Japan's prefectural budgetary process: An incremental analysis

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JAPAN'S PREFECTURAL BUDGETARY PROCESS: AN INCREMENTAL ANALYSIS

A Thesis
Presented to
The Faculty of the Department of Government
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree of
Master of Arts

By
Michael Gresalfi
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APPROVAL SHEET

This thesis is submitted in partial fulfillment of 
the requirement for the degree of 

Master of Arts

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XV. Comparative Summary of the Relationship Uncovered Between Demonstrated Budgetary Flexibility and the Three Explanatory Variables in both Japan's Prefectural Governments and West German Municipalities ....................... 58
The purpose of this study is to uncover the relationship between Japan's prefectural budgetary procedures and incrementalism. Specifically, I will measure the statistical correlations between my dependent variable, demonstrated budgetary flexibility, and a number of proposed explanatory variables. My hypothesis is that within Japan's prefectures the departmental budget-shares do not change much, on the average, from year to year; that they are incremental.

Both the computer model and the assorted variables which have been incorporated into this analysis were extracted from Robert Rickards' doctoral dissertation. Although this thesis does not offer an explicit comparative study, it does include some cross-national summaries which may be useful in some future comparative analysis.

The results of this study suggest that within some prefectures dynamic, non-incremental processes are in operation. Yet these dynamic processes are not as significant when statistical averages of Japan's prefectural budgetary-shares are calculated.
JAPAN'S PREFECTURAL BUDGETARY

PROCESS: AN INCREMENTAL ANALYSIS
CHAPTER I

INCREMENTALISM: ITS ORIGIN AND BUDGETARY IMPLICATIONS

The act of budgeting finite resources among infinite demands has necessitated that governments develop priority-setting frameworks. In their attempts to formulate such rational budgetary priorities many theorists have concluded that incremental decision-making is the best available routine to follow.

Within this thesis I will investigate the relationship between Japan's prefectural budgetary strategy and incremental procedures. Both the controversy surrounding such strategies and the pervasiveness of these incremental routines in Japan's prefectural governments will be analyzed.

The following study answers two questions concerning the incrementalist controversy. First, how much does budget-share stability among Japan's prefectures fluctuate? Second, under what conditions are the greatest deviations from existing budget-share patterns most likely to occur? The subsequent answers to these questions will indicate the reliance of Japan's prefectures on budgetary strategies which produce incremental change. The findings will also suggest how a government may, most easily, transfer resources across departmental categories. The organizational complexity exhibited in the prefectures, and other environmental and political variables, will be demonstrated in this paper to be related to a particular prefecture's ability to shift resources among various departments.

Contemporary political scientists have offered a number of incremental models to the interested reader. Most of these studies have concluded
that the spending priorities of a government's administrative units are quite inflexible, and thus incremental, at the final stages of the resource allocation decision-making process.\(^1\) While most political scientists agree that incrementalism is an important factor when explaining the stability of the administrative unit's budget shares, they do offer a number of alternative explanations concerning the extent of dynamic non-incremental forces at lower levels of the budgetary process.\(^2\)

The significance of incremental techniques on the federal budget of the United States has been investigated since the 1950s. Charles Lindblom has described incremental budgeting as both a valid and rational way to reach policy decisions. An administrator, states Lindblom, "... would rely heavily on the record of past experiences with small policy steps to predict the consequences of similar steps extended into the future."\(^3\) Lindblom's administrator is a man with limited knowledge, information, and ability who makes policy choices by rationally making marginal adjustments in past successful politics to formulate current budgetary strategies. He points out that most political or public policies represent a continuing attack on ever-present problems, and, therefore, there is always a

\(^1\)Robert C. Rickards, "Non-Routine Decision-Making: A Study of Demonstrated Flexibility in West German Municipalities' Budgetary Priority Setting" (Diss. University of Michigan, 1980), p. 242. Rickards' findings run contrary to most other budget theorists conclusions in that his study revealed some budget-share changes up to 17 percent from one year to the next. Therefore, the final stage of the resource allocation decision-making process is not necessarily as inflexible as many budgetary theorists conclude.

\(^2\)The term "budget-share" refers to the proportional distribution of a prefecture's budget to its departmental categories.

precedent to follow and adjust.

Another aspect of the Lindbloom definition concerning policy-making is that policy problems are fragmented and dealt with individually, rather than comprehensively. Both Lindbloom's emphasis on historical precedent and fragmentation have been incorporated into the many contemporary budgetary models available to the reader of incremental phenomena.

John Crecine declares, much like Lindbloom, that the decision-maker cannot possibly deal with the budget if historical precedent and fragmented methods of analysis are not adopted. Crecine states that the immense complexity inherent in the budgetary process necessitates that methods aimed at simplifying the annual budget be adopted. In Crecine's research, the mayor illustrated this policy strategy by breaking down the balanced budget problem into a set of more manageable subproblems. The mayor also relies on last year's budget when formulating his new budget.

"...a logical way to proceed in solving the complex budgeting problems is to take last year's solution (current appropriation) and modify it in light of the change in available resources and the change in municipal problems and their available solutions, to obtain this year's solution."\(^4\)

The lack of both perfect knowledge and information in the budgetary process, and the subsequent use of "aids to calculation", has been acknowledged by many budgetary theorists as the most rational method available for easing the complexity of the decision-making

process.5

An article by Otto Davis, M. Dempster, and Aaron Wildavsky describes the effects of the executive on budgetary procedures which produce incremental change at the federal level in similar terms to Crecine's analysis of the mayor's effect at the municipal level of government.6 One important difference is that it is not necessary to balance the federal budget. Both Davis et. al. and Crecine attribute traditional bureaucratic roles to the chief executive. The mayor and his staff's duty towards the budget is to fulfill the legal obligation of submitting a balanced budget to council for consideration. A balanced budget is of primary importance to the mayor. A mayor who faces a deficit may reduce agency requests by following a series of search routines designed to identify the most feasible solution to the budgetary problem.

Davis et. al. also perceive of the chief executive's role in the budget as including the ability to manipulate agency requests in order to promote executive priorities and reduce the deficit. The president's and his staff's concern with balancing the budget is less crucial to their decision-making process than it is to the mayor. An annual federal deficit is an accepted fact in the United States and is not as damaging as it is to municipalities, due to the federal government's ability to create money and control monetary policies. Because of less stringent spending restraints

5 Aaron Wildavsky, The Politics of the Budgetary Process, (Boston: Little, Brown and Co., 1964), pp. 11-17. Wildavsky defines aids to calculation as those mechanisms which help to generate meaningful decisions out of a very complicated process. "Satisficing" (to satisfy and suffice), "guestimating", simplifying, and incrementally adjusting are the four major components of Wildavsky's aids to calculation.

it is reasonable to assume that national level expenditure patterns will display less incrementalism than those for subnational governments.

John Crecine's and Aaron Wildavsky's writings indicate that in the United States, at both the municipal and federal levels, agencies attempt to amplify and preserve their budget appropriations and status. Robert Kharasch has described this characteristic as the "institutional imperative". Every action or decision of an institution must be intended to keep the institutional machinery working. Kharasch states that it is an atmosphere of survival and growth which pervades the entire American public bureaucracy. Both Crecine and Wildavsky have drawn the conclusions that the institutional imperative is demonstrated by agencies at both the municipal and federal levels of government.

John Crecine and Aaron Wildavsky have described the budgetary process as being an incremental procedure. They assumed that public policy-making was therefore incrementally organized.

"By focusing on the stability of agencies structures, and on the longevity of most programs, quantitative researchers have concluded that budgeting and public policy are incremental because an inert bureaucracy has sunk so much into existing programs that to start from scratch is too disruptive, wasteful, and impractical." This argument for considering public policy as necessarily incrementally organized has been criticized by some contemporary budget theorists.

---


Two such budget theorists are Peter Natchez and Irving Bupp.

In their study, Natchez and Bupp defend Wildavsky's position that budgeting is incremental by nature. The issue which they address is the claim by Wildavsky and others that the budgetary process produces clear-cut conclusions concerning public policy. Natchez and Bupp lay the blame for this erroneous claim not in the logic of the political scientists' analysis but in the method of inquiry they employed. Wildavsky and others concentrated on agencies and departments as the unit of analysis. Drawing a set of equations from this data revealed the great stability (incrementalism) of the budgetary process. Natchez and Bupp contend that:

"... because administrative categories have formed the basis of budgeting analysis, the entire process in which public policy is produced has been obscured."

Natchez and Bupp argue that political scientists who follow the quantitative approach, such as Wildavsky, are victims of its own theoretical and statistical precision. They believe that in order to understand the role of policy choices in the budgetary process the level of analysis must be shifted from agencies, departments, and ministries to programs.

"It is this variation in the competitive success of alternative programs, rather than the cognitive process of decision-makers, which is central to the politics of public administration."

