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PERFORMANCE IN ASSESSMENT ADMINISTRATION:
PROPERTY RIGHTS ANALYSIS APPLIED TO THE
ADMINISTRATION OF THE PROPERTY TAX

By

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The last decade has seen public choice theory emerge as a major theoretical approach in American public administration. But at least one major problem precludes an uncritical acceptance of public choice theory. Public choice theory's reliance on market based definitions of freedom and efficiency to truncate the specifications of how individuals are interdependent in collective choice situations and what property rights govern those interdependencies introduces significant and unrecognized normative content into the analysis of public sector performance. This normative content inhibits the progressive development of theory by establishing market based models as superior to all others on an a priori basis; competition between alternative models is discouraged. This dissertation introduces an institutionalist interpretation of public choice theory as a means to correct this normative bias and its progress inhibiting influence on public choice theory. The institutionalist interpretation, because it rejects the market oriented definitions of freedom and efficiency, facilitates competition between alternative models of public sector performance.

This dissertation illustrates the utility of the institutionalist interpretation of public choice theory through an examination of local property tax administration in Michigan. Three models of property tax assessment performance and the tax revolt are developed. The first model is based on the traditional reform theory of governmental administration and the second represents the analysis of conventional public choice theory. The third model, identified as the property rights model, is based on the institutionalist interpretation of public choice theory. The property rights models are judged to be superior to the two conventional models if they are content increasing. That is, the property rights models of assessment administration and the tax revolt are judged to represent a progressive problem-shift in public choice theory if they meet three criteria. First, the property rights models must account for the success of the previous models. Second, the property rights models must predict novel facts over and above the explained content of the conventional models. Finally, some of those novel facts must be corroborated.

The property rights model is found to meet all three criteria. Most importantly, the property rights model of assessment performance predicts novel facts on the positive relationship of assessment performance and assessor professionalism and the interaction of assessor resources

and professionalism. The property rights model of the tax revolt hypothesizes a negative relationship between the level of taxation and support for the tax revolt. These hypotheses are corroborated using OLS regression analysis of data drawn from 696 Michigan municipalities. These results support the conclusion that the property rights model represents a progressive problem-shift in public choice theory.

While the role of the institutionalist interpretation of public choice theory in encouraging progressive theory development is the major focus of this dissertation, the findings also bear on several sets of substantive literature including the public choice literature on the scale of public goods provision, the assessment performance literature, and the tax revolt literature. In each of those cases, the findings presented in the dissertation challenge major themes in the existing literature. The findings challenge the public choice emphasis on small jurisdictions and minimum bureaucratization as a means to improve performance. They also challenge the weak role accorded assessor professionalism in the assessment literature. The tax revolt literature is challenged by the finding of a negative relationship between support for the tax revolt and the level of taxation. Finally, the findings also contribute to the public policy process by testing many of

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the proposals of the 1976 Michigan Governor's Advisory Task Force on Property Tax Revision. The results support many of the Task Force reform proposals.

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CHAPTER I

RESTRUCTURING PUBLIC CHOICE THEORY AS A
RESEARCH PROGRAM

The intellectual or paradigmatic crisis in public administration theory is so often noted that it has become conventional wisdom. The collapse of the traditional reform theory under the weight of Simon's critique has left (Simon, 1946), it is argued, a void that has yet to be filled. Because many believe that theory development cannot progress without the guiding hand of a dominant paradigm (Ostrom, 1974), considerable time has been spent suggesting new approaches that would define "normal science" in public administration. A variety of "paradigms" have been proposed, criticized, and, for the most part, forgotten.

The last decade has seen public choice theory emerge as one of the major contenders as a new definition of normal science in public administration (Ostrom, 1974).¹ But more

¹Public choice theory analyzes the public sector as a series of exchange transactions and has been applied to four public sector issues (Buchanan, 1975, pp. 385-389). The first and earliest application was in the development of the theory of the demand for public goods (i.e., Samuelson, 1954). A second application of public choice theory is the theory of voting (i.e., Arrow, 1951; Black, 1948). The theory of constitutions is the third area of application (i.e., Buchanan and Tullock, 1962). While the analysis presented here may have some relevance to these applications, I am primarily concerned with a fourth application, the theory of the supply of public goods (i.e., Downs, 1957;

recently, public choice theory has come under serious attack. Robert Golembiewski and Norman Furniss have authored perhaps the most influential of these critiques.² They have concluded that public choice theory "is not very useful in generating insights into the problems of politics" (Furniss, 1978, p. 399) and should be accepted with "great caution" (Golembiewski, 1977, p. 1507) if accepted at all. It seems that we are entering the familiar cycle of enthusiasm, disillusionment, and ultimate rejection once again.

While it is doubtful that public choice theory will fade away as have other pretenders to the normal science throne, it may be worthwhile to step back from the current controversy and both assess the status of public choice theory in light of the recent critique and, more broadly, reexamine the nature of the normal science interpretation of the paradigmatic crisis. This chapter begins by examining

Downs, 1967; Niskanen, 1971; Bartlett, 1973). The fourth area is the one both most relevant and most familiar to public administration through the work of Vincent Ostrom and Robert Bish (Bish, 1971; Bish and Ostrom, 1973; Ostrom, 1974).

²While Golembiewski and Furniss have authored the most well known critiques of public choice theory within the political science and public administration literature, their criticisms are hardly original. All of their criticisms have been made before by institutional economists. Samuels and Schmid have identified and critiqued the normative biases of conventional public choice theory through its reliance on the Coase, Pareto and Tiebout rules (Samuels, 1972; Schmid, 1978). In these works one finds consideration of the distributive consequences of rights modifications, a broader interpretation of externalities, and a questioning of the presumption of market superiority. Their work goes significantly beyond the Golembiewski and Furniss critiques as will be seen in a later section of this chapter.

the work of Imre Lakatos as an alternative approach to conceptualizing the crisis and defining progress in the development of theory. The next section decomposes and reconstructs public choice theory to be consistent with the requirements of a Lakatosian research program. The criticisms of Golembiewski and Furniss are evaluated in the third section and, while most of them are found to be irrelevant, serious doubts are raised about the viability of public choice theory as a research program. The fourth section proposes an institutionalist restructuring of public choice theory as a research program with at least the potential of generating progressive problem-shifts in public administration theory. The final section of this chapter introduces property taxation as a substantive political issue which is used in this dissertation to illustrate the institutionalist interpretation of public choice theory by testing it against the conventional or neoclassical version of public choice theory.

Progress in the Development of Theory:
A Lakatosian Perspective

The many clarion calls of crisis in public administration theory suggest that there has been little progress in the development of that theory since Simon's critique of the traditional reform theory over three decades ago. But these calls only "suggest" a crisis because they have been grounded on, at best, a very weak notion of progress. A precise model of progress is required before the

progressiveness of public administration theory in general and public choice theory in particular can be assessed. The work of Imre Lakatos is examined in this section as a consistent and sophisticated approach to understanding progress (Lakatos, 1970).³ Lakatos' approach is developed and contrasted to the weaker models of progress implicit in public administration theory. In later sections, the Lakatosian model of progress is used to decompose and reconstruct public choice theory and to evaluate the critique of public choice theory.

The essential point of the Lakatos approach inheres in his understanding the role of competition. Progress in the development of theory occurs as a result of competition between alternative theories about a phenomena under study. But not all competition is of the same value to Lakatos; some types of competition inhibit progress in theory development. Accordingly, Lakatos posits a set of rules to channel competition into a progressive mode.

The first rule, or negative heuristic, suggests that certain types of research competition should be avoided (Lakatos, 1970, p. 132). Specifically, Lakatos argues that competition over the underlying assumptions or hard core of alternative theories should be avoided. As Ball has written,

³Lakatos' understanding of the role of research programs in the development of theory has been applied to the public administration literature only rarely. Charles Ostrom, for example, has used the Lakatosian model to analyze the incremental budgeting literature, an analysis that has greatly influenced this effort (Ostrom, 1978).

"We can never get anywhere if we dwell always upon the 'fundamental assumption' of a theory (or set of theories), instead of its 'payoff'. The 'handsoff' policy prescribed by the negative heuristic allows the scientist to get on with his work without having to constantly defend his core assumptions" (Ball, 1976, p. 163). Debate over the hard core assumptions is very difficult to resolve and, if pursued, leaves little time for developing a theory.

Instead, the second rule, or positive heuristic, directs our attention to competition between refutable variants of a single theory where the refutable variants consist of sets of auxiliary hypotheses, each of which is associated with or operationalizations of that theory's hard core. Lakatos has concluded that, "We must use our ingenuity to articulate or even invent 'auxiliary hypotheses', which form a protective belt around [a] core, and we must direct the modus tollens to these. It is this protective belt of auxiliary hypotheses which has to bear the brunt of tests and get adjusted and readjusted, or even completely replaced, to defend the thus hardened core" (Lakatos, 1970, p. 133). Under the positive heuristic, there is progress as long as the competition between alternative protective belts produce progressive problem shifts.

Let us take a series of theories, T_1, T_2, T_3, \dots where each subsequent theory results from adding auxiliary clauses to (or from some semantical re-interpretation of) the previous theory in order to accommodate some anomaly, each theory having at least as much content as the unrefuted content of its predecessor.

Let us say that such a series of theories is theoretically progressive (or 'constitutes a theoretically progressive problemshift') if each new theory has some excess empirical content over its predecessor, that is, if it predicts some novel, hitherto unexpected fact. Let us say that a theoretically progressive series is also empirically progressive (or 'constitutes an empirically progressive problemshift') if some of this excess empirical content is also corroborated, that is, if each new theory leads us to the actual discovery of some new fact. Finally, let us call a problemshift progressive if it is both theoretically and empirically progressive, and degenerating if it is not. We 'accept' problemshifts as 'scientific' only if they are at least theoretically progressive; if they are not, 'reject' them as pseudo-scientific. Progress is measured by the degree to which a problemshift is progressive, by the degree to which the series of theories leads us to the discovery of novel facts. We regard a theory in the series 'falsified' when it is superceded by a theory with higher corroborated content. (Lakatos, 1970, p. 118)

In sum, the positive heuristic both directs competition and provides sophisticated falsificationist criteria for evaluating the progressiveness of that competition. Our attention is focused on competition between theories based on a single set of hard core assumptions where, "the crucial element in falsification is whether the new theory offers any novel, excess information compared with its predecessor and whether some of this excess information is corroborated" (Lakatos, 1970, p. 120).⁴

⁴Lakatos does allow for a form of competition between research programs that is analogous in some ways to the positive heuristic within research programs (Lakatos, 1970, pp. 154-159). But such competition takes place over an extended period of time and is over experimental results, not the respective hard cores of the competitors. For our purposes, the negative heuristic remains the dominant guide to the relationship between research programs. It directs rival research programs to be tolerant and not challenge their competitors' hard core assumptions.

This understanding of progress stands in sharp contrast to the models of progress implicit in the public administration literature. That literature has largely consisted of an ad hoc collection of either non-competing or inappropriately competing approaches since the collapse of the traditional reform theory. Dwight Waldo illustrated the weakest of two conventional understandings of progress when he surveyed the literature and concluded that:

Plainly, we have much more "organizational theory" than we had two decades ago. But do we know more about organizations? Of course . . . I believe we are the beneficiaries, not the victims of the wide varieties of theories: all (well, nearly all) enable us to see something we otherwise could not see or do. Whether this conclusion is accepted depends centrally on the definition given to knowing. . . . My own definition--no more an act of faith than that of the most narrow and rigid Scientific Methodologist--is a loose and pragmatic one. I find biological evolution a better analogy for the evolution of "social science" than the word pictures of the development of theoretical physics. (Waldo, 1978, p. 597)

Waldo is at least right on one point--this does represent a key epistemological problem facing public administration. But the model of progress illustrated by the Waldo quote is clearly limited. First, this eclectic approach relies on at best a naive understanding of progress as simply growth in the number of "theories", the number constantly expanding to account for anomolies after anomolies. Lakatos drew a line of "demarcation between 'mature science' consisting of research programs [competition between alternative protective belts around a single hard core], and 'immature science' consisting of a mere patched up pattern of trial and error" (Lakatos, 1970, p. 175). He has argued that this immature

type of "theorizing has no unifying idea, no heuristic power, no continuity. They do not add up to a genuine research programme and are, on the whole, worthless" (Lakatos, 1970, p. 176). I think that it is not unreasonable to identify much of public administration theory as immature at least in part because of this naive understanding of progress.

