed through legislation and enforcement. The other factors – attributes of events (goods) and the community – represent potential constraints on the type of situations in which a particular rule configuration may work.

### Events and Community

Assumptions about rules, events or goods, and community were largely left unspecified by Downs and by Niskanen, and by those building on their models. My effort to examine explicitly how these factors affect the structure and results within the linked arenas must identify what implicit assumptions are consistent with the Downs and Niskanen models specified at the action arena level. Both Downs and Niskanen presume their models would apply to a wide range of goods and services. Both conceptualize outputs as varying in small, incremental units. *Step-goods* (Hardin 1982), including most public works like bridges, dams, and some modern weapon systems, do not fit their models. Nor would *pure public goods*, where exclusion is difficult and citizens jointly consume outputs, fit the way they model citizens' demand. Both Downs and Niskanen appear to presume that the technology for producing an output is known – at least by the bureau chief – and that a determinate and measurable output can be produced.

In regard to norms held within the broader community, both presume a high level of cutthroat competition is acceptable. Downs carefully states that the team of politicians currently in office is prohibited by constitutional rules from directly eliminating its rival and from infringing on free speech. Downs presumes that within these rules, each party is expected, however, to pursue any opportunity ruthlessly and take advantage of any error made by its opposition. Likewise, Niskanen models the bureau chief as a relentless negotiator pushing his agenda control advantage to the limit allowed by the rules.

### Rules

In regard to the underlying rule configuration, it seems reasonable to presume that Downs, Niskanen, and the other analysts discussed above hold *similar*, implicit assumptions about three types of rules: (1) *scope rules* specifying the amount of public goods and services to be produced and the budget to be allocated to this production; (2) *position rules* defining the positions of elected officials, voters, and bureau chiefs; and (3) *payoff rules* rewarding teams of politicians for winning elections and bureau chiefs in relation to the size of a bureau's budget.

Thus, we will assume that three sets of rules are similar in all of the models. A fourth set of rules – boundary rules – are obviously different. Niskanen originally presumed that potential competitors were ruled out of the bargaining process.

McGuire et al. (1979) adopted a different assumption and overtly modeled the bargaining arena with multiple producers. Niskanen's model is based on implicit boundary rules that protect the monopoly position of a producing agency while McGuire et al. had to presume a different boundary rule allowing multiple agencies to enter the bargaining arena.

A major portion of the aggregation rules underlying the linked situations are similar. A plurality formula for equally weighted voters is assumed in the electoral arena and an unanimity rule is assumed between elected officials and bureau chiefs. But the default or reversion rule implicitly assumed by Niskanen for what happens if the bureau chief and elected officials do *not* agree is different from the explicit assumption made by Romer and Rosenthal. Niskanen presumed that a zero budget would occur in the absence of agreement while Romer and Rosenthal assumed that the status quo budget would continue.

So far, inferring the underlying rule configuration has been relatively simple. Information and authority rules remain to be specified and this step is not as easy as the prior steps.

We know that the information condition in the action arena differs in the Downs and Niskanen models. In his initial model, Downs presumes that elected officials had full information. Niskanen presumes that bureau chiefs have complete information about costs of production while elected officials are ignorant of production costs. This difference in information available to participants could simply be the result of a *span-of-control problem* (a transformation of one state of the world into another in which information is consistently lost or biased). Elected officials running a government may have so many bureaus to supervise and activities to accomplish that they simply cannot know the production costs of all the bureaus with whom they must bargain.

Without either information rules or authority rules (or both) giving bureau chiefs additional control over information limiting the capability of elected officials to act so as to obtain information, span-of-control problems alone do not seem to be a reasonable base for making such a strong assumption about information conditions in the action arena. Niskanen models the process in the bargaining arena as a single, "take it or leave it" offer. Thus, he had implicitly to assume that the bureau chief is authorized by the rules to control the agenda, to take a first, pre-emptive move, and to end negotiations after one round.