---


10. Ibid., p. 955. Natchez and Bupp illustrate the dynamic policy procedures operating at lower levels of the budgetary and decision-making process by formulating a case study of the Atomic Energy Commission (AEC). In their final analysis they substantiate their initial hypothesis: The success of the AEC weapons program and the failure of other programs was due to the aggressive roles of the division directors at the lower levels of the decision-making process.
This thesis analyzes the budget-share stability of Japan's prefectural departments. Natchez has stated that my method of analysis may obscure some of the public policy process. But just as department heads must choose among different levels of funding for various programs in formulating the department's budget request, so must the chief executive choose among different funding levels for the various departments in formulating his overall budget proposals. So studying how prefectures allocate funds among various departments still captures important elements of the policy-making process. Furthermore, while there may not be comparable programs in all prefectures, there are comparable departments (due to laws providing for uniform structures of local government in Japan). So by choosing the department level of analysis one is able to get away from verbal descriptions of single cases and apply large-group statistics to the study of 46 prefectures' budgetary behavior.

By relying on statistical data that has been drawn from the final stages of the budgetary process, I have ignored the potential for dynamic and aggressive competition at lower operating levels of the prefectures' budget strategy. Both this weakness and the loss of detail resulting from the trade off of single case descriptions for large group statistics must be acknowledged. Yet the structural similarity of Japan's prefectural departments and the empirical validity of large-group statistics overweigh the criticisms which Natchez and Bupp have directed at budget analyses which rely on administrative categories for their methodological approach.

Lance LeLoup and William Moreland have supported Natchez and Bupp's conclusion. Their case study of the Office of Management and Budget and the Department of Agriculture concludes that the component stages of the annual appropriation process are more dynamic than the overall results
They identified "pork barrel" politics and interest group support as being important factors in agency growth.

"To obtain substantial non-incremental increases in programs and budgets, an agency must attain a position of political strength (with support inside and outside of government) to justify a large increase."

The pervasiveness of the institutional imperative within the American bureaucracy, at all levels of government, does suggest that the component stages of the appropriation process are less incremental than the final results would indicate.

Incremental explanations have been frequently relied upon by budgetary analysts to account for the budgetary behavior they observed. Due to their simplicity and explanatory capacity, these incremental explanations have become popular in a number of case studies concerning budgeting in United States cities, local school systems, American states, national governments, and international organizations.

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It is important for the reader of this paper to understand my definition of incrementalism. The term indicates that prefectual departments are allocated across-the-board, fixed percentage increases in spending appropriations, resulting in little or no change in budget-shares among departments. Incrementalism suggests that little budgetary flexibility is demonstrated among a prefecture's budget-shares. It is not an applied strategy in budgetary decision-making, but rather, incrementalism is the result of a kind of bureaucratic momentum.

The incremental model of budgetary analysis has become popular due to both its ability to account for historical expenditure patterns and the theoretical vacuum which it filled. Previous normative theories of budgeting could not adequately explain the stability and inflexibility of budget shares among administrative units. Classical economic theories relied heavily on the a priori validity of their normative assumptions. These assumptions basically stated that government ought to be aware of and responsive to citizens' changing wants and needs.

Contemporary studies have indicated that these assumptions are not followed in reality. Charles Lindbloom's attempt to replace these a priori principles with more empirical techniques has generated great support within the field of political science. To increase the manageability of resource allocation, both fragmentation and historical precedent have been accepted as the best tools available.

Despite their widespread acceptance and demonstrated predictive qualities, incremental budgeting routines have been surrounded by controversy. One significant reason for this conflict of opinion is the lack of unified and popularly accepted boundaries between incremental and non-incremental change. This lack of unifying propositions is depicted by
the many different explanations of incrementalism available to the student of budgetary analysis. What one author perceived of as a large incremental change may be considered as an insignificant change by another. Whereas Richard Fenno defines less than a twenty percent increase in U.S. federal agency requests as a large incremental change,\textsuperscript{17} James Danziger, in his study of British county-borough expenditures, defines a non-incremental change as being over three percent of last year's level.\textsuperscript{18}

Although this lack of unifying propositions has hindered the comparability of many budget analyses, it has not impeded this study. Throughout my research, I have neither emphasized the percentage change in total expenditure bases nor have I defined incrementalism in a percentage-categorical way. Rather, my research concentrates on whether adjustments made in departmental budget shares occur on a fixed-percentage across-the-board basis.

Within this chapter I have considered the views of some budgetary theorists concerning the significance of incremental techniques in budgeting. Agreement exists among these writers regarding the strong incremental characteristics exhibited in the final appropriation stages of the budgetary strategy. The basic argument among some theorists concerns the appropriate method for measuring and identifying the process in which public policy is produced. I have defended the departmental level of analysis as an empirically constructed method of research. Allocations to departments are decision outputs just as much as are allocations to programs. Moreover, the department level of analysis is the most central measure for the question which is addressed in this thesis. Does budgetary resource reallocation occur across the prefectural departments of Japan
or just within them?

Chapter II will focus on the budgetary strategy exhibited within Japan's prefectures. The chapter will also contain a descriptive analysis of Japan's federal budget strategy and the important role of balance to this decision-making process. Due to the lack of available information on Japan's prefectual budgetary behavior, I will -- by necessity -- rely on Japan's national budgetary characteristics when developing this analysis.

In Chapter II the research strategy will be presented. This chapter will also contain a description of the computer model and variables employed in my analysis. Chapter IV will focus on my findings concerning inter-prefectural variations in budget-share stability. Some of the more significant explanatory variables tested in this chapter will be subjected to correlation and regression runs in order to identify their relationship with the independent variable, budgetary flexibility. In Chapter V the conclusions to my study will be presented. This concluding chapter will also contain some discussion suggesting future applications of the evidence revealed in this thesis to budgetary questions.
CHAPTER II
JAPAN'S BUDGETARY BEHAVIOR

John Campbell's research on Japan's national budgetary strategy has been instrumental to this analysis.  Much of his work emphasizes the cultural significance of Japan's exhibited budgetary behavior and, in this respect, his findings are readily adaptable to the prefectural level of analysis. Campbell suggests that there is an interwoven connection in Japan between its culturally supported norms and organizational strategy. This view has been sustained by a sociological study conducted by Chie Nakane.

The pronounced emphasis within Japanese society on consensus and balance has inhibited the development in Japan's bureaucracy of the "institutional imperative". This characteristic of American bureaucratic agencies and departments is not applicable to Japan's budgetary behavior. John Campbell has revealed that in Japan's federal bureaucracy, and throughout its society, the emphasis on consensus and balance outweighs a ministry's desire to increase its proportional slice of the budget pie. While a ministry may not seek to increase budget shares at the expense of others,


20Chie Nakane, Japanese Society, (Berkely: Univ. of California Press, 1970), pp. 144 - 146. Chie Nakane indicates that the Japanese compulsion with balance in their interpersonal relations and organizational structures is directly attributed to cultural norms.
it will insist on a fixed-percentage, across-the-board increase. This priority within Japan of equitable treatment and harmony is an important factor in understanding the strong role or incrementalism in Japan's budgetary decision-making.

John Campbell's analysis of Japan's budgetary process indicates that its budget-shares are even more stable than are those of the United States, France, and Britain (Table I). The term budget shares may be defined as the proportion of the entire budget which is allocated to the various ministries and their departments. The great stability between Japan's ministerial budget-shares is depicted in Table I. Between the years 1961 and 1970 Japan's ministerial budget-shares, in more than half the cases (57 percent), altered their budget shares less than five percent annually. Whether this stability is similarly demonstrated at Japan's prefectural level will be considered later in this thesis. Suffice it to say at this point that Campbell's findings should be approximated in this study if incremental techniques are as widely applicable and culturally supported in Japan as Campbell assumes.

Campbell states that the great stability of budget shares in both ministries and bureaus springs from the cultural significance in Japan of balance and specifically to the norm of "baransu". Baransu does not refer to a concept which is easily identifiable in western cultures.

"The word did not refer to equalizing environmental revenues and expenditures as in American budget terminology; it seemed to mean evenhandedness or equitable treatment."21

The concept of baransu is revealed by Campbell as being closely related

21 Campbell, "Japanese Budget Baransu", p. 73.
to the organizational behavior exhibited in Japanese politics and in society in general. The Liberal Democratic Party (LDP) of Japan (a mass or umbrella party covering many small, competing interest groups) is a primary example of how the norm of baransu permeates Japan's organizational strategy. Although the LDP has controlled the Diet since 1955 and has a virtual monopoly of governmental power, the norm of baransu demands that the opinions of small factions and opposing parties be heard and acted upon. Consensus is a key strategy in both Japanese society and within its specific organizational structures.

Kono Kazuyuki, a former Japanese vice-minister of finance, states that balance among expenditures is an important criterion used by the Budget Bureau when reviewing ministerial requests for budget appropriations. In Japan's budgetary strategy, expenditures in the same category or similar items are balanced. A closely related idea in American budgeting procedures has been defined by Aaron Wildavsky as "fair share".