Second, this eclectic approach is highly ambiguous on the role of competition. On the one hand, Waldo advocates a benign acceptance of all (well, nearly all) theories. On the other hand, he analogizes this approach to biological evolution, surely one of the most deadly competitive of processes. Beyond ambiguity, however, competition is of limited use in this approach. Without well defined research programs because of the naive notion of progress, any competition that does occur is likely to be between alternative hard cores and thus in violation of the negative heuristic, a waste of scarce research time.

A more sophisticated notion of scientific progress is found in the well-known work of Thomas Kuhn (Kuhn, 1962). The Lakatos approach is on the surface very similar to Kuhn's model of progress. Both stress competition and both direct criticism away from the hard core assumptions of a theory as long as progressive problem-shifts occur. But whereas Lakatos' negative heuristic encourages tolerance between any number of research programs, a Kuhnian paradigm if hegemonic; a Kuhnian paradigm dominates research within a field. Kuhn's approach may be useful in describing the

broad historical development of a science, but its effect as a guide to progress in a period of intellectual crisis may be pernicious if taken dogmatically as illustrated by the introduction of public choice theory in public administration. Vincent Ostrom emphasized the role of public choice theory as a Kuhnian paradigm in his presentation of that approach (Ostrom, 1973, pp. 1-22). The acceptance of public choice theory as a Kuhnian paradigm would obviously undermine the viability of other research programs; they would be defined as illegitimate as long as public choice theory generated progressive problem-shifts. Thus, proponents of other research programs would have a direct stake in the status of public choice theory leading to a life and death struggle between research programs, a direct violation of the negative heuristic. This misapplication of Kuhn's approach has led to confrontations such as the exchange between Ostrom and Golembiewski (Golembiewski, 1977; Ostrom, 1977) where they compete for a monopoly position in public administration by directly attacking the hard core of each others approach. This type of competition makes for interesting reading, but is of little value. If a theoretical approach comes to be accepted as normal science, its acceptance will occur as a result of its demonstrated superiority in generating progressive problem-shifts, not by discrediting the hard core of any alternative approach. The Lakatosian model, with its emphasis on a negative heuristic, offers a more useful understanding of and guide to

scientific progress in a period of intellectual crisis.

Decomposing Public Choice Theory

The notion of progress developed in the previous section requires that we clearly specify the analytic elements of public choice theory before its progressiveness can be assessed. Moreover, we can not characterize the Golembiewski and Furniss critiques as progressive or irrelevant unless we can specify the relationship of their arguments to the hard core and protective belt of public choice theory.⁵ Such a specification is developed below in three steps. First, the hard core of public choice theory is identified as consisting of the neoclassical economic model of man and a model of the structure of events. This is followed by a discussion of the value criteria used to specify the protective belt of neoclassical public choice theory. Finally, the policy prescriptions flowing from the public choice model are identified.

Articulating the Hard Core

The hard core of public choice theory consists of the juxtaposition of the economic model of man with a model of the structure of events governing collective choice (Furniss, 1978, p. 399). The economic model of man consists

⁵Golembiewski and Furniss present extremely sketchy presentations of public choice theory (one or two paragraphs). This is not a very solid foundation for their critiques as readers are left in the dark on whether a particular criticism provides a fundamental or peripheral challenge to public choice theory.

of five now familiar assumptions about individual decision-making. Individuals are assumed to be rational, self-interested utility maximizers who make decisions under certain information constraints⁶ and under conditions of law and order where rights are completely specified and enforced by a political system (Ostrom, 1974, pp. 50-52; Ostrom, 1977, pp. 1511-1514; Goldberg, 1974, pp. 556-667; Furobotn and Pejovich, 1972, p. 1138).

Public choice incorporates this model of man into a precise structure of events which defines the basic analytic framework of public choice theory. Schmid has spoken of the structure of events as the interrelations of interdependence, structure, behavior, and performance (Schmid, 1978b, pp. 178-186). The first two elements, interdependence and structure, define the collective choice problem in which individuals are embedded. Interdependence arises when A's choice affects B's choice and is a direct result of allocating goods and services under the condition of scarcity. Public choice theorists argue that the precise nature of interdependence in any choice situation is dependent on the technological character of the good or service in question (Ostrom, 1977, p. 1516). This makes the

⁶While public choice theory is consistant on the other hard core assumptions, considerable variation exists on the information assumption. Some have assumed complete information (i.e., Coase, 1960; Tiebout, 1965). Others posit considerable uncertainty due to lack of information (i.e., Downs, 1966; Ostrom, 1974; Bartlett, 1973). Still others use the previous two alternatives at different stages in the same analysis (i.e., Downs, 1957).

identification of the technological character of goods and services a critical task of public choice theory. As a result, a very extensive body of literature has developed which attempts to categorize the characteristics of goods and services from a variety of conceptual perspectives including externalities, transactions costs, excludability, market failure, and joint supply. (For a summary of this literature, see Burkhead and Miner, 1971, pp. 97-141.) Taken together, this literature attempts to specify how production under scarcity makes A and B's choices interdependent.

The collective choice problem is further defined by structure which consists of the set of property rights governing a particular situation of interdependence. When A and B's choices conflict, the structure of property rights defines who may do what to whom to resolve the interdependent choice situation. As Schmid has noted, "the situation creates interdependence, but it is the structure of rights that gives order to this interdependence and determines the opportunity sets of the interdependent parties" (Schmid, 1978b, p. 179). These rights can arise from a number of sources and represent the totality of social relations that govern the resolution of an interdependent choice situation (Furobotn and Pejovich, 1972; Demsetz, 1967; Alchian and Demsetz, 1973).

It is on the third element of the model of the structure of events, behavior, that the model of man and

interdependence and structure interact. Interdependence defines the choice situation and structure defines the opportunity sets of A and B relative to that choice situation. The model of man is used to generate predictions on what specific actions A and B will select from their opportunity sets. Having identified A and B as rational, self-interested, utility maximizers who make decisions under certain information constraints and under the condition of law and order, we can predict which actions in their respective opportunity sets A and B will select to resolve the collective choice problem.

The fourth element of the model of the structure of events is performance or the choice outcome. That is, in a situation of interdependent choice, whose preferences count? Having predicted the behavior of A and B, we can predict whether A or B's preferences will be satisfied. The model of man and the model of the structure of events constitute the hard core of public choice theory. The more problematic task of operationalizing the hard core can now be addressed.

Articulating the Protective Belt

The critical task of the protective belt is to operationalize the hard core of public choice theory. This task is particularly complex in regard to the situation of interdependence and the structure of rights governing the collective choice problem. There are numerous ways in which A and B could be interdependent and any number of actions

they can take to influence each other. How does public choice theory identify those that are relevant to any choice problem in order to generate behavior and performance predictions with at least a high prior probability of success?

Faced with the real world complexity of interdependence and structure, public choice theorists have relied on two assumptions to simplify the specification problem. Both assumptions are deeply rooted in the historical development of public choice theory and, more specifically, micro-economic theory. Micro-economic theory developed in the analysis of private sector economics and much of its attention was directed toward demonstrating the superiority of exchange to administrative transactions (Samuels, 1972, p. 93). Two assumptions were developed in that effort which have greatly influenced the development of public choice theory. It was assumed that exchange transactions maximize freedom⁷ (Friedman, 1962; Buchanan and Wagner, 1977; Hayek, 1944). Additionally, exchange

⁷Public choice theory tends to define freedom in terms of the number of choices an individual has: the more choices, the greater the freedom. The market obviously offers great choice and, therefore, is assumed to maximize freedom. The institutionalist understanding of freedom, as will be seen, looks at freedom as ability to maximize utility as defined by self-interest. This alternative definition looks at the end product of choice rather than the process of choice. An individual may be able to maximize utility as defined by his self-interest with only a single choice option and, conversely, may be unable to do so with a number of options. The question of freedom is whether an individual has the opportunity to select the best option for him or her.

transactions were assumed to maximize efficiency through competition (Ostrom, 1977, p. 1516; Furobotn and Pejovich, 1972, p. 1141). These two assumptions combine in public choice theory to form a general, if often unrecognized, presumption of market superiority (Furniss, 1978, p. 399; Goldberg, 1974, p. 556).

The presumption of market superiority has influenced the specification of the public choice protective belt in two ways. Most importantly, the presumption has been used to severely truncate the specification of both the sources of interdependence and the structure of rights relevant to any choice situation. The truncation of the specification of interdependence is best illustrated by the concept of Pareto relevant externalities. As Schmid has written:

The essence of the Paretian approach is the separation of income distribution and resource (factor) allocation. The distribution of ownership factors is acknowledged to be a political question, but, once it is settled, the economist asserts that his advice cannot be rejected by rational men who hold that people with income should be able to use it as they wish. In other words, the consumer should be sovereign, and institutions should protect and further this sovereignty. The institution that apparently fills the requirements is the market, which alone can assure that only Pareto-better exchanges are made. (Schmid, 1978b, p. 202).

The Paretian approach enables neoclassical public choice analysts to define away interdependencies associated with the distribution of income and to concentrate only on those concerning allocation. This narrows the specification of interdependence by excluding distributive interdependencies as irrelevant (and perhaps illegitimate) and thereby

limiting analysis to only interdependencies that are subject to exchange transaction.

Similar truncation can be seen on the structure of rights governing interdependence. If only those interdependencies subject to exchange are considered relevant to defining any choice situation and if the market offers clear efficiency and freedom advantages, then one need only examine the structure of rights relevant to exchange to fully characterize structure (Schmid, 1978b, p. 3). The operationalization of structure is restricted to answering such questions as, is there exchange? Is there competition? How can rights be modified to make exchange more likely? The assumptions on market freedom and efficiency serve to reduce the problem of specifying the protective belt considerably. The neoclassical public choice protective belt operationalizes interdependence as only interdependencies arising from factor allocation and thus subject to exchange and structure as only those rights concerning the marketness of the production of goods and services.

The second effect of the presumption of market superiority is the generation of a strong normative flavor in public choice theory. The market, when viewed from the vantage point of neoclassical public choice theory, cannot be seen as just one alternative bundle of rights among many. The market becomes superior to all other possible structures of rights and a policy goal of public choice theory (Samuels, 1972).

The Policy Prescriptions of Public Choice Theory

The value criteria used to reduce the protective belt specification problem also have had a significant impact on the definition of the policy problem addressed by public choice theory. By starting with a presumption of market superiority, public choice theory has set up the market as a goal; market organization is preferred because it maximizes freedom and efficiency. But market organization is not always possible. The prevailing structure of rights may inhibit the development of a market. Or, more problematically, the technological characteristics of a good or service may make market organization difficult. Problem of joint supply or high exclusion costs may create a divergence of social and individual costs so that efficient individual cost calculations are impossible (Olson, 1965; Burkhead and Miner, 1971, pp. 97-141). Thus, the nature of interdependence or an "improper" structure of rights may inhibit market organization. This limit on market organization is the central problem addressed by the neoclassical public choice theory of supply. Basically, the public choice perspective analyzes the supply of public goods by asking how the market advantages of freedom and efficiency can accrue when the structure of rights or the technological character of goods and services inhibit the growth and/or operation of a market for those goods and services.

Public choice theory gives three general types of answers to this question. The first simply argues that

goods that do not have joint supply or high exclusion cost characteristics should be produced privately. Efforts are directed to searching for goods that are publicly produced needlessly and thereby result in freedom and efficiency losses. Friedman's education voucher proposal is an example of this type of policy prescription and similar work has been done on airlines, health care, utilities, garbage collection, fire protection and other services (Spann, 1977; DeAlessi, 1974; DeAlessi, 1978; Davies, 1971; Frey and Pommerehne, 1977).