On the other hand, for Downs to have presumed that those who win an election can produce what they promise to the voters, he had to conceptualize the authority rules differently than Niskanen. The *authority rules* in a rule configuration underlying a Downsian analysis could not give bureau chiefs strong restrictive powers over what budget-outcome combinations would be considered. To derive his initial conclusions, Downs had to presume all potential budget-outcome combinations could potentially be placed on the agenda. As Ladha et al. (1982: 32) speculate in a footnote:

"Although usually not explicitly specified, implicit in [the 'median voter' framework] is the assumption of open or competitive agendas, with no restrictions on access to the agenda."

Thus, I presume that the authority rules related to agenda control differ substantially in the Downs and Niskanen models. The difference in information levels can

be accounted for by a combination of the span-of-control problem and the difference in authority rules. Thus, we can presume that information rules are similar in all of the models.

Consequently, I assume that four types of rules are similar for the entire set of models discussed above (position, scope, payoff, and information rules). Boundary rules, the default aspect of the aggregation rule, and the agenda control aspect of the authority rules vary across models. The differences in the underlying rule configuration are represented in a matrix shown in Figure 2. The conclusions concerning predicted results in the action arenas are entered in the cells.

The models developed by Niskanen and by Romer and Rosenthal both give the bureau chief the capacity to make a "take it or leave it" offer. Thus, both of these models assume the same authority rule giving the bureau chief full control over the agenda. But these models differ in regard to the default specified in the aggregation rule – the rule controlling the budget-outcome level if no agreement is reached between the bureau chief and the elected officials. Niskanen presumed this rule would allow the budget to revert to zero. No agreement – no funds! Romer and Rosenthal argued that this was "unrealistic." Instead, they think a more reasonable rule would be to continue the budget in effect for the previous year. No agreement – continuance of the status quo! The difference in the structure of action arenas and resulting equilibria as modeled first by Niskanen, and then by Romer and Rosenthal, can thus be thought of as the result of a rule configuration that holds all rules constant except the aggregation rule concerning the budgetary reversion level.

If we speculate about the way Downs was thinking about the relationships between the party in power and government bureaucrats, we would place the Downsian model in the upper left cell – making a similar assumption about reversion level as Romer and Rosenthal, but differing in regard to agenda control from both Romer and Rosenthal and Niskanen (see Downs 1957: 69). Consequently, the difference in the results predicted by Downs, by Niskanen, and by Romer and Rosenthal can be related to changes in authority rules and aggregation rules without changes in the remaining rule configuration.

McGuire et al. accepted the Niskanen presumption that the reversion level was zero while introducing a change in the boundary rules allowing other producers to enter the bargaining process. This change in boundary rules generates a different situation leading to a prediction of relatively optimal performance as contrasted to Niskanen's prediction of nonoptimality. The change in boundary rules opens up a new column of potential action situations under varying conditions of authority rules. An effort that Parks and Ostrom (1981) made to examine the effect of multiple producers in metropolitan areas upon the efficiency of public agencies is closely related to the rule conditions specified in the upper right-hand cell. The implications of the action situations created by the other combinations of rules represented in the second column have not yet been explored.

The diversity of results predicted by these theorists can be viewed in two quite different ways. One approach is to develop the *one* correct model that is most predictive of experience in the world. This is the dominate way the debate about these different models and their results are presented in the literature.

The second way of viewing these different models and their results – and, the

Authority Rules	Boundary Rules	
Aggregation Rules	Entry to Bargaining Process Restricted to One Bureau	Allow Multiple Bureaus to Enter Bargaining Process
<i>Open Agenda</i> Reversion Level is Status Quo	Downs (1957) Equilibrium is the most preferred budget/output combination of the median voter. Thus, preferences of median voter dominate decision.	Parks and E. Ostrom (1981) Even if no direct competition between two producers serving same jurisdiction, presence of comparison agencies in same urban area will reduce costs of monitoring and increase pressure toward an equilibrium producing the highest net value for the community.
Reversion Level is Zero Budget	No model yet developed for this combination of rules.	No model yet developed for this combination of rules.
<i>Restricted Agenda Controlled by Bureau Chief</i> Reversion Level is Status Quo	Romer and Rosenthal (1978) Equilibrium is the highest budget/output combination that provides the median voter with at least as much value as the status quo.	No model developed for this combination of rules, but given McGuire, Coiner, and Spancake (1979) status quo reversion level can only enhance tendency of equilibrium to move toward highest net value for the community.
Reversion Level is Zero Budget	Niskanen (1971; 1975) Equilibrium is the largest budget/output combination capable of winning majority approval in an all-or-nothing vote. Preference of median voter is only a constraint.	McGuire, Coiner, and Spancake (1979) Equilibrium tends over time toward budget/output combination producing the highest net value for the community.