Baransu, applied to the budgetary process, results in the avoidance of any form of cost-benefit analysis since the quality and efficiency of a particular program, bureau, or ministry are not considered. Campbell repeatedly draws the conclusion that Japan's budgetary techniques are strongly based on incremental techniques.

"Balancing represents avoidance of comparisons among programs and their merits by implying that simply because they are similar they should

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23Wildavsky, The Politics of the Budgetary Process, p. 17. Wildavsky describes fair share as more than just the base amount of expected agency appropriations. Fair share denotes the expectations that an agency will receive some proportion of the extra funds, if any, which are to be increased over the base of the various governmental agencies.
Table I

Distribution of Yearly Change-In-Shares, Four Nations

(Unit: Percent)

<table>
<thead>
<tr>
<th></th>
<th>Period</th>
<th>0-5%</th>
<th>5-10%</th>
<th>10-15%</th>
<th>15-20%</th>
<th>Over 20%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>1961-1970</td>
<td>57.1</td>
<td>19.2</td>
<td>13.6</td>
<td>5.0</td>
<td>5.6</td>
<td>100.5</td>
</tr>
<tr>
<td>France</td>
<td>1960-1969</td>
<td>49.5</td>
<td>25.7</td>
<td>12.4</td>
<td>0.0</td>
<td>12.4</td>
<td>100.00</td>
</tr>
<tr>
<td>United States</td>
<td>1959-1968</td>
<td>37.4</td>
<td>29.7</td>
<td>14.2</td>
<td>9.0</td>
<td>9.7</td>
<td>100.00</td>
</tr>
<tr>
<td>Great Britain</td>
<td>1960-1970</td>
<td>16.9</td>
<td>34.9</td>
<td>14.1</td>
<td>14.1</td>
<td>19.8</td>
<td>99.8</td>
</tr>
</tbody>
</table>

Notes: This table was extracted from John Campbell's *Contemporary Japanese Budget Politics*, p. 98. The original source of this information was taken by Campbell from Aaron Wildavsky's *Budgeting*, (Boston: Little, Brown and Co., 1975), p. 242.
receive the same or equivalent budgets." 24

From Wildavsky's perspective, baransu may be considered an aid to calculation since it eases the massive decision-making burden on budgetary participants. A weakness of such incremental aids to calculation is that the efficiency and effectiveness of administrative units are not systematically measured. Budget-shares within and between ministries are balanced for the sake of balance and not in terms of the most good for the least cost. Therefore baransu, like fair share, contains dysfunctional aspects, efficiency is sacrificed for simplicity.

According to Campbell, Japan's national budget is more affected by incremental techniques than its U.S. counterpart.

"The Japanese budgetary system seems more routinized, less programmatic, and more likely to produce the same old decisions year after year than the budgetary systems of the west. Indeed this impression is strengthened when one considers such distinctively Japanese elements as the norm of "balance" which works against changes, or the unusual degree of penetration by the majority party organization into the budget system." 25

Incremental aids to calculation have been formalized within Japan's budget stipulations. A Japanese law restricts each ministry's budget request to not more than 125 percent of last year's appropriation. This potential increase includes cost of living and wage hikes within the ministries and is therefore considerably less than a 25 percent increase. 26


25 Campbell, Contemporary Japanese Budget Politics, p. 275. Campbell states that the LDP's effect on the budgetary process has tended to increase the stability of the ministries' budget-shares.

26 Campbell, "Japanese Budget Baransu," p. 81. The development within the ministries of new programs is also funded by this potential 25 percent annual increase. It should be noted that this maximum allotted appropriation request is frequently not authorized.
This maximum percentage increase stipulation is also applied within a ministry's bureaus: thus the budgetary process in Japan's national government is, by law, incrementally organized. The budgets of United States agencies are more influenced by political support in the Congress and Executive, and particularly by appropriation subcommittees.\(^{27}\)

The ministry of Finance's (MOF) voluntary reduction of its own power in planning the budget illustrates the particular significance of balance and consensus within Japan's bureaucracy. To avoid conflict with the LDP and to increase harmony among political and bureaucratic participants, the MOF delegated control over individual program spending to the experts in the spending ministries and the LDP by 1970. Instead of allocating funds to specific policy areas inside the ministries, as was the case in the 1950's and 1960's, the MOF in 1970 gave such discretionary power to the LDP and spending ministries.\(^{28}\) Another reason for the MOF to abdicate some of its budget-making authority and increase the consensus among budgetary participants is the formidable power of the LDP. The Liberal Democratic Party has ruled Japan from the 1950's to the present, and seems likely to do so for the indefinite future.

The MOF voluntarily reduced its power over microbudgeting decisions in order to increase the consensus among all involved in the budgeting strategy. This action reveals the pronounced difference between the Japanese and American bureaucracies. Japanese budgetary behavior does not seem to follow the same "institutional imperatives" which Robert


Kharasch has defined as the basic drive of all American bureaucratic agencies and committees. By inhibiting the aggressiveness and competitive qualities found in American bureaucratic organizations, the Japanese system of budgeting should demonstrate more incrementalism than does the U.S. system.

John Campbell has emphasized the strong incrementalism exhibited within Japan's resource allocation process. While Japan does appear to contain culturally supportive norms as bureaucracy, it may be less pronounced than Campbell contends. A reason for suggesting this point is that Campbell analyzed a single case (Japan's national government) and thus the norm of baransu and its relationship with budgetary behavior is less statistically significant than a multivariate analysis would be. By investigating the relationship between budget-share stability and 46 Japanese prefectural governments, I would expect to be able to explain this relationship with more statistical authority.
CHAPTER III
RESEARCH STRATEGY

Within this chapter, I will discuss the construction of both my research strategy and my adoption of Robert Rickards' computer model. To retain a high degree of intersubjective validity, I have duplicated the basic format of Rickards' doctoral dissertation. Intersubjective validity refers to the empirical and logical relationship found between two models or comparative studies. By duplicating Rickards' variable list and adopting his computer model, I have attempted to retain a strong empirical base for future comparative analyses. Rickards' description of Germany's municipal budget formulation was instrumental to the development of this analysis.

This research framework is quite simple, the advantages of constructing such a model are twofold. First, the large number of prefectures studied in this paper (forty-six) would be beyond the scope of a researcher's time if all possible input information were included in the development of this model. Second, fewer assumptions are involved and therefore the theoretical framework is stronger.

Adopting such a simple model does have its drawbacks. A trade-off of explanatory capacity for this simplicity must be acknowledged. Yet by retaining the computer model which Rickard's previously employed, I can be more confident of its predictive ability and intersubjective comparability. Therefore, for this study, the advantages of adopting a simple computer model and research strategy outweigh the disadvantages of not
employing a more intricate format.

The explicitness of mathematics and computer language affords the researcher a strong, unambiguous base for his analysis. By comparing 46 prefectures observed budgetary behavior with the computer's predicted outputs, the model adopted in this thesis will measure budget-share stability.

"Process models of budget-making behavior are useful in measuring intercity variance in budget share stability. They also help to explain why, once a city has cut its fiscal pie in a particular pattern in a given year, it continues to slice successive fiscal pies in about the same proportions." 29

The weakness of such models lies in their inability to account for deviations from the stable-share patterns. Yet Rickards has pointed out that this weakness may be overcome by first defining such deviation as demonstrated budgetary flexibility and then by subjecting this variable to analysis in a regression model. Demonstrated budgetary flexibility (DBF) is measured as the absolute value of a prefecture's deviation from the ideal stable-share rule, summed across all departments, divided by two, for a specific prefecture in a specific year. In this study I intend to measure DBF and explain inter-prefecture differences in DBF. By defining the explanatory variables which most affect the DBF of prefectures, this study can help budgetary participants understand the relationship between stable-share rules and certain political and geographical characteristics of the governments under observation.

The proposed explanatory variables tested in this paper were also adopted, with some modifications, from Rickards' dissertation. The purpose

29 Rickards', op. cit., p. 38.
of these explanatory variables is to explain the deviations from stable budget-shares. This is done by measuring interprefectural variation in demonstrated flexibility.

Six prefectural expenditure categories were constructed within my research strategy. These categories include some which represent a compilation of several departments. For example, the category agriculture also includes the departments of forestry and fisheries, commerce and manufacturing. Although some departments were combined under one category this research still contains a sizeable number of different categories with a great deal of variation both over prefectures and time. Tables II and III depict the great variations which occur in Japan's prefectural expenditure categories. Large differences were uncovered between one prefecture and another in both the short (506 cases) and long (46 averaged mean cases) runs. These tables indicate that my data base includes a great deal of prefectural expenditure variations and that dynamic and pronounced differences within Japan's forty-six prefectures are in operation.