The second general policy prescription calls for government subsidization of a market where the technological characteristics of a good inhibits the development of a private market. Information may be scarce and/or rights may be insufficiently specified to initiate exchange relationships. Subsidization of information costs and/or clarification of rights, it is argued, would enable a private market to develop a superior alternative to government production or regulation. The Coase Rule, for example, suggests that if legal restrictions on bargaining were eliminated and if there were no transaction costs, then a market in externalities would develop such that competition could once again equate social cost with private cost (Coase, 1960; Daly, 1974).

The third policy prescription of the public choice theory of supply argues that public production should be organized in such a way that it is more market-like when

private markets cannot be developed. Two approaches are advanced. The first calls for a separation of public provision and production. That is, even when the technological characteristics of a good or service necessitate collective provision, the good need not be produced collectively. Government contracting, with either private entrepreneurs or other levels of government, would generate competition and, therefore, a more efficient production outcome. Bish's analysis of Los Angeles County (Bish, 1971, pp. 79-103) and Ahlbrandt's study of fire services in Scottsdale Arizona are often used as examples of this approach (Ahlbrandt, 1973). The second approach calls for an arrangement of governmental jurisdictions in such a way that individual preferences are exercised by locational decisions: the Tiebout model (Tiebout, 1956; Ostrom, Tiebout, and Warren, 1961; Bish, 1971; Ostrom, 1974; Bish and Ostrom, 1974). The Tiebout model posits a local public goods market analogous to the private goods market, where, in Tiebout's words, "the consumer voter moves to that community whose local government best satisfies his set of preferences. The greater the number of communities and the greater variance among them, the closer the consumer will come to fully realizing his preference position" (Tiebout, 1956, p. 418). The result of individual preferenced based locational decisions is a set of communities with intracommunity identical household public goods demand producing an optimal level of public goods provision.

Evaluating the Critique of Public Choice Theory

Having presented a theory of progress and recast public choice theory along the lines of that theory of progress, we now have the necessary elements to evaluate the Golembiewski and Furniss critiques. This section presents that evaluation starting with an interpretation of Golembiewski and Furniss' critiques to be followed by an analysis of their component criticisms.

Interpreting the Critique

Golembiewski presents five reasons for cancelling the public choice research program (Golembiewski, 1977, pp. 1490-1491). Unfortunately, Golembiewski repeats several points in support of or as supposedly independent reasons for rejecting public choice theory.⁸ The Golembiewski critique was restructured to clear up this redundancy as well as to introduce some congruence between the critique and public choice theory as reconstructed in the previous section. As reconstructed, Golembiewski's critique is composed of three arguments. First, Golembiewski rejects the public choice model of man because it rests on a number of assumptions that are improbable and, at a minimum, highly controversial. Specifically, he rejects the model of man as a rational, self-interested, utility maximizer as unlikely if those terms are defined narrowly and so ambiguous as to

⁸For example, the improbability of the public choice model of man assumptions are presented as a separate criticism as well as brought up to support at least two of Golembiewski's other criticisms.

be contentless if they are defined more broadly. The result, he claims, is a form of analysis characterized by "closed-system circularity". Second, he suggests that public choice theory is systematically value laden. In particular, he rejects the claimed neutrality of pareto optimality and efficiency because they beg critical distributive questions and thereby bias analysis in favor of market solutions to collective choice problems. Third, Golembiewski raises several related issues with the public choice policy prescriptions which suggest that their implementation may produce unanticipated and unintended consequences. In part, this argument consists of a simple rejection of the prescriptions as bad advice. If we look at this argument in a more constructive light, however, Golembiewski is pointing out that under certain conditions (increasingly scarce resources, monopolistic or oligopolistic market arrangements, etc.), the advantages of freedom and efficiency may not be realized by market arrangement. As restructured, Golembiewski's criticisms broadly address the public choice hard core, protective belt, and policy prescriptions respectively.

Furniss sidesteps the hard core and focuses on the protective belt and policy prescriptions in developing his critique of public choice theory (Furniss, 1978, pp. 401-406). He argues that public choice theory is not neutral as claimed but has a number of significant political implications. First, he argues that public choice theory is

blind to many of the complexities of market relations in specifying the sources of interdependence and the structure of rights relevant to situations of collective choice. The emphasis on cash externalities, he notes, ignores many of the ways in which individuals interact and affect each others' choices. Moreover, he points out that the set of property rights relevant to any choice situation includes more than the existence of a market and must include, at a minimum, the size and relative political power of the parties involved in a market transaction. Second, Furniss questions the public choice conclusion that market or quasi-market solutions will produce efficiency and freedom gains; monopolistic and oligopolistic corporate power, he argues, will distort any market solution. Finally, Furniss joins Golembiewski in claiming that public choice theory ignores distributive issues, that public choice theory defines away as irrelevant both questions of how the initial distribution of rights came about and contemporary distributive issues which, by their very nature, are not amenable to Pareto better trades.⁹ The first and third arguments are directed against the protective belt; they suggest that the specification of interdependence and structure is incomplete and that this incompleteness introduces a systematic bias in the

⁹Furniss confuses this criticism by relating it directly to the concept of utility maximization (Furniss, 1978, p. 405). I have bypassed this element of his critique as it is based on a misinterpretation of utility maximization. (For a more accurate interpretation, see Bartlett, 1973.)

public choice policy prescriptions. The second argument, like Golembiewski's third, calls into question those policy prescriptions under certain conditions, particularly conditions of "excessive" corporate power.

The Status of the Criticisms

The Lakatos model of progress establishes different criteria for evaluating criticisms directed at the hard core, protective belt, and policy prescriptions of a theory. Therefore, we should consider the criticisms separately according to their target. The criticisms of the public choice hard core and policy prescriptions are considered first followed by those directed at the protective belt. The positive heuristic places special emphasis on the protective belt of a theory requiring that we pay more detailed attention to criticisms directed at it.

Golembiewski criticizes the hard core assumptions of the public choice model of man as improbable. Without doubt, they are improbable as most public choice analysts admit. Instead, they argue that the assumptions are not meant to mirror reality and should not be evaluated on the basis of empirical validity (Friedman, 1953). And just as clearly, there are alternative models of man which could and do form the hard core foundation of other research programs (Steinbrunner, 1974). But Golembiewski's criticisms of the public choice model of man do not justify canceling the public choice research program. Challenges to the hard core of a theory violate the negative heuristic and should be

avoided (at least on the theoretical level if not the meta-theoretical level). The criticisms of the hard core cannot be easily resolved as indicated by Golembiewski's exchange with Vincent Ostrom (Golembiewski, 1977; Ostrom, 1977), and the more general thirty year discussion of the economic model of man (Moe, 1979). This should not be surprising; proponents and critics of the economic model of man simply do not agree on what the function of an assumption is, much less agree on the specific assumptions themselves. Lakatos would suggest that merely adding to the volume of a debate founded on such tenuous terms is a waste of time. Progress should be evaluated on the basis of developments within a research program grounded on a hard core which remains uncriticized as long as there are progressive problem-shifts. But Golembiewski's criticism of the hard core does point out that there is ample room for another research program on the problems arising from collective choice and the negative heuristic suggests that his considerable talents might be more usefully directed at developing such an alternative.

Golembiewski and Furniss both criticize the public choice policy prescriptions. Basically, they identify a number of conditions under which the Coase Rule and the Tiebout Model could not be expected to produce the freedom and efficiency advantages claimed by public choice proponents. But the identification of anomalies (without getting into the question of whether they really are anomalies) simply does not warrant either the canceling of

the public choice research program or the falsification of a refutable variant within that research program. On the latter, the sophisticated falsificationism associated with the positive heuristic establishes much more rigorous criteria for falsification. As Lakatos has written:

. . . . the crucial element of falsification is whether [a] new theory offers any novel, excess information compared with its predecessor and whether some of this excess information is corroborated . . . We are no longer interested in the thousands of trivial verifying instances nor in the hundreds of readily available anomalies: the few crucial excess-verifying instances are decisive. (Lakatos, 1970, p. 121)

The Golembiewski and Furniss criticisms remain weak precisely because they fail to advance an alternative that accounts for both the explained content of public choice theory as well as the anomalies. In regard to canceling the research program as a whole, the criticisms fail unless Golembiewski and Furniss demonstrate that public choice theory cannot generate progressive problem-shifts to account for the anomalies. They do not do this, though, as we will see, there may be grounds for making such an argument. In its present form, however, the criticism of the public choice policy prescriptions bears only slightly on the question of what should be done with public choice theory. If anything such criticism argues for the continuance and expansion of the research program. The fact that public choice theory T_1 cannot account for a given situation means that a public choice T_2 should be developed to account for both it and the explained content of T_1 . Such an expansion of the public choice research program is not only consistent

with the positive heuristic but is required by it as the very definition of a progressive problem-shift.

The criticisms directed against the hard core and policy prescriptions are not sufficient to justify canceling the public choice research program. Instead, they should encourage researchers to either work within another research program or develop alternative variations of public choice theory where the current policy prescriptions fail. That leaves us to consider the criticisms directed at the protective belt.

Golembiewski, and especially Furniss, are concerned with the truncated specification of interdependence and structure. But as we have seen, truncated specification occurs because of, and is sanctioned by, the prior assumption of market superiority which is based on the assumed freedom and efficiency advantages of the market. To get at the heart of the specification problem, then, we have to reexamine the freedom and efficiency assumptions. Both are clearly suspect. As Schmid has written:

What is meant by the common assertion that the competitive market maximizes freedom? Voluntary trades give the appearance of freedom. If each party did not think he were better off, no trade would take place. Voluntary trade contrasts to government regulation which has the outward appearance of force. But appearances often mask underlying factors of a different sort. . . . The issue is one of whose freedom rather than freedom in the abstract. The great moral choice in any society is whose freedom counts when interests conflict in the face of scarcity. Where people conflict, global freedom is without meaning and can only obfuscate the real conflict and ethical question. . . . Freedom in the abstract is not a satisfactory performance variable. (Schmid, 1978b, pp. 239-240)

Similarly:

Neoclassical theory has suggested that the market gives us not only freedom but also efficiency . . . [But] Economic efficiency is a concept from engineering and physics with values attached. It is simply an abstract expression of the ratio of values of selected input to selected output. It is property rights that do the selecting. . . . In sum, where there are conflicts of interest, it is not possible to ask only in general whether an institution is effective (efficient), but one must also ask of its effectiveness for whose interests. Efficiency in the abstract is not a satisfactory performance variable. (Schmid, 1978b, pp. 241-242)

The global concepts of freedom and efficiency, so essential to the public choice specification of interdependence and structure, ignore the real questions of who defines efficiency and whose freedom counts. It is ironic that public choice theory, which otherwise emphasizes individual decision-making, should rely on assumptions about freedom and efficiency which are grounded on group-based definitions of those concepts.

The problem with the public choice protective belt is that it has an excessive degree of normative content. Without question, normative choices are inherent and ubiquitous in research. The selection of one research program over another to work within, for instance, is largely a matter of personal taste. But that does not mean that all normative content is the same. By starting out with an assumption of market supremacy, public choice theory systematically builds values directly into analysis through the specification of the sources of interdependence and the structure of rights governing that interdependence (Samuels, 1971; Samuels, 1972; Samuels, 1976). Warren Samuels has

emphasized this point in a letter to James Buchanan:

On the normative issue: yes, we are both subjective and we are both making methodological judgements. But you are deliberately building in--presuming the propriety of--the status quo (market competition) whereas I am "only" providing for critical discussion of the status quo. Your specific vision builds in values on the most fundamental level; mine does not. (Samuels and Buchanan, 1975, pp. 25-26)

Normative content of the type Samuels accuses Buchanan of goes beyond that which is inherent in research choice.