Fig. 2: Predicted Equilibrium Budget/Output Combinations Under Different Rule Configurations

way I prefer to think about them – is to illustrate the differences in predicted outcomes that are derived from different configurations of rules. Instead of one reality, there are many “realities” that humans can potentially create. Self-consciously and explicitly examining how a rule configuration affects the structure and results of an action situation enables analysts to see how a family of models are affected by key changes in assumptions about underlying rules. Families of models provide powerful thought experiments for specifying variable factors in both institutional analysis and institutional design.

### 24.4 Empirical Significance

Effective thought experiments about the impact of different combinations of rules on the incentives faced by participants in action arenas, their consequent actions, and cumulative results, also provide the basis for well-designed empirical research. When dramatically different results are predicted in arenas structured by different rule configurations, an opportunity exists for testing competing conjectures if empirical instances similar to those examined in the theory can be found.<sup>4</sup> An interesting, substantive relationship is between boundary rules affecting competition and enhanced performance. An empirical test of how this change in a rule configuration affects performance depends upon finding instances of legal rules that meet two essential characteristics.

First, the rules must assign authority to elected officials for determining the amount of good to be provided and the budget that will be allocated to a bureau. In other words, the authority to *provide a good or service* must be vested in the officials elected for the purpose of representing the aggregated interests of a community (see Ostrom et al. 1961). These officials function as *providers* in representing a community as potential consumers of jointly consumed goods or services. This condition needs to be met in all of the empirical settings examined. Secondly, among those arenas meeting the first condition, empirical instances of two types of rules must exist. In one type of empirical setting, boundary rules should allow multiple agencies (bureaus) to compete against one another in the bargaining process with elected officials, but preclude the actual entry of competitors once a budget has been determined for a fixed period of time. The budget would be written in the form of a contract between an elected government and one production bureau (which might be public or private). In the second type of empirical setting, boundary rules should preclude entry of potential producers in the bargaining process as well as in the production process.

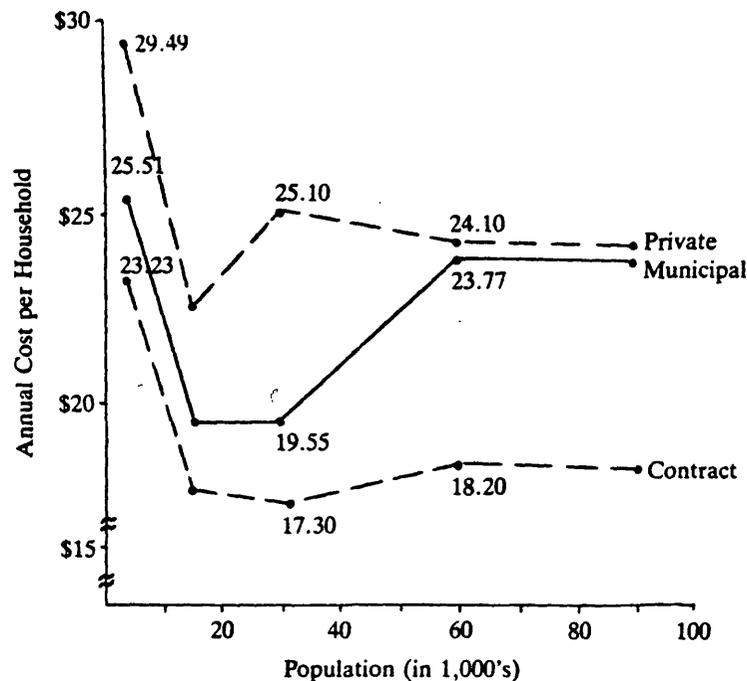
A major research effort exploring the effect of different institutional arrangements for service delivery in metropolitan areas on efficiency and responsiveness has located empirical instances of just these combinations of rules. A research team directed by E. S. Savas (1977) conducted a study of institutional arrangements for the provision and production of refuse-collection services in American cities. Savas identified a variety of different types of arrangements between locally elected public officials and bureaus that produced refuse-collection services. Three of these arrangements were present in sufficiently large numbers that the researchers could obtain accurate data about the annual costs (per household) that citizens pay for a defined level of service (once-a-week, curbside refuse collection). Savas called the three types of institutional arrangements: "municipal", "contract", and "private". The "municipal" and "contract" arrangements meet the two conditions specified above. The "private" arrangement is an interesting empirical variant not considered in the theoretical formulations discussed above, but frequently confused with the contract arrangements.