The choice of Japan as the geographic setting and of the decade 1967-1976 as the time period for this study was based both on personal interest and data availability. The chance to apply Rickard's computer model to a non-European industrialized nation was a major factor in choosing this country for my analysis. Another important reason for studying Japan was its relatively small number of prefectures, yet large enough to apply large-group statistics. Because there are only 46 prefectures, I was able to include the entire nation's prefectural governments in this study. 30

30 The large number of municipalities in Germany and the great variation in their population sizes persuaded Robert Rickards to analyze the 105 cities which contained at least 50,000 citizens in the 1965 census. My study included all Japanese prefectures except for Okinawa which had not been re-incorporated into Japan until after my time series began.
The time period was chosen because of the consistent statistical information available during this ten-year time series. All of the raw data for this quantitative model was extracted from the Japan Statistical Yearbook. Alterations in reported data occur frequently in the years before 1967 and after 1976. The time series 1967-1976 was chosen because the data was consistent over these years.

Several negative consequences concerning the chosen geographic and temporal settings for this study may exist. The first potential weakness was my reliance on the accuracy of the statistical yearbooks. Some obvious errors were detected, but most of my statistical data were by necessity, accepted as fact.

The second potential weakness was a gap in the time series. For whatever reasons, the Japanese government combined the 1973 and 1974 statistical yearbooks into one volume. While most of this volume included both 1973 and 1974 data, some categories -- such as net prefectural product -- excluded the 1973 figures. To remedy this deficiency, the missing 1973 categories were estimated through linear interpolation. The remainder of this chapter will focus on the development of the computer model and the relationship between DBF and prefectural budget share patterns.

John Crecine envisioned applying his intricate and sophisticated computer model, with appropriate modifications, to the resource allocation decision-making process in other cities and governmental units.

---


32 The obvious errors were detected in such variables as party seats. Since both the total number of seats and the various parties' proportion of this total were available for scrutiny: it was possible to check the sum of the different parties' seats against the total number of seats. Such errors were infrequent but they do illustrate the potential for institutionalized errors in my data set.
Table II

Maximum-Minimum-Mean of Japan's Expenditure Categories

(Short-Run = 506 cases*)

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Administration</td>
<td>128,711.00</td>
<td>1,540.00</td>
<td>10,423.80</td>
<td>13,881.40</td>
</tr>
<tr>
<td>Welfare</td>
<td>373,214.00</td>
<td>2,587.10</td>
<td>20,363.50</td>
<td>33,469.20</td>
</tr>
<tr>
<td>Agriculture</td>
<td>222,348.00</td>
<td>4,927.78</td>
<td>28,680.70</td>
<td>23,122.80</td>
</tr>
<tr>
<td>Public Works</td>
<td>387,913.00</td>
<td>5,753.20</td>
<td>38,537.20</td>
<td>45,277.80</td>
</tr>
<tr>
<td>Police and Fire Protection</td>
<td>318,246.00</td>
<td>1,511.77</td>
<td>13,261.30</td>
<td>27,318.30</td>
</tr>
<tr>
<td>Education</td>
<td>454,876.00</td>
<td>8,848.70</td>
<td>51,245.00</td>
<td>52,587.10</td>
</tr>
<tr>
<td>Gwappe (sum of the above 6 categories in each prefecture in each year)</td>
<td>1,691,740.00</td>
<td>22,163.00</td>
<td>162,511.00</td>
<td>180,877.00</td>
</tr>
</tbody>
</table>

*includes base year data 1966.

The above stated totals are in millions of yen and represent deflated values.
Table III
Maximum-Minimum-Mean of Japan's Expenditure Categories
(Long-Run = 46 cases)

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Administration</td>
<td>121,350.00</td>
<td>2,340.80</td>
<td>10,423.80</td>
<td>11,950.00</td>
</tr>
<tr>
<td>Welfare</td>
<td>343,440.30</td>
<td>3,780.00</td>
<td>20,363.50</td>
<td>30,200.80</td>
</tr>
<tr>
<td>Agriculture</td>
<td>219,476.00</td>
<td>5,400.00</td>
<td>28,680.70</td>
<td>17,516.80</td>
</tr>
<tr>
<td>Public Works</td>
<td>340,995.80</td>
<td>6,250.30</td>
<td>38,537.20</td>
<td>31,956.00</td>
</tr>
<tr>
<td>Police and Fire Protection</td>
<td>317,246.00</td>
<td>2,940.75</td>
<td>13,261.30</td>
<td>25,887.65</td>
</tr>
<tr>
<td>Education</td>
<td>402,880.30</td>
<td>9,950.75</td>
<td>51,245.00</td>
<td>50,951.00</td>
</tr>
<tr>
<td>GWAPPE (meanded sum of the</td>
<td>1,425,865.00</td>
<td>29,542.00</td>
<td>162,511.00</td>
<td>162,366.00</td>
</tr>
<tr>
<td>above 6 categories in each</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>prefecture in each year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above stated totals are in millions of yen and represent deflated values.
possibilities of the general applicability of this model of internal
resource allocation to non-market organizations are highly encouraging."\textsuperscript{33}
Crecine's resource allocation procedures are quite similar to Wildavsky's aids to calculation. Both men applied a set of allocation rules that may be considered incrementally organized steps. This set of rules support Lindbloom's hypothesis which maintained that policy problems are fragmented and dealt with individually rather than comprehensively.

The set of allocation rules which are mentioned by these authors and others who favor incrementalist descriptions has been adopted as the first three steps of the budgetary model presented in Table IV. This simple model assumed that by retaining a proportionality among departmental budget-shares all involved in the budgetary process are satisfied. The first three steps in Table IV may be summarized as follows.

In the first step the \(h^{th}\) prefecture's chief finance officer formulates his expenditure estimate for the \(i^{th}\) administrative unit (department), from budget resources, \(j\), in year \(k\), by denoting the amount authorized for expenditure in the base year \(k-1\). That is, \(\text{EXP}_{hijk}^{\rightarrow} \rightarrow \text{EXP}_{hijk}\).

In the second step, the finance officer "satisfices" the prefecture's departments spending demands by increasing each estimate on a fixed percentage basis. This is done by distributing to each department a "fair-share" of the remaining revenue, \((\text{REV}_{hjk} - \text{REV}_{hjk-L})\). This adjustment retains each departments proportion of the budget pie. This proportion, \(a_{hij}\), is an empirically estimated parameter which reflects the departments' historical budget shares.

During the third step of the resource allocation process the finance

\textsuperscript{33}Crecine, \textit{op. cit.} p. 231.
officer checks the balance between the sum of revised expenditure estimates, \( \sum_{i=L}^{N} \hat{\text{EXP}}_{hijk} \), and anticipated revenues, \( \text{REV}_{hjk} \). If a deficit is calculated the finance officer will eliminate it by allocating proportional budgetary cuts (fixed percentage cuts) among the different prefectural departments. In the case of a surplus, proportional spending increases are allocated to the various departments. In this resource allocation model, the application of "fair share" strategy implies that anticipated revenues equal the sum of revised expenditure estimates. This is because the stable share proportions, \( \alpha_{hij} \), summed across all departments necessarily equal unity.

This model is extremely mechanistic due to its inability to consider executive and legislative reactions to public or other demands for budget share alterations.\(^{34}\) To remedy this deficiency and account for deviations from the ideal and mechanistic decision-making routine of the computer model, a measurement (demonstrated budgetary flexibility) has been adopted from Robert Rickards' study.

To identify DBF, the computer model employs two additional steps (Table IV). Having produced a balanced budget for year \( k \), the model then calculates the \( i \)th department's predicted budget-share, \( \hat{\text{BS}}_{hijk} \). The model then formulates the differences between observed and predicted budget-shares, \( \text{BS}_{hijk} - \hat{\text{BS}}_{hijk} \). After the spending recommendations have been allotted the model measures the prefectures' deviations from the stable-share rule by calculating the absolute values of the observed and predicted budget shares, \( \left| \text{BS}_{hijk} - \hat{\text{BS}}_{hijk} \right| \).

\(^{34}\) Ibid., pp. 156-162. Crecine's computer analysis revealed that political pressures are not very effective factors in the resource allocating process.
Table IV

Simple, Stable-Share, Resource Allocation Model for Measuring Demonstrated Budgetary Flexibility

1. $\text{EXP}_{hijk-L} \rightarrow \text{EXP}_{hijk}$

2. $\text{EXP}_{hijk} \leftarrow \text{EXP}_{hijk} + \tilde{a}_{hijk} (\text{REV}_{hjk} - \text{REV}_{hjk-L})$

3. $\text{EXP}_{hijk} \xrightarrow{p} \text{REV}_{hjk}$

4. $\text{BS}_{hijk} = \frac{\text{EXP}_{hijk}}{\text{REV}_{hjk}}$

5. $|\text{BS}_{hijk} - \text{BS}_{hijk}|$

The source for this model was extracted from Robert Rickards' doctoral dissertation, p. 83.
Both short- and long-run analyses of the explanatory variables' relationship with DBF were conducted. The short-run was constructed from 460 individual cases; specifically, 46 prefectures over a merged time series of 10 annual cross-sections. The long-run consisted of 46 cases, with each case based on the mean values for each variable, for each prefecture, over the ten-year time series.