And just as importantly, that excessive normative content is unrecognized by public choice analysts. Buchanan ignores the distinction made by Samuels in his response. When faced with similar criticism on the global concept of efficiency, Ostrom responds:

I am simply left puzzled by Golembiewski's allusion to "efficiency for what". Consistant application of the criterion of efficiency rightly understood will enhance human welfare, assuming that individuals are presumed to be the best judges of their own interests. But this is a simple tautology. (Ostrom, 1977, p. 1516)

It is not a simple tautology but a value judgement that biases policy prescriptions if the real issue is not efficiency but whose efficiency. This unrecognized normative content in the global concepts of freedom and efficiency and the resulting specification error threatens the value of public choice theory to the study of collective choice problems. An alternative is needed.

But herein lies the rub. The positive heuristic offers a specific guide for cases of specification error: if T_1 cannot account for an anomaly, then T_2 should be developed which accounts for both the anomaly and the

explained content of T_1 . As presently constructed, however, public choice theory cannot tolerate the development of alternative protective belts. The presumption of market superiority establishes a market oriented protective belt as superior to all other specifications of interdependence and structure. Any T_2 or T_3 is precluded on normative grounds before the alternative protective belts are allowed to compete. The freedom and efficiency assumptions, therefore, not only lead to specification error but eliminate any possibility of correcting that error. Most importantly, public choice theory cannot be considered a research program as long as the presumption of market superiority is maintained. The competition between protective belts which defines a research program cannot occur in public choice theory as currently structured.

What then is the status of the public choice critique? The criticisms against the hard core can be rejected as irrelevant to the question of continuing or canceling the public choice research program. Similarly, the criticisms against the policy prescriptions can be dismissed; they actually suggest that the research program should be expanded. But the criticisms of the protective belt raise the issue of whether public choice theory is a research program at all. The real question is how to restructure public choice theory so that it is a functional research program. Unfortunately, Golembiewski and Furniss were so busy calling for the cancelation of the program that

they are of little help in answering the real question.

Restructuring Public Choice Theory as a
Research Program

Public choice theory is not a research program as presently structured. The question is whether or not and how it can be restructured as a viable research program, a question that is difficult to answer within the political science or public administration literature on public choice theory. That literature can be divided into two sets. The first includes work by public choice proponents such as Vincent Ostrom which both fails to recognize the normative implications of the public choice protective belt and presents public choice as a single, unified package that can be accepted or rejected, but not modified. The second set includes work by the critics of public choice theory such as Golembiewski and Furniss. But this set also treats public choice theory as a single package. As we have seen, Golembiewski and Furniss see few differences between the implications of criticisms directed at the public choice hard core, protective belt, and policy prescriptions. We must step outside of the political science and public administration literature on public choice theory to pursue an answer.

A few institutional economists have taken a very different approach to specifying the protective belt of

public choice theory (Samuels, 1972; Schmid, 1978b).¹⁰ This institutionalist approach to public choice theory relies on the same model of man and conceptualization of the structure of events that form the hard core of public choice theory, but replaces the global concepts of efficiency and freedom with a concern for whose freedom and whose efficiency counts in a given situation of collective choice. The presumption of market superiority is explicitly rejected and the market becomes just one among any number of alternative institutional arrangements which may or may not maximize any particular actor or group of actors conception of freedom and efficiency. As simple as this change sounds, it has two major implications for the development of public choice theory.

First, the problem of specifying the protective belt becomes considerably more complex. Interdependence can no longer be restricted to Pareto relevant externalities but must include ways in which A and B's choices conflict that are not subject to Pareto better trades; distributive issues are included in the domaine of analysis open to public choice theory. Even more complex is the specification of the structure of rights governing that interdependence. As

¹⁰ Most institutionalists dismiss public choice theory out of hand. A handful, however, have chosen to reinterpret and modify public choice theory rather than reject it. The institutionalist literature on public choice is rather small as a result as Furniss correctly points out (Furniss, 1979). But unlike Furniss, I'm not sure that the small size of this literature argues for dismissing it as irrelevant to reconstructing public choice theory.

Schmid concluded, "we need to know more than factor ownership and degree of competition" (Schmid, 1978b, p. 57). This does not mean that the set of rights which define market relations are irrelevant, only that A and B can influence each other's choices in many more ways than by exchange transactions. At a minimum, we might want to consider administrative and/or political transactions as alternative bundles of rights that may be exercised by an actor or group of actors in their pursuit of their own conception of freedom and efficiency. But looking at a broader set of interdependencies and structures of rights will magnify the complexity of specifying a protective belt in public choice theory. Instead of relying on the simplifying rule of market superiority to invoke closure in the specification of the protective belt, researchers will have to identify the specific focus and content of each actor or group of actors' self-interest in a situation of collective choice and ask how they can specifically influence each others' pursuit of those self-interests. The resulting set of interests and influence patterns can be viewed as a single protective belt within the public choice research program. Theoretical and empirical analysis will indicate whether the relevant interdependencies and rights have been specified and, if not, should identify areas where researchers should use their ingenuity to generate alternative protective belts which will ideally produce the progressive problem-shift characteristic of healthy research programs.

Second, this alternative approach will fundamentally alter the policy implications of public choice theory. As presently structured, public choice theory prescribes policies that reduce nonmarket production of goods and services, stimulate market production, or arrange non-market production so that it has market-like characteristics. These policy prescriptions are singularly inappropriate from an institutionalist's perspective because they essentially beg the question of whose interests are to be served. Instead, the institutionalist's approach to public choice theory would identify the distribution of costs and benefits of alternative institutional arrangements and replace prescription with political choice. Public choice theory could identify which actors or groups of actors may gain or lose under different institutional arrangements but would remain neutral on which arrangement should be adopted. But even if such prescription were possible in an institutionalist interpretation of public choice theory, it is highly unlikely that it would be practical. Public choice proponents frequently assert that different types of institutional arrangements may be required in different substantive policy areas (Ostrom, 1974, p. 55). Yet, public choice analysts consistently propose market solutions to all or nearly all policy areas that they examine (see for example, Spann, 1977; DeAlessi, 1978). This should not be surprising given the proceeding discussion; public choice proponents fit a constant specification of self-interest and

institutional structure onto every situation of collective choice. The institutionalist interpretation would rely on a much more complex specification(s) of both self-interest and structure, making it unlikely that prescriptions of optimal institutional arrangements would be uniform across all policy areas.

The advantages of this alternative approach are significant. Much of public choice theory as presently structured could be included in the institutionalist version of public choice theory. The hard core assumptions would remain unchanged. The current protective belt, minus its normative advantage, might be considered as an initial specification against which others could be tested. In many cases, we might expect current public choice work to provide an adequate specification of interdependence and structure for certain groups (that have to be defined in detail within an institutionalist approach) and the policy prescriptions to serve their understanding of freedom and efficiency. However, the fact that alternative protective belts could be developed and tested against the conventional specification would transform public choice theory from a paradigmatic straightjacket into a research program with at least an opportunity to generate progressive problem-shifts.

Property Tax Administration as a Focus of Institutional Analysis

The proceeding discussion leads to two conclusions, one about public choice theory and the other about the

intellectual crisis in public administration in general.

1. The Kuhnian normal science interpretation of the intellectual crisis in public administration impedes progress in the development of theory. This interpretation of the crisis is actually prolonging the crisis by encouraging the proponents of alternative research programs to compete for theoretical hegemony. This type of competition violates the negative heuristic and is a waste of scarce research time and skill that would be more usefully devoted to generating progressive problem-shifts within research programs. If over an extended period of time public choice theory or organizational development or some other approach demonstrates a superior ability to generate progressive problem-shifts, then the intellectual market place may come to define it as normal science in public administration.

2. As presently structured, public choice theory cannot be considered a research program. The specification error and, more importantly, the structured inability to correct that specification error introduced by the public choice protective belt inhibits the development and competitive testing of refutable variants within the context of an accepted hard core. A research program with a single protective belt cannot be said to be progressive, only static. An institutionalist reinterpretation of efficiency and freedom provides a means to break the normative lock on the public choice research program by allowing competition

between alternative public choice protective belts.

These two conclusions, particularly the second, suggest that the institutionalist interpretation of public choice theory be used to develop alternative models of substantive policy issues and that these models be tested against each other in response to the positive heuristic. This dissertation does that on the substantive issue of property tax administration. This section introduces that substantive topic by examining property tax administration as an area of political inquiry, identifying the several models to be examined in the following chapters, and presenting the criteria that will be used to evaluate the models.

The Politics of Property Tax Administration

The property tax is an underdeveloped but potentially fruitful area of political inquiry. The importance of the tax can be illustrated in three ways. First, the property tax is the preeminent source of local government revenue. For example, in 1973 the property tax accounted for more than 80% of United States local government tax revenues (Aaron, 1975, p. 9). The property tax accounted for 55.4% of Michigan city and village revenue, 50% of Michigan township revenue, and 77.3% of Michigan county revenue in 1975-76. In fact, the percentage of revenue raised by the property tax in Michigan has actually increased slightly during this decade.

The property tax is obviously important to local government. But this does not in and of itself suggest that the property tax is a fruitful area for political research. We have to look at two additional points to do this. The first of these concerns the inherently political nature of the costs of government. The distribution of the benefits of government programs and policies has long been considered a focus of political analysis. The budgeting literature in political science has been based on this premise (Wildavsky, 1964). The distribution of costs is no different. Who pays for what government does involves the same political issues. Statutory requirements on tax rates and levels represent political agreements on who shall carry the burden of government. But the political nature of taxation does not stop with statutory determinations of burden. The way taxes are administered greatly influences how those statutory burdens are implemented. Substantial deviations from statutory requirements have been observed in property taxation (Oldman and Aaron, 1965). Political analysis of the property tax should not stop with examination of statutory requirements but should examine the interaction of politics and the administration of the tax to tap the full range of political determination of the burdens of government activity.

Additionally, the unpopularity of the property tax threatens its role in local government finance. Numerous polls have consistently shown that the property tax is the

least liked tax. (For a summary, see Michigan Governor's Advisory Task Force on Property Tax Revision, 1976, pp. 33-50). This dissatisfaction with the property tax has been seen more recently in the form of the emerging tax revolt. California's Proposition 13 movement has spread to other states and threatens to seriously alter the relationships between taxpayers and government and between governments (Herbers, 1979; McCaffery and Bowman, 1978). Little effort has been directed toward explaining this phenomena despite its potential to restructure fundamental political relationships.

The property tax is critically important to local government and the last two points suggest that the tax and its administration should be a focus for political analysis. Why has the property tax not been studied as a political phenomena before? Several reasons are noted in the next chapter but the most important is the tradition of the politics-administration dichotomy. The view that administrative issues lacked political content has greatly influenced political study of the property tax. Robert Pealy concluded that, "The field of public administration seems to have been effective in inculcating in those involved with property taxation--practitioners as well as scholars--the early doctrines regarding the separation of politics or policy from administration. There is little concern among administrators, and among students, with the impact of administration on our political and social system" (Pealy,

1971, p. 86). This dissertation will examine that inter-relation of politics and administration in property taxation. Both the performance of assessment administration and the tax revolt are examined.

The Models to be Examined

Three models of performance in assessment administration and the tax revolt will be examined and tested against each other as required by the positive heuristic.

The first is the traditional reform theory that dominated American public administration until the postwar era. The traditional theory has been in retreat since then. The sources of that retreat are quite clear. Dahl clearly pointed out the normative biases inherent in the early doctrines of the field as well as its failure to construct needed underlying models of behavior (Dahl, 1947). Herbert Simon criticized the principles of administration as contradictory and noted that the traditional reform theory lacked adequate conceptual language to even describe administrative performance (Simon, 1946). Ostrom has observed that even if the traditional reform theory overcame these problems, its limited approach to research precluded empirical analysis of the principles of administration (Ostrom, 1973). Given this critique, academic public administration has largely abandoned the traditional reform theory that guided its early development. The criticisms prevent the traditional reform theory from even being

considered as "theory". Indeed, given the previous discussion of public choice theory and the proposed institutionalist reinterpretation of public choice theory, it is probably not clear why the traditional reform theory should be examined at all. It certainly does not fall into the public choice research program as presently structured. But this traditional model should not be dismissed lightly. First, it was undeniably important to the development of public administration and can thus provide an interesting base line against which to evaluate theoretic alternatives. Second, the traditional reform theory still exercises a strong hold on applied public administration as seen in the work of the Committee on Economic Development and the Advisory Commission on Intergovernmental Relations (C.E.D., 1966; A.C.I.R., 1963). This is particularly true in property tax administration as we will see. But third and most importantly, the institutionalist model, as we will see, generates a series of performance hypotheses that are similar to the hypotheses of the pretheoretic traditional reform theory. Taken together, these reasons support consideration of the traditional reform theory even though it should be realized that it does fall strictly into the public choice research program.