Under both the municipal and contract arrangement, locally elected officials are assigned the authority for determining the amount of goods to be produced and the budget to be assigned to a production agency. A *municipal* arrangement in the Savas study is one where locally elected officials bargain annually with one and

only one municipal bureau charged with the responsibility for producing refuse collection within a municipality. The Niskanen model is of this type of arrangement. A *contract* arrangement is one where locally elected officials bargain annually with one or more agencies (public or private) who are interested in obtaining a contract with the city for a defined period to produce services for the city and where no exclusive relationship is presumed to exist. Under a contract arrangement, boundary rules permit multiple producers to anticipate counteroffers in the bargaining process. This is the type of arrangement that McGuire et al. modeled. The *private* arrangement is one in which locally elected officials did *not* have authority to make provision for a community. Every household made its own arrangements with private producers. Since elected officials were not involved in this arrangement, it is entirely different than those modeled by either Niskanen or by McGuire et al. However, since private agencies may be involved in *contract* arrangements and private agencies are definitely involved in private arrangements, casual commentaries have sometimes treated both of these arrangements as the same. The popular term *privatization* has unfortunately been attached to both of these distinctly different institutional arrangements.

As discussed in Chapter 22, one would expect more than just a rule configuration to affect the structure and results of an action arena. In particular, one would expect the structure of events and their transformations to have a considerable effect. The frequency of service provided (weekly or bi-weekly), transformations used (curbside or alley pick-up), the quantity of service (tons of refuse collected), and weather also affect cost. Savas found that a number of physical attributes of the communities being served affect the cost of refuse collection. Size of community is related to cost of production in a curvilinear fashion. The highest costs are found in very small towns (under 3,000 population). Costs are lowest in small- to medium-sized towns (15,000 to 30,000) and slowly rise for larger towns and cities as diseconomies-of-scale are reached. Recognizing the multiple factors affecting outcomes, Savas estimated the annual cost of waste collection per household for each of the three types of institutional arrangements under study – municipal, contract, and private – holding constant factors such as wage rates, amount of refuse per household, residential density, service level, and weather conditions (see Figure 3).

The results of the Savas study are consistent with the predictions made by McGuire et al. Contract arrangements are more cost effective than the municipal arrangements and particularly so in larger cities. Thus, competition in the bargaining arena appears to enhance the strength of locally elected officials to choose producers who will charge taxpayers less than municipal monopolies protected from such competition. It is important to note that direct competition among producers – the private arrangement – does not enhance performance. This arrangement is consistently the most expensive form of refuse collection in all of the cities studied. Considerable economies of location in refuse collection exist that are captured when a local government arranges for one producer to serve a location and are lost when private agencies bargain directly with each household and several producers consequently serve the same neighborhood. Recent policy interest in “privatization” has at times confused these two types of arrangements presuming that all efforts to increase competition among agencies enhance performance. The poor performance record of direct competition in production compa-



Adapted from Savas (1977: 133).

Fig. 3: Annual Cost for Private, Municipal, and Contract Arrangements by City Size

red with the higher performance achieved by competition in the bargaining process should highlight the need to make careful, theoretically-based distinctions among the myriad of specific types of arrangements that can actually be established in local, regional, and national public sectors.