In Table V the descriptive statistics for long- and short-run DBF are presented. The mean percentage change in both analyses has been calculated as 2.79 percent. This slight budget share alteration is compatible with Campbell's findings. (Table I). This mean percentage change demonstrates that in the average year, the average prefecture reallocates less than 3 percent of its budget.

When statistical averages of Japan's 46 prefectures were calculated, the annual demonstrated budgetary flexibility appeared extremely stable in the long-run. The variation from minimum to maximum change in annual budget shares was slightly more than 2 percent. The minimum DBF was calculated as 1.79 percent while the maximum budget-share change, was only 3.82 percent. Thus, in the long-run, Japanese prefectures' budget-shares changed less than 4 percent in every case.

In the short-run, there was much greater variation in the prefectures' budget share stability (Table V). The range of budgetary flexibility has been measured as nearly 9 percent. The maximum annual budget-share change among the prefectures in the short-run is revealed in Table V as being 9.01 percent. This is a substantial increase and suggests that within some prefectures dynamic budgetary processes are in operation. It should be noted that my measurement of annual budget-share change, in both the long- and short-runs, has tended to understate DBF. This is
due to the averaging of eleven categories into six departmental categories. By consolidating some categories that were presented in the Japan Statistical Yearbooks I have understated DBF. Therefore, in the short run, there was greater instability among budget-shares than the 9.01 percent would indicate.

Table V indicates that budget-share outcomes, at the departmental level, are largely compatible with the norm of baransu. The 2.79 percent mean change in prefectural budget-share patterns illustrates the pronounced emphasis in Japan on fixed-percentage, across-the-board adjustments. A 2.79 percent mean change is quite an incremental adjustment. The maximum change indicated in the short-run (9.01%) probably would not be accepted as evidence of incrementalism by most researchers. Therefore, while the overall pattern suggests that incremental techniques are popular tools in prefectural budgetary strategy there are some individual exceptions to the rule.

The simple model employed in this paper does appear to predict behavior in both the short- and long-runs for the average prefecture quite well. But baransu seems to be much more in evidence in some prefectures and some years than in others. The short-run analysis, which depicts some large budget-share changes, does indicate that the norm of baransu does not pervade every individual budgetary process equally, in every prefecture in every year.
Table V

Long and Short Run Statistics Describing Japan's Prefectures Average Annual Demonstrated Budgetary Flexibility

(Long-Run = 46 cases)

<table>
<thead>
<tr>
<th>Demonstrated Budgetary Flexibility</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBF = $</td>
<td>BS_{hijk} - \hat{BS}_{hijk}</td>
<td>$</td>
<td>.0179 (1.79%)</td>
</tr>
</tbody>
</table>

(Short-Run = 460 cases)

<table>
<thead>
<tr>
<th>Demonstrated Budgetary Flexibility</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBF = $</td>
<td>BS_{hijk} - \hat{BS}_{hijk}</td>
<td>$</td>
<td>.0041 (.41%)</td>
</tr>
</tbody>
</table>
CHAPTER IV
EXPLAINING INTERPREFECTURAL VARIATION IN DEMONSTRATED BUDGETARY FLEXIBILITY

In Robert Rickards' final analysis, three explanatory variables were revealed to be significantly related to DBF under his general fund classification. In my study I have also tested general fund expenditures but have not considered, as does Rickards, total expenditures. The former classification represents non-capital expenditures that are covered by general revenue, the latter includes day-to-day operating expenses which are not covered by general revenue (capital construction projects, internal transfer payments, etc.) It should be noted that a prefecture or city may allocate from its general expenditures as it sees fit, and may more easily alter departmental budget-shares than it can with its total budget. 35

When I repeated Rickards' correlation and regression analyses in the Japanese setting, all three variables retained their statistical significance. The variables which remained important in my research measured local resource availability, environmental complexity, and interparty competition. These three explanatory variables were measured

35The three explanatory variables in Rickards' study which proved to be significantly related with budgetary flexibility in the general fund are: local resource availability, measured as the hypothetical per-capita yield from per-capita revenue-sharing receipts and from the four major local tax bases; environmental complexity, measured by the natural log of population size; and interparty competition, measured by the percentage of votes obtained by the SPD party.
somewhat differently in my study than in Rickards' dissertation. This modification may slightly weaken both the significance of my findings and their intersubjective comparability with Rickards' findings. This slight modification in the measured techniques of my three significant variables, as well as other proposed explanatory variables, was a necessary adjustment. It is not uncommon for a particular computer model, when subjected to other environments, to require some measurement modifications.

In Rickards' study local resource availability was measured by taxable capacity. My measurement of this variable was quite similar. Incomes from private corporations, unincorporated enterprises, and property were measured relative to population, as was compensation of employees. These four components were subjected to a GNP deflator index and then added together. The resulting measurement was then described as local resource availability.

Environmental complexity was measured in Robert Rickards' model by the natural log of city population size. In my study this variable was measured by prefectural populations size. The reason I did not use the natural log is because when plotted a downward sloping line was indicated whereas Rickards' plot revealed a downward sloping curve. The reason for this dissimilarity is the different ranges of population found in the two studies. In Germany, the population range of municipalities considered in Rickards' research was from 50,000 to 1.3 million. In Japan the prefectural population range was from 574,000 to 11.5 million. The discrepancy in the two plots may be related to a threshold effect. Once an environment gets over a certain size (e.g. 250,000) environmental complexity is no longer geometrically related to population size but rather it is arithmetically related. When a small governmental unit increases in
size, a large increase in environmental complexity also occurs. Yet a large governmental unit is already so complex that an increase in population does not affect its environmental complexity nearly as much.

Rickards' measurement of interparty competition was defined as the absolute value of 50% - % SPD votes. This measurement of votes was necessary in the German study since no information was available on the number of seats the SPD had in council. In Germany the percentage of votes for the SPD roughly coincides with the party's proportion of council seats. In Japan this estimate is not accurate. In rural areas, independent council members tend to vote with the LDP and conservatives simply may not run on the LDP label. To avoid this potentially weakening formulation I have measured interparty competition as the absolute value of 50% - % of LDP seats. The concept is the same but the measurement is somewhat different and less reliable due to the fact that some "independents" in fact are merely disguised LDP members. We do not know if an independent is really a non-label LDP member.

If Robert Rickards' conclusions concerning the above mentioned variables' relationship with DBF are correct, his findings ought to be broadly duplicated within this study; if his model is to become an empirically valid cross-national budgetary indicator. It is my expectations that Rickards' findings will be corroborated within this paper. His analysis revealed that as local resource availability increased, DBF also increased. In municipalities where resources were totally committed, the ability to initiate new programs and alter existing budget-shares was found to be minimal. Those cities which had a relatively greater capacity to generate revenue and realize a resource surplus over their existing commitments were found to be more able to engage in discretionary spending and alter their
existing budget-share patterns.

In his analysis, he found environmental complexity to be inversely related to DBF. Budget officials in more complex German municipalities were revealed to be less inclined to alter existing interdepartmental expenditure priorities. In more populous cities there are greater varieties of citizen demands initiated for the available goods and services. In big cities, budget-makers are confronted with both higher decision costs and more people who want a multitude of specific services. Therefore, in such a complex environment, there is a heavier reliance on stable share allocation rules than in less complex environments.

Although strong interparty competition might be considered by many proponents of democratic ideals to be positively related to increasing DBF, Rickards' study found this relationship to be unfounded. The fact that West German political parties do not enter into formal coalitions in municipal governments was a decisive factor for the results which followed. In more competitive situations no West German municipal party was capable of securing a majority of council seats and therefore a political majority to alter established budget-share patterns was lacking. Cities which were dominated by a single party in Germany tended to demonstrate greater budgetary flexibility. In Japan's prefectures, political parties also do not enter into formal coalitions. My findings ought to suggest the same relationship between interparty competition and DBF as did Rickards' dissertation.