The second model to be examined is one based on the conventional interpretation of public choice theory. As suggested earlier, the conventional public choice protective belt, minus its normative advantage, can be considered an

initial specification of interdependence and structure against which others can be tested.

The third model is based on an institutionalist reinterpretation of public choice theory and is called the property rights model. This is a somewhat arbitrary label. Property rights (which are discussed in much greater detail in Chapter Three) are used by neoclassical or conventional public choice analysts as well as institutional analysts. But the term public choice has come to mean neoclassical public choice in American public administration. The term property rights model should serve to differentiate the institutional model developed here from the conventional public choice model as well as from any other institutional model (one of which is suggested in the final chapter). The property rights model is in the same research program as the public choice model; both share the same model of man and conceptualization of the structure of events.

These three alternatives, two alternative and refutable variants of public choice theory and a pretheoretic base line or naive model will be evaluated from a Lakatosian perspective. Chapter Two will present the two contemporary approaches to understanding assessment administration. The literature on the traditional reform theory and public choice theory will be surveyed and their analysis of the tax revolt and assessment performance will be specified. Chapter Three will develop the property rights alternative.

Evaluating the Models

The Lakatosian understanding of progress establishes precise model evaluation criteria; one model will be accepted as superior to any other in a research program if it is content increasing. That is, the property rights model of assessment administration and the tax revolt will constitute a progressive problem-shift in the public choice research program if it meets three criteria. First, the property rights model must account for the success of the conventional public choice model of assessment administration and the tax revolt. Second, the property rights model must predict novel facts over and above the explained content of the conventional public choice model to constitute a theoretically progressive problem-shift. Finally, some of those novel facts must be corroborated for the property rights model to constitute an empirically progressive problem-shift in the public choice research program. The property rights model will be accepted as a progressive problem-shift and the conventional model will be considered falsified only if all three criteria are met.

The theoretical progressiveness of the property rights model can be evaluated at the end of Chapter Three; at that point, all three models will have been developed and presented and their hypotheses can be compared. Chapter Four will test the models of assessment administration performance and the tax revolt in order to evaluate the empirical progressiveness of the property rights model.

Michigan data will be used in the test. Michigan provides a unique opportunity for the investigation. Michigan, with 1,517 primary assessory units (11% of the national total), relies on township and city assessing providing a wide range of jurisdiction types upon which to investigate the impact of administration on performance. Michigan also has one of the highest average property tax burdens (\$749) and has experienced a rate of increase in property taxes over the last decade that is substantially above the national average (142%). Perhaps as a consequence of this, Michigan has become the most recent center of the tax revolt with its consideration of three ballot propositions dealing with property taxes. Finally, Michigan has recently given strong consideration to assessment administration reform. The Governor's Advisory Task Force on Property Tax Revision concluded that, "the major deterrent to effective assessment administration is geographical fragmentation, resulting in assessment jurisdictions that are too small to realize the advantages of large scale economics" (Michigan, 1976b, p. 4). Several bills to revamp Michigan's administration of the property tax have been considered in the Legislature.

Chapter Five will summarize the theoretical findings from Chapter Three and the empirical findings from Chapter Four and identify how they bear on a series of questions. First and most importantly, I hope to illustrate on an issue of central importance to the scale of public goods provision, that progressive problem-shifts in public choice theory are

possible using an institutionalist reinterpretation of the public choice protective belt.

Second, there is the question of the competing propositions of the traditional reform theory and the public choice approach on organizational size. Like Ahlbrandt's study of fire services and Elinor Ostrom's work on police administration, this dissertation will examine the size issue and will thus replicate Vincent Ostrom's work in another policy area (Ahlbrandt, 1973; Ostrom, 1974). But very importantly, this dissertation represents a sharp departure from the previous literature. Ostrom and Ahlbrandt compared the conventional public choice model to the pretheoretic traditional reform theory. This comparison is inappropriate in two ways. First, the traditional reform theory had long been discredited and its pretheoretical character accepted within the academic literature; it was a straw man. Second, even if the traditional reform theory had not been discredited, the positive heuristic directs attention to tests between refutable variants within a research program, not between a public choice model and one from some other research program. By comparing the conventional public choice model to the property rights model, a more rigorous test of the conventional public choice theory will be provided and that test will at least have the possibility of leading to a progressive problem-shift in public choice theory.

Third, there is the issue of the determinants of performance in property tax administration. This is related to the last issue but it speaks to a more restricted set of literature. In brief, the conflict is between the advocates of the traditional reform theory in assessment administration based on the National Association of Assessing Officer's Assessment Principles and the public choice analysis of assessment performance. At issue is whether or not the administrative factors suggested by the traditional reform theory or population and property characteristics account for performance in assessment administration. The recent empirical tests are flawed in several ways as will be demonstrated. A new test is needed and one will be conducted using Michigan data. This new test offers significant advantages over the previous literature. Unlike the previous state studies, Michigan provides the full range of institutional variation in assessment administration needed to test the competing hypotheses of the traditional reform theory and the recent empirical literature. This, accompanied with a respecification of the model used in the recent empirical literature and the inclusion of data on personnel and budgets, suggests that this analysis will provide an important test on this issue.

Fourth, the relationship between performance and taxpayer attitudes is examined. The importance of the problem should be obvious. With Jarvis and Tisch we can see the public lashing out against the public sector,

particularly the taxing and spending decisions that elected officials have been making in the last decade. Is this a breakdown of local representative government or is it a function of short term political forces? The three alternative models will be used to generate candidate explanations to at least initiate the process of answering that question.

Fifth, the issue of property tax administration reform has great substantive policy importance to Michigan which is currently considering the reform recommendations of the Governor's Advisory Task Force on Property Tax Revision. In regard to this issue, the dissertation is an evaluation project using regression analysis to evaluate the reform proposals of the Task Force.

CHAPTER II

UNDERSTANDING ASSESSMENT ADMINISTRATION: TWO CONTEMPORARY APPROACHES

Introduction

Given the importance of the property tax to state and local finance, one might expect that the literature on assessment administration would be quite extensive. However, very little work has been done on the subject. Before examining what has been done, some of the reasons for the limited size of the literature on assessment administration should be noted. First, assessment administration has not been a controversial issue until recently. By this I mean that a single, homogeneous, dominant model has uniformly influenced all of those concerned with assessment administration. That dominant paradigm, which is examined below under the heading of the Traditional Reform Theory, consisted of a series of principles of administration that were thought to be self-evident (Simon, 1946). As long as there was no external challenge to the existing "paradigm", this perspective on the truth status of the principles provided little incentive to conduct research.

Second, the academic disciplines most likely to be concerned with assessment administration have generally

ignored the issue. Diane Paul has attributed this to the division of academic labor:

In the twentieth century the territory formerly occupied by political economy was divided between the disciplines of economics and political science. Economists have studied wealth, political scientists' power, but the relationship between them has been nobody's professional academic concern. As a result, attention paid to this crucial topic has declined. One conspicuous casualty of this decline has been the study of tax policy which has largely been abandoned to economists. (Paul, 1975, p. xiii)

Tax administration was defined away as an issue. And economists have largely ignored the issue of tax administration. As Henry Aaron has noted, "for economists, especially, the subject of tax administration has carried none of the allure of 'analysis' or 'policy' but only the drabness of bureaucratic affairs" (Aaron, 1975, pp. 56-57). Tax administration became an unwanted stepchild of both political science and economics.

A third and related reason for the limited work in this area is even more important. The politics-administration dichotomy has obscured the political importance of assessment administration. The dichotomy is a uniquely American construct designed to overcome American fears of bureaucracy. Woodrow Wilson argued that the advantages of bureaucratization could be gained within a republican governmental setting by separating political and administrative concerns (Wilson, 1887). The politics-administrative dichotomy has long been discredited (Appleby, 1949; Dahl, 1947). Its influence remains however. Many areas thought to be characterized by dull, nonpolitical

routinization are only now being reexamined from a political perspective. Property tax administration is such an area as pointed out in the last chapter. These three reasons have operated to define local administration out of the relevant domain of interest of political scientists.

The literature that does exist on assessment administration can be broken into two groups. The first and most extensive body of literature is based on the traditional reform theory of administration. This was the only approach to assessment administration for many decades. The traditional reform theory has survived in property tax administration long after it was challenged in other substantive policy areas. The orthodox theory has been challenged recently by a new set of literature grounded in public choice theory. Both are examined below with attention focused on two issues: the determinants of assessment performance and the emerging tax revolt.

Traditional Reform Theory

The traditional reform theory has dominated the analysis of assessment administration in this century. Because the traditional reform theory as applied generally in public administration has been examined in some detail elsewhere (Simon, 1945; Appleby, 1949; Bish, 1971; Ostrom, 1974; Bish and Ostrom, 1973) attention here will be focused almost exclusively on its application to assessment administration. This is done not to avoid examining the

broader literature but to avoid needless duplication. The parallels between the broader literature on the traditional reform theory and that on assessment administration are so extreme that reviewing one is tantamount to reviewing the other.

First, the traditional reform movement in assessment administration was historically tied to the broader traditional reform movement. The National Association of Assessing Officers (now the International Association of Assessing Officers) was a member of the "1313" Public Administration Center in Chicago. The "1313" center was the hub of the traditional reform movement in its heydays of the 1930's (Stone and Stone, 1975). Assessment administration was therefore directly exposed to the same influence that shaped the broader traditional reform theory.

Second, the substantive policy proposals of the traditional reform theory in assessment administration were nearly identical to those of its more generic parent. The earliest statement of The National Association of Assessment Officers' position is contained in Assessment Principles, the final report of the Committee on Principles in Assessment Practice published in 1938. The parallels between the recommendations presented in Assessment Principles and Gulick and Urwick's Papers on the Science of Administration, published a year earlier, are significant (NAAO, 1938; Gulick and Urwick, 1937). Gulick and Urwick's work has been considered the definitive statement of the

traditional reform theory (Ostrom, 1974, p. 36). Comparison of the two works indicates that the more generic traditional reform theory was applied to assessment administration without change. This is certainly true on the two key concepts of centralization and the politics-administration dichotomy as we will see.

Third and more importantly, the mode of analysis used in the traditional reform theory of assessment administration is identical to that of its generic parent. In both, the traditional reform theory consists of prescriptive doctrines based on a set of a priori principles. The focus was an implementation rather than theory testing (Henry, 1975, pp. 61-62; Ostrom, 1974, pp. 33-36).

The Determinants of Assessment Performance

There are four key propositions of the traditional reform theory as applied to assessment administration that identify that approach's perspective on the determinants of performance. The first concerns assessing personnel and argues that only appointed, full-time, professionally-trained assessors can adequately perform the assessment function. In Assessment Principles it was concluded that, "assessors should be chosen for office by appointment rather than by popular election. In the first place, the qualifications that appeal to the electorate are seldom the qualifications which make for good assessment" (NAAO, 1938, p. 19). The traditional reform view argues that only appointed assessors will have the incentive and time to make

accurate assessments (Eisenlauer, 1970; Vine, 1967). To improve the quality of assessors' work, professional training is called for as well as state certification of assessors (Flanegen, 1970; Botts, 1970; Dykstra, 1970; Rose, 1968; ACIR, 1974).