### 24.5 Implications for Guidance and Control of the Public Sector

This chapter has demonstrated how guidance, control, and performance in the public sector can be enhanced by a fuller understanding of the method of institutional analysis presented in Chapter 22. As discussed in Kaufmann (Ch. 1), economic theory has enabled analysts to understand how direct competition among producers of private goods (homogeneous, divisible goods where exclusion is feasible) enhance guidance, control, and evaluation of multi-actor systems. Political theory suggests how direct competition among political parties enhances guidance, control, and evaluation of electoral and representation processes in the public sector. The actions of political leaders are more sensitive to public preferences when there are at least two parties competing for office. Elected members of a party know that they must take actions having general support, or members of the

other party will be able to offer a proposed program of action that will win more electoral support in the next election. Citizens can control elected officials to some extent by a threat to "throw the rascals out of office" if their actions do not produce what citizens want. Evaluation occurs at regular intervals.

Current theories accepted by many political scientists, public administrators, and organization theorists, have not, on the other hand, seen any benefits in the possibility of competition among potential *producers* of public goods and services. A major reform tradition in both western Europe and the United States has consistently called for the elimination of multiple and overlapping producers that are essential to such a process (see Sharpe: Ch. 8; Ostrom 1972). The efforts of theorists to model the effects on performance of different rule configurations as they affect the structure of action arenas, have shown that competition among parties in electoral arenas tends to make elected officials want to produce a bundle of output-cost combinations most desired by citizens.

Examining only the electoral arena may, however, lead to a false confidence that competition among parties is a sufficient guiding and controlling mechanism leading to optimal performance in the public sector. Niskanen's examination of the linked arenas – the electoral arenas as Downs originally modeled it *plus* the bargaining arenas between elected officials and bureau chiefs – led him to different conclusions. When facing a monopoly bureau, Niskanen predicted that elected officials would be handicapped in their capacity to guide the bureau toward the output-cost combination most preferred by citizens. Several variations of the Niskanen analysis have been discussed above. The most important variant for thinking about guidance, control, and evaluation in the public sector is the model developed by McGuire et al. who introduce competition in the bargaining arena between multiple bureau chiefs and elected officials. Strong empirical support for their conclusions has been provided by studies of local arrangements for refuse collection.

By focusing on the rule configuration underlying several analytical models of action arenas, this chapter also illustrates how the method of institutional analysis briefly described in Chapter 22 can relate seemingly disparate analytical results stemming from a family of models represented by specific variations in a rule configuration. Analyzing variations in rule configurations is a more explicit and precise method than efforts to dichotomize the universe of institutional arrangements into a dichotomy of public or private arrangements. Precision is particularly important in efforts to design new institutional arrangements or reform existing ones. The current intellectual fad of identifying "privatization" as a "cure" for bureaucratic "ills" has not made a careful distinction between governmental provision of services using contracts with private or public bureaus as contrasted with individual households contracting with competing vendors. Empirical findings show that reforms based on inaccurate conceptions of critical institutional variables can lead to worse, rather than better, performance.

#### Notes

- 1 A major controversy exists in the literature over the proper specification of the "objective function" for a voter. Downs's original formulation led to a prediction that no

- one would vote unless they received more utility from a sense of duty about voting than the costs of voting. This meant that the decision to vote was not dependent upon the policies of the incumbent government even though the decision concerning which party to vote for would be so based.
- 2 I personally share Downs's own strong sense that imperfect information is a better assumption to be used in modeling these arenas, but my effort here is to examine several already constructed models rather than to construct my own.
  - 3 Niskanen had himself suggested that an important structural change that could be made to his model would be to increase competition among bureaus in the supply of the same or similar services.
  - 4 Romer and Rosenthal, with a series of colleagues, have explored the empirical significance of variations of institutional arrangements in referendum elections closely related to the rules posited here. See Ladha et al. (1982), Romer and Rosenthal (1982), and Filimon et al. (1982).

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