In order to substantiate the assumed relationship between environmental complexity and budgetary flexibility I have included Table VI in this analysis. If population size is indeed a good indicator of environmental complexity, the following correlation table should demonstrate that
Table VI

Testing the Relationship Between Prefectural Population Size and Environmental Complexity

Short-Run Analysis

<table>
<thead>
<tr>
<th></th>
<th>Prefectural Employees</th>
<th>General Employees</th>
<th>Population Size</th>
<th>GWAPPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlation Coefficients/Prob</strong></td>
<td><strong>R under H0:RHO=0/# of observations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREFECTURAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>1.00000</td>
<td>0.95884</td>
<td>0.93444</td>
<td>0.85210</td>
</tr>
<tr>
<td></td>
<td>0.0000</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>460</td>
<td>460</td>
<td>460</td>
<td>460</td>
</tr>
<tr>
<td>GENERAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>0.95884</td>
<td>1.00000</td>
<td>0.80767</td>
<td>0.77317</td>
</tr>
<tr>
<td></td>
<td>0.0001</td>
<td>0.0000</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>460</td>
<td>460</td>
<td>460</td>
<td>460</td>
</tr>
<tr>
<td>POPULATION_SIZE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.93444</td>
<td>0.80767</td>
<td>1.00000</td>
<td>0.81282</td>
</tr>
<tr>
<td></td>
<td>0.0001</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>460</td>
<td>460</td>
<td>460</td>
<td>460</td>
</tr>
<tr>
<td>GWAPPE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.85210</td>
<td>0.77317</td>
<td>0.81282</td>
<td>1.00000</td>
</tr>
<tr>
<td></td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td>460</td>
<td>460</td>
<td>460</td>
<td>460</td>
</tr>
</tbody>
</table>
as population increases the complexity of the decision-making environment also increases. Increasing environmental complexity involves the need to allocate more resources among more competing goals. The variables included in this table are all civil servants (prefectural and general employees, population size, and the total amount of money spent by the prefectures on the six major expenditure categories (GWAPPE). Budget size and the number of civil servants are indicators of resources and competing budget goals. Civil servants indicate the latter because almost all programs require administrative staffs. If the relationships uncovered among these variables are highly intercorrelated, the variable population size can be accepted as a valid indicator of environmental complexity.

Table VI demonstrates that a high level of intercorrelation does exist among the variables included in the correlation matrix. These findings seem to substantiate the argument that as population increases the complexity of the decision-making environment increases. Prefectures with larger population sizes tended to employ more civil servants and to spend more money. Thus there was a concurrent increase in the complexity of the administrative decision-making process with increased population size.

Tables VII and VIII describe the variation in the significant explanatory variable and the dependent variable (DBF) in both the short- and long-run. The variation in budgetary flexibility has been previously discussed in Chapter III. In the following analysis I will concentrate on the variation uncovered concerning the three significant explanatory variables.

In the short-run (Table VII), a large disparity was found to exist between different prefectures' local resource availability. It should be
Table VII

Descriptive Statistics for Dependent and Explanatory Variables

(Short-Run = 460 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Budgetary Flexibility</td>
<td>09.01</td>
<td>00.41</td>
<td>02.79</td>
<td>1.363</td>
</tr>
<tr>
<td>Local Resource Availability*</td>
<td>51.924</td>
<td>9.729</td>
<td>24.367</td>
<td>6.525</td>
</tr>
<tr>
<td>(real yen/capita)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>11,669,162</td>
<td>568,776</td>
<td>2,296,783</td>
<td>1,039,848</td>
</tr>
<tr>
<td>(population size)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>17.725</td>
<td>0.000</td>
<td>8.525</td>
<td>4.085</td>
</tr>
<tr>
<td>(50%-% LDP seats)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*in millions of yen
Table VIII

Descriptive Statistics for Dependent and Explanatory Variables

(Long-Run = 46 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Budgetary Flexibility</td>
<td>03.82</td>
<td>01.79</td>
<td>02.79</td>
<td>0.422</td>
</tr>
<tr>
<td>Local Resource Availability*</td>
<td>42.245</td>
<td>16.975</td>
<td>24.367</td>
<td>4.638</td>
</tr>
<tr>
<td>(real yen/capita)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>11,448,434</td>
<td>574,583</td>
<td>2,296,783</td>
<td>1,046,413</td>
</tr>
<tr>
<td>(population size)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>16.320</td>
<td>2.862</td>
<td>8.525</td>
<td>3.300</td>
</tr>
<tr>
<td>(50%-% LDP seats)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*in millions of yen
noted that all income related variables were subjected to a GNP price deflator and thus represent real per capita figures. While the poorest prefecture had slightly less than 10 million yen of income to allocate among its various departments and expenditure categories, the richest prefecture had more than five times the available local resources to draw upon. If Rickards' assertions are correct those cities with greater fiscal autonomy (greater local resource availability) ought to demonstrate greater budgetary flexibility.

As Table VII indicates, there is a great variation in Japan's prefectures' populations. The maximum population size (Tokyo) was nearly 12 million while the smallest prefecture (Tottiro) had a population twenty times smaller than Tokyo's (568,776). In order for my finding to substantiate Rickards', larger prefectures should tend to demonstrate a greater reluctance to alter existing interdepartmental expenditure priorities than smaller prefectures.

In the short-run analysis (Table VII), interparty competition varied from a prefecture where the LDP held exactly 50 percent of the council seats (0.000) to a prefecture where the LDP was in strong control, holding nearly 68 percent of the council seats (17.725). The mean score (8.5), or roughly 58.5 percent of the seats, indicates that, on average, the LDP can feel quite secure about its dominant position. If Rickards' reasoning is correct my findings should show that in prefectures where the LDP has a strong control of council seats (less interparty competition and thus a higher score on this measure) budget-share patterns are more easily altered than in a more competitive situation.

The long-run analysis of these three significant explanatory variables (Table VIII) also depicts a great degree of variation among Japanese
prefectures. The reason why maximum scores dropped and minimum scores increased, relative to the short-run, is because of the averaging effect adopted for calculating the means of the 46 prefectures, in the various variables tested, over the ten-year time-series. To answer the questions concerning the conditions under which prefectures ought to demonstrate greater budgetary flexibility, the following summary is presented. Increasing DBF is associated with higher levels of local resource availability, or lower levels of environmental complexity or interparty competition. A low interparty competition level is indicated by a high score on my measure.

The long-run analysis is statistically more interesting than is the short-run. Statistical tables reveal that my long-run analysis is capable of explaining 36 percent of the variance while the short-run can only explain 12 percent of the variance. This point should be considered when reading my results.

Table IX and X describe the zero order correlations for the significant variables in both the short- and long-run. In Table IX the short-run correlation matrix reveals that there is a moderately high level of intercorrelation exhibited between local resource availability and environmental complexity. The resulting $R (.61140)$ also indicates that as population increases, local resource availability per-capita increases. The significance level of this relationship (.0001) is well within the .05 significance level range.

The variable environmental complexity is not statistically significant with DBF (.3227) in the short-run (Table IX). The direction of this relationship is opposite to my expectations. If the theoretical relationship between DBF and environmental complexity is correct there should be a
Table IX

Zero-Order Correlations
Correlations of the Significant Variables Without Controls
(Short-Run = 460 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Demonstrated Budgetary Flexibility</th>
<th>Local Resource Availability</th>
<th>Environmental Complexity</th>
<th>Interparty Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated</td>
<td>1.00000</td>
<td>0.29312</td>
<td>0.04621</td>
<td>0.09739</td>
</tr>
<tr>
<td>Budgetary Flexibility</td>
<td>0.00000</td>
<td>0.0001</td>
<td>0.3227</td>
<td>0.0368</td>
</tr>
<tr>
<td>Local Resource</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability</td>
<td>0.29312</td>
<td>1.00000</td>
<td>0.61140</td>
<td>-0.16600</td>
</tr>
<tr>
<td></td>
<td>0.0001</td>
<td>0.0000</td>
<td>0.0001</td>
<td>0.0003</td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>0.04621</td>
<td>0.61140</td>
<td>1.00000</td>
<td>-0.28901</td>
</tr>
<tr>
<td></td>
<td>0.3227</td>
<td>0.0001</td>
<td>0.0000</td>
<td>0.0001</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.09739</td>
<td>-0.16600</td>
<td>-0.28901</td>
<td>1.00000</td>
</tr>
<tr>
<td></td>
<td>0.0368</td>
<td>0.0003</td>
<td>0.0001</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
Table X
Zero-Order Correlations
Correlations of the Significant Variables Without Controls
(Long-Run = 46 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Demonstrated Budgetary Flexibility</th>
<th>Local Resource Availability</th>
<th>Environmental Complexity</th>
<th>Interparty Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Budgetary Flexibility</td>
<td>1.00000</td>
<td>0.36793</td>
<td>0.08362</td>
<td>0.23016</td>
</tr>
<tr>
<td>Local Resource Availability</td>
<td>0.0119</td>
<td>1.00000</td>
<td>0.83910</td>
<td>-0.24622</td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>0.08362</td>
<td>0.83910</td>
<td>1.00000</td>
<td>-0.34018</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.23016</td>
<td>-0.24622</td>
<td>-0.34018</td>
<td>1.00000</td>
</tr>
</tbody>
</table>

*Significance level at .05
negative sign in front of 0.04621 because Rickards' findings indicate that there is an inverse relationship between the two variables. As environmental complexity increases budgetary flexibility should decrease. The reason for environmental complexity's described relationship with DBF in Table IX may be due to the failure to control for the effects of the other explanatory variables.