The second proposition deals with assessor resources. As the NAAO concluded, "it cannot be emphasized too highly that an inadequate appropriation for assessment work is one of the leading, if not the major, obstacle to good assessment" (NAAO, 1938, p. 26). This view is still held by those supporting the traditional reform theory (ACIR, 1963, pp. 113-134; ACIR, 1974, p. 17; Corusy, 1967, p. 92). Recently, the use of regression analysis has led to the addition of computers to the list of resources necessary for accurate assessment (Almy, 1973, p. 183; Cole, 1969; Shenkle, 1974; Rackham, 1973).

Third, strong state oversight of the assessment function is viewed as essential for accurate assessment. The NAAO concluded that, "the state tax department will, as a matter of necessity, be forced to supervise local assessors if any degree of uniformity is to be attained" (NAAO, 1938, pp. 26-27). Again, this view is still dominant today (ACIR, 1963, pp. 111-130; ACIR, 1974, pp. 15-17; Lucey, 1973; Ecker-Racz, 1973; Sheehan, 1973).

Finally and most important is the proposition of the traditional reform view of the size of assessing districts. It has been argued that:

One of the major deterrents to effective assessment administration in the United States is the extreme geographical fragmentation of this function. . . . This geographical fragmentation of the assessment function results in many assessing offices which are too small to realize the economies of large scale operations and often cannot even support a single full time assessor. Efficient administration is impossible under these conditions. (Back, 1969, p. 33)

This concern for jurisdiction size has led to proposals for consolidation of smaller units. Indeed, the NAAO's first recommendation in 1938 was on the consolidation of assessing units (NAAO, 1938, p. 11). This emphasis on large jurisdictions still holds for the assessing profession (Ernst, 1975; Peterson, 1973; Gaffney, 1973; Welch, 1973; Woodruff, 1973; Almy, 1973).

The importance of this proposition cannot be over-emphasized. Increasing jurisdiction size has been viewed as the single mechanism capable of influencing all of the other propositions of the traditional reform theory. From the NAAO's Principles to the present, size has been associated with personnel, funding, and state oversight improvements. In the words of the ACIR:

Centralized assessment administration . . . should be considered for immediate adoption by some states and for ultimate adoption by most states. It offers an uncomplicated and effective means of obtaining uniformly high-standard assessing throughout a state by the use of an integrate professional staff following standard methods and procedures under central direction. (ACIR, 1963, p. 14)

Increased jurisdiction size is thus the centerpiece of the traditional reform theory. Increasing jurisdiction size is seen as a "quick fix" device that in one step implements all or most of the traditional reform proposals.

These four propositions make up the core of the traditional reform theory as applied to assessment administration as expressed by the assessing profession. But importantly, the influence of the traditional reform theory extends beyond the assessing profession. There is an orthodox coalition that has used the traditional reform theory to influence both public policy and public opinion. Prominent in this coalition is the Advisory Commission on Intergovernmental Relations which has echoed the views of the assessing profession (ACIR, 1963; ACIR, 1972; ACIR, 1974). Economists working on state and local finance, while conducting insightful analysis on the incidence of the property tax, have repeated without question the propositions of the traditional reform view (Ecker-Racz, 1970, p. 80; Maxwell, 1969, pp. 148-149; Aaron, 1975, pp. 67-70; Pechman, 1971, p. 236; Netzer, 1966, pp. 174-176; Groves, 1945, pp. 83-86). Indeed, the recommendations for reform made by economists are the same regardless of their ideological perspective. Even radical economists repeat the arguments of the traditional reform theory without question (Taylor, 1978, pp. 20-23). There are few issues in economics on which agreement is so complete. A third element of the orthodox coalition is made up of the state blue ribbon panels that have guided property tax reform in several states in recent years. In at least four states, the reports of the commissions have closely mirrored, at times to the point of verbatim repetition, the writings of

the assessing profession (Virginia, 1974; Michigan, 1958; Michigan, 1976a; Minnesota, 1970; New Jersey, 1973).

Finally, the orthodox view has filtered down to the popular works on property taxation (Brandon et al., 1976, pp. 198-199; Consumer Reports, 1976). The similarities between the elements of the orthodox coalition is such that reading any one is equivalent to reading them all. The most important similarity is that in nearly every case, the propositions of the traditional reform view are repeated without question and without empirical support. There was virtually no challenge to the traditional reform theory.

This lack of challenge, coupled with the traditional reform theory's focus on implementation as opposed to theory testing, provided little incentive to test these propositions. This does not mean that they are untestable however. The traditional reform theory would argue that assessment performance would be higher in jurisdictions that are large, jurisdictions with professionalized assessors, and jurisdictions that provide a high level of assessor resource support. When comparing across states, the traditional reform theory would lead us to expect high quality performance of the assessment function in states with strong state oversight of the local assessment function. As our focus is intra state variation in assessment performance, we will not be concerned with the last variable. The traditional reform theory would lead us to expect therefore that

$$P_j = a + b_1A_j + b_2R_j + b_3S_j + e_j \quad (1)$$

where:

P_j = the performance level of a jurisdiction;

A_j = the professionalism of the assessor;

R_j = the resource support provided the assessor;

S_j = the size of the jurisdiction; and

e_j = the error term.

The equation takes a linear form because proponents of the traditional reform theory argue that there is no limit to the advantages of size, professionalism, and resources. For instance, the Michigan Governor's Advisory Task Force argued that moving to full state assessing would increase assessment performance even over the performance improvement gained by adopting county assessing (Michigan, 1976a). The variables are included in an additive fashion because the traditional reform proposals are usually treated as separate and cumulative in their effects on assessment performance. (As we will see in Chapter Three, however, this is at least in part a misinterpretation of the proposals presented in Assessment Principles.) The error term represents a variety of random influences on assessment performance. For instance, later it will be noted that the traditional reform theory viewed property and population heterogeneity as having only a random influence on assessment performance. Finally, positive coefficients would be expected for all three independent variables because size, professionalism, and resources are all expected to lead to higher performance.

The Tax Revolt

The traditional reform theory has little to say about the tax revolt. First, the tax revolt is a fairly recent phenomena. Traditional teachings in assessment administration simply did not consider it. But would they say anything about it if they had the opportunity? I think not. The strong belief in the politics-administration dichotomy held by the traditional reform theory would prevent any comment on the tax revolt. If the tax revolt is a function of excessive taxation, then reform efforts should be aimed at the politicians who set the level of taxation. Assessors, it would be argued, only determine value. They have nothing to do with setting tax rates. The failure to recognize that the two are related (as will be shown in the next chapter) shields traditional reform oriented assessors from the tax revolt. It is political and therefore none of their concern.

But, we might ask, what is the traditional reform view of the political process? Answering this question might enable us to determine what the traditional reform theory might say about the tax revolt if it were forced from behind the veil of ignorance of the politics-administration dichotomy. Of course, this entails risk as I am going substantially beyond what the traditional reform theory actually says. The potential reward of such an effort is that it might provide a baseline or a naive model against which to test the alternative explanations of the tax revolt

to be introduced later.

I would argue that the traditional reform theory would hold a very simple view of politics. Local majorities would determine what the level of taxation should be. That level would move up or down depending on changes in the preferences of the majority. Politicians would be assumed to be responsive to these preference changes. This very simple model of the local political system would not be unlike the median voter model. The median voter model suggests that the political process employs issue position movement by the political entrepreneur to achieve a satisfactory if nonoptimal result. Assuming that demands for public goods are distributed on a continuum, the model demonstrates that politicians who adopt platforms conforming to the preferences of the median voter will achieve electoral success. Platforms based on a nonmedian strategy would fail to produce majority support. Tax-expenditure decisions in a perfect median voter world would therefore approximate the preferences of the median voter (Buchanan and Tullock, 1965, pp. 131-145; Barr and Davis, 1966; McEachern, 1978).

Can we predict the outcome of the tax revolt in a median voter world? In a strict sense, we could say very little unless we knew the exact range and distribution of preferences in each community or unless we assumed that they were identical. Cutting taxes in half would slice across different preference continua in different ways. But I do

not think that we need to be that strict. The paucity of voter knowledge about the details of property taxes and referenda issues¹ suggests that we can treat the vote on tax revolt referenda as simple yes or no votes on the question of whether taxes are too high.

What can we say given this assumption? Tax-expenditure decisions based on median-voter preferences would be unsatisfactory to those with either above or below average demand for public goods. Only those with below average demand would say that taxes are too high. Median voters are already satisfied while those with above average demand would be even more dissatisfied if the level of public goods provision was moved even further from their preference position. A tax revolt could therefore occur but not succeed in a median voter world. However, we would find a fairly constant pattern of minority support for a referendum across jurisdictions irrespective of the local median voter derived tax-expenditure decision. Support for the tax revolt would be constant across jurisdictions and thus unrelated to any jurisdictional level characteristics.

¹Most property tax analysts have concluded that taxpayers are very uninformed about how the property tax works (see for instance, Governor's Advisory Task Force, 1976). Unless taxpayers-voters are informed about how the tax works, precise calculations of how referenda choices relate to their preferences would be difficult if not impossible. Treating the tax revolt as a yes or no vote on the question of whether taxes are too high merely recognizes that taxpayers-voters are uninformed on this issue. This is discussed in more detail in the next chapter where the assumption that they are uninformed is modified to account for relative information costs.

Again, however, I must stress that this hypothesis is an artificial one. The traditional reform theory would tender an explanation of the tax revolt only if pushed to do so. Proponents of that approach would argue that it is none of their business given the politics-administration dichotomy.

Traditional Reform Research. As noted above, there is little research on the key propositions of the traditional reform theory. The dominance of the orthodox view has minimized the perceived need for research. The lack of research is also partially due to the research tradition of the traditional reform theory in general. As Vincent Ostrom has noted:

Much of the research in American public administration has made little use of the predictive value of theory to derive hypotheses from theory and then using evidence to support or reject the hypotheses as a test of theory. American public administration is more preoccupied with theory as prescriptive doctrine which can be used to rationalize and reorganize the structure of administrative relations in accordance with the principles of hierarchical organization. The principles are taken as eternal truth. (Ostrom, 1974, p. 33)

Indeed, the NAAO Committee believed that the propositions of the traditional reform theory were already sufficiently tested. The Committee concluded that, "a principle of assessment practice is here defined as a tested proposition which may be recommended as a habitual mode of action of those persons charged with the responsibility of assessing property for tax purposes" (NAAO, 1938, p. 6). It seems that the testing was confined to the experience of the members of the Committee. Given this research tradition,

the orthodox coalition felt that it was sufficient to proselytize among the unbelievers in government. Much of the literature mentioned to this point is of that type.

From the point of view of the orthodox coalition, little research was needed. What little there is can be divided into two groups. The first group includes many case studies that attempt to show how a particular reform was adopted in a given jurisdiction (Gwartney, 1973; Perry, 1970; Woolrey, 1970; Craig, 1968; Yeatman, 1974; Collante, 1968; Mulready, 1974; Holland, 1974; Sangster, 1974; Vick, 1974; Rose, 1968; Loveland, 1974; McKay, 1974; Skaff, 1974; Anderson and Ebert, 1974). As these case studies are nearly identical, an analysis of one should suffice to illustrate their limitations. Loveland's "The Idaho Assessors' Education Program" is perhaps one of the better cases. Loveland spends several pages describing the history and operation of the Idaho education program. In the second to last paragraph he draws the conclusion that "in Idaho the education of assessors and appraisers has been a very worthwhile endeavor, the taxpayers' resistance has been decreased, and equity between categories has increased." No evidence is cited. Indeed, the Idaho intra area coefficient of variation actually increased from 25.7 in 1966 to 27.3 in 1971, before and after the education program (U.S. Bureau of the Census, 1972). Even aside from the internal validity problems associated with the case study, these studies are flawed in that they only examine program inputs. The inputs

are assumed to be associated with outputs and outcomes as specified by the traditional reform theory.

The second group relies on enumeration to support the propositions of the traditional reform theory (Almy, 1975; Michigan, 1976; ACIR, 1963; ACIR, 1974; ACIR, 1972). These are more progress reports than analyses of the propositions. The ACIR's The Role of the States in Strengthening the Property Tax, published in 1963, is the best example. Based on the ten page case reports on the developments in property taxation in each of the states, it was concluded that the orthodox propositions were supported. There was no attempt to systematically analyze the data. And again, only inputs were examined with no attempt to relate them to outputs.

This limited research coupled with the prescriptive literature examined earlier constitute the traditional reform literature in assessment administration. Rarely has doubt in the 'eternal truths' of the principles evidenced itself in the literature. Archibald Woodruff wrote that, "logic indicates that many American taxing jurisdictions are too small to have a well organized and properly staffed assessment office. The facts challenge the logic, and many small districts do in fact have excellent offices which handle both residential and 'large' assessment admirably" (Woodruff, 1973, p. 120). Woodruff's statement is rare if not unique in the traditional reform literature.

The Seeds of Doubt. The traditional reform theory went unchallenged and untested for decades. During the post world war period, however, the seeds of challenge were sown from two very different directions, only one of which had direct bearing on assessment administration.

The first challenge was on the conceptual level and was aimed at the traditional reform theory in general rather than assessment administration in particular. This is the often discussed revolt against the traditional reform theory which challenged the theoretical foundations of the orthodox perspective. Dahl clearly pointed out the failure to construct needed underlying models of behavior (Dahl, 1947). Herbert Simon criticized the principles of administration as contradictory and noted that the traditional reform theory lacked adequate conceptual language to even describe administrative performance (Simon, 1946). Ostrom has observed that even if the traditional reform theory overcame these problems, its limited approach to research precluded empirical analysis of the principles of administration (Ostrom, 1973). Given this critique, academic public administration has largely abandoned the traditional reform theory that guided its early development.

This conceptual challenge had little impact on the assessment profession, however. Instead, the traditional reform theory in assessment administration broke away from its dying generic parent and became an autonomous and insulated professional doctrine. The traditional reform

theory in assessment administration has survived intact and untouched by the post war upheavals in public administration theory.

The second challenge has had a greater impact on the development of assessment administration theory. On first face, however, this challenge does not seem very threatening to the traditional reform theory as it entails only describing the assessment performance outcomes of large cities. But that simple description process produced results that were inconsistent with the traditional reform theory understanding of performance.

The traditional reform theory views poor assessment performance as a function of insufficient professionalization of assessing personnel, inadequate resource support, and insufficient jurisdictional size to take advantage of economies of scale. We would expect to see interjurisdiction variations in performance with variations in these three administrative characteristics. But because lack of skill or resource support would tend to influence the assessor's ability to determine true cash value for all properties equally, it was assumed that there would be no variation in intrajurisdictional performance. The major contribution of the literature making up this second challenge lies in its finding that poor performance is systematic in its impact on different types of property.

The landmark analysis is that of Henry Aaron and Oliver Oldman. In "Assessment-Sales Ratios Under the Boston

Property Tax," Aaron and Oldman describe the variation of assessment-sales ratios between particular groups of properties (Aaron and Oldman, 1965, p. 36). After examining location, sales price, assessments, and property use, they concluded that there were "systematic inconsistencies in property tax assessment in Boston, although inconsistency is explicitly rejected by the law" (Aaron and Oldman, 1965, p. 48). In particular, they found that commercial property and multifamily dwellings were assessed at significantly higher ratios to sale price than single family structures.

The Aaron-Oldman work spawned a series of analyses that described assessment performance in cities (Paul, 1975; Peterson et al., 1973; Black, 1975; Engle, 1975; Hendon, 1968; Schroeder and Sjoquist, 1976) and states (Shannon, 1973; Shannon, 1967). They have found that commercial property and the residential property of the poor and racial minorities have been overassessed relative to other properties. The relative differences were more than could be accounted for by the traditional reform theory. As Shannon wrote:

Administrative factors can account for part of the gap between state law calling for full value assessment and the practice of fractional valuation--but for only a small part of that gap. In the average situation, property is being assessed at approximately 30 percent of current market value, and there is a 70 percentage point gap separating administrative behavior from the full value law. When analyzing this gap, perhaps 10 to 15 percentage points can be attributed to strictly administrative factors. (Shannon, 1967, p. 40)

In other words, it is difficult to believe that an assessor would appraise a \$100,000 house for \$30,000 simply because

of his lack of training or budget support.

While this literature has been successful in describing the extent of systematic inequities in assessment practices, it has been less successful in explaining why they occur. Numerous explanations are suggested. Aaron and Oldman speculated that single family residents are able to exercise greater political influence than other property owners. They also suggest that assessment lag in the face of differentially rising property values or assessor efforts to adjust tax assessments to the level of benefits received could also account for the observed variance in assessments (Aaron and Oldman, 1965, pp. 43-45). Racism is also suggested (Black, 1975). Paul and Peterson argue that systematic underassessment may be due to efforts by government authorities to slow the decline of the central cities (Peterson, 1973; Paul, 1975, pp. 27-28). But this literature was primarily descriptive. Explanations were suggested but the analysts were unequipped to disentangle the various explanations given the limited nature of the data. The explanatory part of this literature is more suggestive than definitive.

Perhaps a more fundamental reason for the limited explanatory success of this literature is the lack of a model of individual behavior by which to analyze the behavior of assessors, property owners, and government officials. For each of the proffered explanations, both the motivations of the actors and the structure of rights

governing behavior remain indistinct. Diane Paul is the most successful in building such a model; her effort is also severely limited (Paul, 1975, pp. 41-47).² A model of assessor behavior is essential to explaining the phenomena

²Diane Paul's analysis of the politics of property tax administration in San Francisco and Boston is similar to the model presented here. Paul's relation of administration of the property tax to local politics is virtually unique in the literature on the property tax (Paul, 1975). Much of the analysis presented here builds on the specifics of her original work.

Yet, in the end Paul opts for a very limited model of assessing as monopolistic price discrimination. She views city officials as monopolists attempting to maximize "by discriminating among classes of buyers according to their price elasticity of demand for products and services" (Paul, 1975, p. 42). From this, she predicts higher assessments for blacks and businesses already in the district, lower assessments for entering businesses and upward transitional neighborhoods.

The model to be presented in Chapter Three builds on Paul's analysis but goes beyond it. Most importantly, Paul's view of city officials as revenue maximizers can be fully incorporated into the model to be presented. In contrast though, officials are attempting to maximize votes, not revenue. Revenue maximization is secondary or instrumental to vote maximization as officials try to insure resident perception of government service provision. This allows consideration of a broader range of behavior. Paul is primarily concerned with differential assessment and looking at city officials as monopolists does explain that phenomena. But viewing these officials as vote maximizers enables us to explain systematic underassessment as well. Thus, Paul's analysis is a specific case that can be fitted into the more general model developed in Chapter Three.

There are also several other limitations to Paul's model that should be noted. First, Paul only looks at assessing in very large cities. The model analyzed here is applicable to units of all sizes. Second, Paul fails to consider the assessors as separate components of the model. As we will see, assessors' interests are not necessarily the same as the governments'. Thus, while Paul's work is critical to this analysis in many ways, the analytic range of the model used restricts the applicability of her work. Her results can be fully incorporated into the model presented here.

described in this body of literature. Such a model is developed in Chapter Three. There it is suggested that the various explanations are all related and arise from a single pattern of behavior.

Finally, this literature only considers large cities and states. There is little attempt to relate the pattern of assessing in large cities to that in small, unprofessionalized jurisdictions that are the focus of the traditional reform theory.

A third limitation in this literature is the restricted range of institutional solutions considered. Despite the exception of Shannon's insightful analysis, most fail to see much less exploit the findings of their work in relation to the traditional reform theory. They continue to support the propositions of the traditional reform theory (Black, 1975, pp. 209-210; Peterson, 1973, p. 11).

Despite these limitations, this set of literature is critically important to later challenges of the traditional reform theory. It was the first attempt to empirically describe assessment performance. The findings were inconsistent with the traditional reform theory and that inconsistency led to the application of public choice theory to assessment administration.

Public Choice Theory

As seen in the first chapter, public choice theory analyzes the public sector as a series of exchange relationships. In that chapter, the public choice hard core was

identified as consisting of the economic model of man and a model of the structure of events interrelating interdependence, structure, behavior and performance. It was also pointed out that the presumption of market superiority is used by conventional public choice theorists to truncate the specification of interdependence and structure. Given this understanding of the public choice theory of supply, we can now proceed to examine its application to property taxation. The public choice analysis of assessment performance is examined first followed by the public choice view of the tax revolt. Finally, a review of the public choice assessment literature is presented.

Determinants of Performance

The public choice theory of supply, operating under the specification constraints imposed by the presumption of market superiority, would look at three issues in examining assessment performance. The first is interdependence arising from the technological nature of the assessment decision. Public choice theory argues that the technological character of a good or service defines how two or more individual's choices are interrelated. As Vincent Ostrom has written, "Public choice theory considers the nature of goods and services . . . to be a primary element of analysis" (Ostrom, 1978, p. 1516). But it should be realized that conventional public choice theory limits the specification of interdependence to the technological characteristics of goods affecting allocation. Distributive

interdependencies are systematically ignored as illegitimate because they are not subject to exchange as seen in Chapter One. The second and third issues examined by the public choice theory are associated with the structure of rights governing interdependence. It should be recalled that public choice theory specifies structure by asking such questions as, is there exchange? Is there competition? How can rights be modified to make exchange more likely? Bureaucratic organization and large jurisdiction size is considered to be antithetical to exchange (Ostrom, 1974; Buchanan, 1977; Spann, 1977; Bish, 1971; Bish and Ostrom, 1974). Therefore, the second issue that would be examined by public choice theory in constructing a model of assessment performance is the bureaucratization of assessing offices. The third issue is the size of assessing jurisdictions. These three considerations are used below to develop a public choice model of assessment performance.

Assessor decisions are based on property values. One important consideration of the public choice specification of the technological character of goods are information costs. Indeed, Arrow's categorization of the technological character of goods is based entirely on the concepts of transaction and information costs (Arrow, 1970). How difficult is property valuation? More specifically, do information costs vary by type of property? Answers to these questions are important because the traditional reform theory assumed that there were no variations within

communities as noted earlier. The public choice approach would expect that valuation, *ceteris paribus*, would be more difficult for properties for which information was very costly.

Information costs would seem to vary by different types of property markets. In particular, very heterogeneous property markets would be difficult to assess. Greater variations in the types of property found in a unit imply the existence of more than a single property market. Low income residential property may be declining in market value while newer and upper income housing may be rapidly increasing in price (Peterson et al., 1973; Black, 1975). The existence of multiple property markets complicates the assessment task by requiring more than a single and simple market study for accurate assessment. Franklin James' study of assessment accuracy in New Jersey led him to conclude that coefficients of variation tend:

to be higher in communities with low quality housing, low housing value, and greater numbers of black households. Higher levels of housing vacancy also appear to increase the coefficient of variation. These relationships appear to be very reasonable, since each seems likely to be associated with higher levels of market error in sales prices; in addition, standard assessment methods are probably not very effective in dealing with the effects of neighborhood characteristics and housing value and are less likely to accurately reflect market values in small and unusual sectors of the housing market. (James, 1976, pp. 250-251)

Therefore, the heterogeneity of a jurisdiction's property market determines to some extent the performance of the assessment function. Regardless of the assessor's purposive behavior, high levels of performance are more difficult to

achieve in a heterogeneous district. In James' terms, jurisdictions with a homogeneous property market have a "higher accuracy potential." The public choice approach would therefore hypothesize that heterogeneity is negatively related to performance.

The recent empirical work on assessment administration has found that community characteristics or property heterogeneity accounts for much of the variation in performance. Geraci and Plourde, James, Mikesell and Bowman, and Cheng have all stressed the importance of property heterogeneity to performance of the assessment function (Geraci and Plourde, 1975; James, 1973; Mikesell and Bowman, 1978b, Cheng, 1972; Cheng, 1974). As James concluded, "community characteristics appear to explain a relatively large portion of the variance in . . . the coefficient of variation" (James, 1976, p. 250).

The public choice approach would argue that human behavior would introduce further variation in performance over and above the "natural" variation arising from property heterogeneity. Human behavior depends on the decision structure or the structure of rights that govern the interdependence between those who pay taxes and those who decide how much they should pay. Performance predictions can be derived from examining the preferences of those two parties and the means by which their interdependent interests are resolved.