In Table IX, the significance level (0.0368) and the correlation coefficient (R) for interparty competition (0.09739) do give credence to the theory which I have previously expounded. Although there is a negative relationship between this variable and DBF the resulting R is positive because of my measurement technique. A positive association reveals that as interparty competition decreases demonstrated budgetary flexibility increases.

Table X includes the long-run analysis of the significant variables. As in the short-run table, a high level of intercorrelation between local resource availability and environmental complexity (.83910) is revealed. The significance level (.0001) of this relationship remained strong in the long-run. Local resource availability's relationship with DBF remained quite similar to the short-run analysis.

The relationship between environmental complexity and DBF was again found not to be statistically significant (.5806), and the direction of this relationship was still opposite to that suggested by theory. However, before concluding that this assertion of Robert Rickards is invalid in the Japanese context, I will control for the other explanatory variables.

In Table X rising interparty competition remained negatively related to DBF (as interparty competition rises budgetary flexibility decreases), but the significance level (0.1239) deteriorated. The validity of the
findings suggested in Tables IX and X will be tested by controlling for potential contaminating elements (second-order correlations).

In Tables XI and XII the correlation between the dependent variable (DBF) and each significant explanatory variable, controlling for the other two explanatory variables, is examined. These second-order correlations are both more significant and informative than the previous correlation tables because the effects of the other explanatory variables are not allowed to contaminate the true relationship between DBF and each individual explanatory variable.

The results depicted in Table XI indicate that the other explanatory variables were indeed contaminating the results in the short-run analysis. Local resource availability remained significant (0.000) and its R (0.3357) suggest that it is the strongest candidate predictor of DBF.

When both local resource availability and interparty competition were controlled, environmental complexity became both statistically significant (0.001) and its correlation coefficient became negative (-0.1445). The data supports the theoretical proposition which Rickards’ had drawn from his study of West German municipalities. As environmental complexity decreases DBF increases.

Table XI also reveals that interparty competitions R is much stronger than short-run zero-order correlation revealed (0.1179). The statistical significance of this variable also increased dramatically to .006 from a previous zero-order significance of .0368. The contaminating influence in this case was mostly from environmental complexity's negative association with interparty competition. When this negative association was controlled for interparty competition was revealed as a much better predictor of DBF than it was previously portrayed to be in the zero-order short-run analysis.
Table XI

Second-Order Correlations
Correlations Between Demonstrated Budgetary Flexibility and Each Explanatory Variable, Controlling for the Other Two Explanatory Variables

(Short-Run = 460 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Demonstrated Budgetary Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Budgetary Flexibility</td>
<td>1.000000</td>
</tr>
<tr>
<td>Local Resource Availability</td>
<td>0.3357</td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>-0.1445</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.1179</td>
</tr>
</tbody>
</table>

*Significance level at .05
Table XII
Second-Order Correlations
Correlations Between Demonstrated Budgetary Flexibility and Each Explanatory Variable, Controlling for the Other Two Explanatory Variables

(Long-Run = 46 cases)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Demonstrated Budgetary Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Budgetary Flexibility</td>
<td>1.0000</td>
</tr>
<tr>
<td>Local Resource Availability</td>
<td>0.5511</td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>-0.3925</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.2807</td>
</tr>
</tbody>
</table>

*Significance level at .05
The long-run second-order correlation (Table XII) also indicates that my zero-order results were weakened by contamination from the uncontrolled explanatory variables. In the long-run, the strength of local resource availability's correlation increased from a zero-order $R$ of $0.36793$ to a second-order $R$ of $0.5511$. Its statistical significance also increased markedly from $0.0119$ to $0.000$.

As in the short-run, the second-order correlation of environmental complexity with DBF became negative ($-0.3925$) and thus theoretically justifiable. Its statistical significance level also increased dramatically from a zero-order level of $0.5806$ to a second-order level of $0.004$.

Table XII shows that interparty competition's $R$ value remained almost identical to its zero-order correlation coefficient ($0.2807$). Yet its statistical significance rose from $0.1239$ to $0.032$.

In both the short- and long-run second-order correlations, all three explanatory variables were revealed as being both statistically more significant and having higher correlation coefficients than they did in the uncontrolled zero-order tables. These findings support Robert Rickards' theories concerning budgetary flexibility and its relationship to the three significant explanatory variables considered in both of our studies.

The preceding analysis has further confirmed the theoretical relationship between DBF and local resource availability, environmental complexity, and interparty competition. The results of this analysis may be summarized as follows. As local resource availability increases, prefectures are better able to redistribute budget resources and change budget-share patterns. DBF is positively associated with rising local resource availability. As environmental complexity increases the prefectures' budgetary
finance officers' decision-making environment becomes more complex due to the increasing number of citizen demands, governmental employees, and the amount of money to be spent on various expenditure categories. In such a complex environment, budget-share patterns are less easily altered. The results in this chapter have also shown that in a more competitive political situation, where no single party can muster a majority, budget-shares are less flexible than in a less competitive situation.

Regression analyses of these significant variables are presented in Tables XIII and XIV. Table XIII reveals that the short-run model is capable of accounting for 12.65 percent of the interprefectural differences in DBF (RSQR = .1265). In Table XIV the long-run is shown as being able to account for 36.12 percent of the interprefectural differences in DBF (RSQR = .3612). While the short-run can only explain a little of the variance the long-run is capable of explaining a good amount of the variance. The reasons why I am able to account for such a small amount of variance in the short-run is because of the greater influence on this model of many undefined variables. To the extent that these undefined variables' effects are random, they should offset one another in the long-run, enhancing the values of my three explanatory variables. The evidence indicates that this capability of the long-run to explain more of the variance is the case in my analysis.

The beta weights of the explanatory variables measures each one's contribution to the variance explained in the short- and long-run. In Table XIII the beta weight of local resource availability indicates that it is the most useful of the three explanatory variables, accounting for 58 percent of the explained variance.
Table XIII
Short-Run Regression of Demonstrated Budgetary Flexibility on Local Resource Availability, Environmental Complexity, and Interparty Competition

n=460  mult. r = .35565  RSQR = .1265  Root MSE = .025560
Dep. Mean = .005845  F = 22.010

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Beta</th>
<th>Error B</th>
<th>F</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Resource</td>
<td>.879377D-01</td>
<td>.42100~</td>
<td>.01155</td>
<td>57.928</td>
<td>.0001</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>-.232893D-06</td>
<td>-.17769</td>
<td>.00000</td>
<td>9.725</td>
<td>.0019</td>
</tr>
<tr>
<td>Complexity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interparty</td>
<td>-.38655320D-01</td>
<td>.11592</td>
<td>.01525</td>
<td>6.428</td>
<td>.0116</td>
</tr>
<tr>
<td>Competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table XIV

Long-Run Regression of Mean Demonstrated Budgetary Flexibility on Mean Values of Local Resource Availability, Environmental Complexity, and Interparty Competition

\[
n=46 \quad \text{mult. } r = .60130 \quad \text{RSQR} = .3612 \quad \text{Root MSE} = .006981
\]

\[
\text{Dep. Mean} = .055845 \quad F = 7.917
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Beta</th>
<th>Standard Error B</th>
<th>F</th>
<th>Prob. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Resource Availability</td>
<td>.8852304D-01</td>
<td>.97319</td>
<td>.02068</td>
<td>18.319</td>
<td>.0001</td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>-.2613509D-06</td>
<td>-.64818</td>
<td>.00000</td>
<td>7.650</td>
<td>.0084</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>.2961381D-01</td>
<td>.24928</td>
<td>.01563</td>
<td>3.592</td>
<td>.0650</td>
</tr>
</tbody>
</table>
Environmental complexity was consistently the second strongest predictor in the short-run regression, as it had been in the previous tables. Both its beta weight and significance level (.0019) reconfirmed its theoretical relationship with DBF. Interparty competition also remained significant in Table XIII.

In Table XIV the three explanatory variables retained their proportional predictive capabilities with local resource availability again having the highest beta weight (52 percent) and strongest statistical significance (.0001). The fact that interparty competition has a significance score of .065 should not be taken as depicting its statistical invalidity. This decline in significance is due in part to the increased explanatory power of the other two explanatory variables in the long-run. Another reason for this decline is the imprecise measurement technique employed for this variable. It is not known how many independent seat holders really are disguised LDP numbers.

This chapter has helped define the relationship between DBF and the explanatory variables. An increase in DBF results from either an increase in local resource availability or a decrease in environmental complexity or interparty competition. In the short run, the beta weights indicate

36 During the development of this thesis a number of proposed explanatory variables were tested for their relationship with budgetary flexibility. Of these variables only three were found to be statistically significant (the same variables which Rickards found to be significant in his general fund analysis). A number of other explanatory variables were discarded from my study because of their high intercorrelation with my measurement of local resource availability. These discarded variables measured local taxes, shared taxes, and treasury disbursements. These variables may serve as potential indicators of further significant relationships with demonstrated budgetary flexibility. A computer model where local resource availability is controlled for, in relation to these discarded variables, might uncover some important relationships between these three variables and budget-share flexibility.
that local resource availability is nearly 2.5 times stronger a predictor of DBF than is environmental complexity, and nearly 4 times better at predicting DBF than is interparty competition. Clearly the policy variable for national-level officials to manipulate in order to increase prefectural demonstrated budgetary flexibility is local resource availability. One way this might be done is by the national government supplying lower interest loans for private corporation construction projects in low DBF prefectural areas.
CHAPTER V
CONCLUSIONS

Local resource availability remained the strongest predictor of demonstrated budgetary flexibility in both the short- and long-run analysis. The evidence presented in the statistical tables supports the argument that prefectures with higher levels of local resource availability tend to demonstrate higher levels of budget-share flexibility.

Aaron Wildavsky’s research corroborates the importance of economic wealth to budgetary strategy. He has indicated that economic wealth (local resource availability) is one of the most significant influences on American cities’ budgeting behavior. The relative level of economic resources is indeed the decisive factor underlying Japanese prefectures’ propensity to deviate from established budget-share patterns.

My findings support the view that wealthy prefectures are more apt to shift departmental budget-shares than are poorer prefectures. A possible explanation for this conclusion is the perceived cost of changing the budget-share strategy to accommodate a disproportional increase in a particular department. In wealthy prefectures the high level of local resource availability minimizes the absolute losses which advocates of alternative budget-share patterns must accept. This minimization of losses

tends to decrease political opposition to beginning these altered budget strategies. This information implies that the norm of baransu is more readily identifiable with some prefectures, in some years, than it is in others. The more wealthy a prefecture is the less its budget strategy will conform to baransu.

Environmental complexity also proved to be statistically significant to DBF in both the short- and long-run analyses. The data introduced in Chapter IV indicate that officials in more complex environments are less inclined to alter existing budget-share patterns across departments. Environmental complexity seems to cause decision-makers to depend more heavily on calculation aids and historical precedents.

This finding has been implied within John Campbell's research concerning Japan's national budgetary behavior. Campbell states that government finance officers rely on stable-share rules for allocating resources among administrative units because of the complexity of the decision-making process. This reasoning supports my finding that large prefectures are more dependent on stable-share rules because of their intricate and cumbersome environments.

John Crecine has stated that population is unrelated to a city's reliance on incremental strategies.

"A smaller city is faced with somewhat less complex problems involving fewer variables and interrelationships. This simplification is more than offset by the fact that the small cities also have fewer sources of information and computational abilities." 38

My research findings do not substantiate Crecine's reasoning that budget-

38 Crecine, op. cit., p. 222.
share patterns are independent of population size. Crecine's study concentrated on only a few large American cities. Because of this reliance on large cities, his analysis did not include a large variation in population sizes. Crecine should have checked his model on some smaller cities before pronouncing his conclusion concerning the relationship between environmental complexity and population size.

In Japan's prefectures, as in Germany's municipalities, the more competitive a party system is, the greater is its reluctance to depart from established budget-share patterns. This finding — that a positive relationship exists among decreasing interparty competition and increasing flexibility — runs counter to the conclusions of some preceding studies. It should be noted that, due to the measurement technique employed, when the measure increases in value, competition is decreasing.

Gerald Wright suggests that municipal governments with greater inter-party competition are more sensitive to public opinion demands calling for alterations in the budget-share patterns. Basic democratic theory implies that competition in the political spectrum ought to increase the representativeness, and consequently flexibility, of governmental resource allocation procedures. My findings have demonstrated that competition actually reduces budgetary-flexibility in Japan's prefectures.

In Japan, as in Germany, political parties at the prefectural or municipal level do not enter into formal coalitions. Therefore in a strongly competitive political race where the LDP does not have an effective

majority, no political party is able to control a majority of the council seats. In such a situation the consensus necessary for altering established budget-share patterns is not likely to develop. In both Japan and Germany, prefectures or municipalities with less interparty competition tend to demonstrate greater budgetary flexibility.

Although this study does not purport to be an in-depth comparative analysis, Table XV offers a summary investigation of both mine and Robert Rickards' statistical findings. When the beta weights were calculated for the three explanatory variables both studies indicated that local resource availability was the strongest predictor of DBF. In my study this variable was capable of explaining 52 percent of the models explainable variance while in Rickards' study this variable was capable of explaining 43 percent of his model's explainable variance. A model's explainable variance is only a proportion (36.12 percent in my long-run analysis) of the actual variance. The beta weights also illustrate that environmental complexity was the second best indicator of DBF in both studies.

Table XV also demonstrates that local resource availability retained its predominant statistical correlation significance in both studies. While my R measurement is somewhat stronger (.5511) than Rickards' (.4477) both are extremely significant. Both my correlation coefficient for environmental complexity (-.3925) and Rickards' (-.3206) depict the negative relationship of this variable to DBF. My interparty competition score (.2807) is nearly identical to Rickards correlation statistic (.2668). both of our findings support the relationship between increasing DBF and decreasing interparty competition. The extent of interparty competition is defined in both studies by the same equational formulation. Perfect interparty competition is denoted by a score of 0 percent and a one-party
Table XV

Comparative Summary of the Relationship Uncovered Between Demonstrated Budgetary Flexibility and the Three Explanatory Variables in both Japan's Prefectural Governments and West German Municipalities:

Long-Run Analysis of the General Fund

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta</th>
<th>F</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prefectural Data</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N = 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Resource</td>
<td>0.97319</td>
<td>18.319</td>
<td>0.5511</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>-0.64818</td>
<td>7.650</td>
<td>-0.3925</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.24928</td>
<td>3.592</td>
<td>0.2807</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta</th>
<th>F</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>German Municipalities Data</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N = 105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Resource</td>
<td>0.51236</td>
<td>55.173</td>
<td>0.4477</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Complexity</td>
<td>-0.46943</td>
<td>44.879</td>
<td>-0.3206</td>
</tr>
<tr>
<td>Interparty Competition</td>
<td>0.19466</td>
<td>7.742</td>
<td>0.2668</td>
</tr>
</tbody>
</table>

The data for my German municipalities table was extracted from Robert Rickards' dissertation entitled: Non-Routine Decision Making, pp. 186, 219, 237.
monopoly by a score of 50 percent. The findings in Table XV are encouraging indications of Robert Rickards' model's cross-national validity.

While, for the most part, my conclusions have substantiated Campbell's findings that Japan follows an incremental budget strategy (Table I), there is one point which is not entirely compatible with his. Campbell has stated that the LDP's effect on Japan's national budget tends to increase the stability among ministries' budget-shares. "The net effect of LDP participation has actually been to increase inertia by inhibiting attacks on backward-looking expenditures."^41

My research indicates that Japanese prefectural governments like their national counterpart, rely on aids-to-calculation when formulating their budget strategy. Yet the effects of the LDP on the prefectural budget strategy does appear to be more complex than Campbell contends. Those prefectures which exhibited less interparty competition demonstrated greater budgetary flexibility. Therefore, while the overall effect of the LDP may tend to be to inhibit conflict and maintain a consensus among budgetary participants, it also seems to play a dynamic non-incremental role in those prefectures which exhibit weak interparty competition.

Within this thesis I have tested the theoretical assumptions proposed by Robert Rickards. By applying his model to another culture and nation, and to a different level of government, my findings help to substantiate the empirical validity of his assumptions. The intersubjective comparability of these two national studies should increase the significance of any future cross-national comparisons. It is my recommendation that Robert

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^41 Campbell, Contemporary Japanese Budget Politics, p. 275.
Rickards' budgetary model be applied to a variety of other national contexts. Only through a number of case studies can these budgetary assumptions be more accurately tested and documented.

One idea for future research which has been generated by this analysis concerns the relationship between DBF and interparty competition. Do one-party states demonstrate more budgetary flexibility than do two-party or multiparty democracies? Are coalitions imperative to democratic party systems if they are to be more respondent to citizens' demands for alterations in the budget-share patterns? I believe that these questions could lead to some useful theoretical analyses and may prove to be quite interesting to future researchers.

In conclusion; the budget-share patterns at the Japanese prefectural level are largely compatible with the norm of baransu over the long-run analysis. The short-run analysis has indicated that there are frequent exceptions to the norm of baransu. Nevertheless, in both the short-run and long-run, the conditions which are most predictive of a prefecture's reliance and existing budget-share patterns, incremental aids to calculation, and baransu techniques, have been demonstrated as being: 1) a relatively low level of local resource availability, 2) a high level of environmental complexity, 3) a high level of interparty competition.
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VITA

Michael Gresalfi