Taxpayers are assumed to prefer that taxes be equitably distributed according to the value of housing (Bowman and Mikesell, 1978b). Individuals would obviously prefer to pay less than their fair share if they could without costs. But the risks and costs involved, it is argued, make this unattractive. Payment based on fair shares according to value is therefore the option chosen by taxpayers as expressed in State law. Bowman and Mikesell identified the relation between taxpayer preferences for equity and the costs of nonequity when they wrote:

As the amount of property tax increases relative to market value, property owners likely will become more concerned that the tax be fairly and equitably administered. The burdens of over assessment and the rewards of successful appeal become larger as the effective rate rises. For this reason, higher property taxes and assessment quality should be negatively related. (Bowman and Mikesell, 1978b)

Taxpayers would prefer equity and that preference would become more intense as the costs of inequity rise.

Government officials are assumed to be self interested actors rather than the passive reflectors of citizen preferences assumed by the traditional reform theory (Downs, 1967; Niskanen, 1971; Bartlett, 1973; Borcharding, 1977). Officials may be motivated by a variety of interests. Downs noted several including power, money, prestige, convenience, security, personal loyalty, pride in the performance of work, and desire to serve the public interest (Down, 1967, p. 84). But despite the complexity of this multiple set of interests, most neo-classical public choice analysts only consider the first few values on the

list (Borcherding, 1977). This restricted list of values will become quite important in the next chapter. For now, it is sufficient to note that the emphasis of the public choice approach on power, money, prestige and convenience rests on the idea that bureaucracy is inherently noncompetitive and therefore nonresponsive to taxpayer-citizen demands (Borcherding, 1977). On the basis of this deliniation of official's self-interest, the public choice perspective suggests that those officials will pursue their own self-interest of bureaucratic expansion rather than the public's preference of uniform performance of the assessment function. Indeed, as we will see in the next section of this chapter, officials have an incentive to assess nonuniformly given their interest in self-serving expansion.

How are these interdependent preferences resolved? In the market, consumer choice under competition would work to satisfy the consumer's preferences. In the nonmarket assessment field, consumer soverieghty is more tentative. Voting is the major checking force exercised on government officials by taxpayers. Public choice analysts have long decried the quality of this check relative to the dollar ballots of the market (Buchanan, 1954; Bush and Denzau, 1977) but it is still seen as important. Once the voting check is removed or weakened even more than it is to begin with, official self interest is allowed to run wild.

From this perspective, professionalization of the assessment function would be negatively related to

performance rather than positively related as suggested by the traditional reform theory. The major characteristic of professionalization is appointment rather than election. Once the electoral check is removed, bureaucratic expansion driven by bureaucratic self interest is to be expected (Buchanan, 1977). The unchecked bureaucracy will pursue its own interests rather than taxpayer preferences for uniform assessment. This type of analysis is the basis of the public choice approaches long standing negative view of professionalism. Dire consequences are predicted for jurisdictions with a highly professionalized staff. As Vincent Ostrom has concluded, "From this theoretical perspective, an analyst would not be surprised to find a positive relationship between professionalization of the public service and the impoverishment of ghettos within big cities" (Ostrom, 1974, pp. 61-62).

This perspective would also challenge the traditional reform theory's view on the impact of assessor resources. More assessor resources would be viewed by the public choice perspective as supportive of bureaucratic self interest rather than uniform performance. Greater resources would satisfy the bureaucratic assessors need for convenience and prestige. Public choice analysis would lead us to expect that resources and performance are unrelated.

The third and final factor considered by the public choice theory of supply is jurisdiction size. Large jurisdictions would not be in conformance with the

requirements of the Tiebout model and would reduce the quality of performance for two reasons. First, taxpayers would find it more difficult to express their preferences in a large jurisdiction. The close personal contact between assessors and taxpayers would be missing (Pachan and Lovrich, 1977, p. 41). Second, it is much more likely that large jurisdictions will have a professionalized assessing office than small jurisdictions. In large jurisdictions, the assessment task is more than a part time job necessitating the appointment of a full time assessor. The performance consequences of professionalization have already been noted. For these reasons, jurisdiction size is thought to be negatively related to assessment performance (Bowman and Mikesell, 1978a).

The public choice theory of supply would lead us to expect, therefore, that

$$P_j = a + b_1 H_j + b_2 A_j + b_3 S_j + e_j$$

where:

- P_j = the performance level of a jurisdiction;
- H_j = the property heterogeneity of a jurisdiction;
- A_j = the professionalism of the assessor;
- S_j = the size of the jurisdiction; and
- e_j = the error term.

The equation takes a linear form because public choice analysts would argue that there is no diminishing of the negative impact of increased heterogeneity, assessor professionalism, and jurisdiction size whether you are moving

from a rural, unprofessional, homogeneous community to a suburban, semiprofessional, somewhat heterogeneous community or from the suburban community to a urban, fully professionalized, highly heterogeneous community. The effect of the three variables is considered to be additive. The heterogeneity of a community is a baseline determinant of performance that is operative regardless of the level of professionalism and size of the jurisdiction (James, 1973). Size and professionalism are obviously related. But public choice analysts would argue that they have an independent effect. In two jurisdictions of the same size, an unprofessionalized assessor would be expected to perform at a higher level than his professionalized neighbor. Additionally, the linear, additive functional form presented here is entirely consistent with the models used by James, Geraci and Plourde, and Mikesell and Bowman that will be examined shortly as examples of empirical tests of the public choice model of assessment performance. The error term represents a variety of random influences on assessment performance. Finally, the public choice model would lead us to expect negative coefficients for all three independent variables because heterogeneity, professionalism and size are all expected to lead to lower performance. This stands in sharp contrast to the traditional reform model which views the latter two as positive determinants of performance and heterogeneity as having only a random influence.

The Tax Revolt

It was earlier suggested that the traditional reform theory analysis of the tax revolt is based on a median voter model. That model has been criticized as unrealistic. As Deacon has written:

The median voter approach adopts a very simple view of seemingly complex political phenomena, and an apparent lack of realism has been a source of criticism. In particular, it neglects the activities of interest groups and assigns politicians the rather passive role of simply seeking out and supplying the demands of the voting middle class. (Deacon, 1977, p. 379; see also, Ladd, 1978, p. 4)

Public choice theory's explanation of the tax revolt is based on the criticisms. In contrast to the median voter model, the public choice theory of supply would posit what Buchanan has called an excessive government model where goods are consistently overproduced and/or are thought to be overproduced (Buchanan, 1977). Once again, attention can be focused on both the technological nature of the goods and bureaucratic behavior.

The excessive government interpretation has two general strains. The first emphasizes the role of political and bureaucratic actors as strategic manipulators of fiscal institutions. The view of government as passive actor is rejected in favor of a view of politicians and bureaucrats as self-interested actors with a stake in the continued expansion of public production (Downs, 1967; Niskanen, 1971; Borcharding, 1977). Given that self-interest, they establish fiscal institutions which obscure the true costs of public production and thereby increase the demand for

public goods. The use of indirect taxes is commonly cited. As Buchanan and Wagner have argued, "complex and indirect payment structures create a fiscal illusion that will systematically produce higher levels of public outlays than those that would be observed under simple payment structures" (Buchanan and Wagner, 1977, p. 129).

Beyond the general use of indirect taxes, several mechanisms designed to obscure the true level of property taxes have been observed. The first of these is under-assessment or the assessment of property at less than the legally required fraction of true cash value. Of course, the state equalization process corrects the artificially low assessments. But it is precisely that correction which enables the political and bureaucratic actors to benefit from underassessment. As John Shannon has written:

The political implications of assessment reform are rather grim because for many state tax officials the decision to raise all local assessments to the state legal valuation standard places them in double jeopardy. First, local rate makers may take advantage of this situation by failing to cut back their tax rates commensurate with the state hike in local assessments. If this happens, then state officials will usually be blamed by irate property owners for the resultant increase in taxes. (Shannon, 1974, p. 32)

Equalization enables local government officials to avoid the public's wrath by shifting the perceived responsibility for higher taxes to the state. A second mechanism is differential assessment; those who can least influence the government's ability to garner votes are assessed at a higher than average fraction of true cash value. Local business property and the property of the poor are commonly

overassessed (Aaron and Oldman, 1965; Paul, 1975). They are relatively immobile and, in the case of the poor, relatively uninformed. This tax break to middle income property owners lowers their cost of public goods and thereby increases demand. Additionally, government can finance increased production through inflation increases in assessments. The rapid rise of housing values relative to the general price level has enabled government to increase property tax revenue through increased assessments while claiming to be holding the line on taxes by maintaining a constant tax rate. In Sherwoods words, "inflation takes the burden of decision off the legislators" (Sherwood, 1978, p. 12). Once again, dissatisfaction is shifted away from local officials.

The evidence that such behavior occurs is persuasive. What remains unclear is whether the shifting of responsibility for higher taxes contributes to the tax revolt. The excessive government interpretation suggests that it would. On inflation and underassessment, the breaking of the linkage between local electoral choices and local tax expenditure decisions leaves the consumer-voter with little choice but to resort to extraordinary means to lower the level of public goods production. Buchanan implied as much when he wrote:

. . . attempts to reduce the excessive governmental spending might be aimed at the motivational structure of bureaucracy rather than at aggregate budgetary and tax levels. On the other hand, if the bureaucracy is considered to be so firmly entrenched and its institutions so rigid that direct attack would be futile, alternative means may be required. (Buchanan, 1977, p. 5)

Administrative improvements to reduce differential assessment may in fact start a tax revolt as middle income consumer-voters are suddenly informed of the true costs of public production (Shannon, 1973, p. 32; Paul, 1975, p. 97).

The second strain of the excessive government interpretation calls attention not to purposive behavior on the part of political and bureaucratic actors but to the technology of public production. Baumol has argued that the large service component of public goods production mandates every rising expenditures. This is so because productivity gains are much more difficult to secure in the service area (Baumol, 1967). Over time, the imbalance of productivity gains between the public and private sectors lead to a larger public sector. Expenditures and taxes will rise and will take a larger share of GNP with no change in the level of service.

Bradford, Malt, and Oates expanded on Baumol's work by suggesting that environmental factors may necessitate an increase in budgetary inputs in order to maintain a static level of public goods production (Bradford, Malt, and Oates, 1969). For example, the changing racial composition of cities has required increased spending to achieve the same level of performance (Hirsch, 1971, p. 5). Pettengill and Uppal concluded that, "The disadvantaged would require more educational dollars per pupil if they were to be raised to the national norm. . . . A high percentage of non-whites in cities does raise educational costs" (Pettengill

and Uppal, 1974, p. 20). General urban decline would have the same result; roads and schools must be maintained even if the tax base is declining or static (Meltsner, 1971, p. 17). In both cases, expenditures and/or taxes must go up to maintain a constant level of service because productivity gains cannot be relied on to make up the shortfall. As the consumer-voter sees rising taxes with no change in the level of service, one might expect him or her to view the government as excessive, wasteful, and inefficient.

Public choices' excessive government interpretation, whether of the political/bureaucratic or technological strain, would lead us to expect that on a general basis, governments with higher taxes would have a higher level of dissatisfaction with the production of public goods. We would expect to find greater support for tax cutting proposals in these municipalities. While evidence supportive of this hypothesis has been found at the state level (Ladd, 1978, p. 2), exceptions are not inconceivable. A low tax government might have an even lower tax if there were no fiscal illusion. But the general relation seems plausible. This is particularly true given the political rhetoric surrounding the tax revolt.

The public choice theory of supply as interpreted by the excessive government model would lead us to expect, therefore, that

$$TD_j = a + b_1T_j + b_2N_j + b_3D_j + b_4B_j + b_5U_j + b_6I_j + e_j \quad (3)$$

where:

TD = the level of support for the tax revolt in a jurisdiction;

T_j = the level of taxation in a jurisdiction;

N_j = the level of assessment in a jurisdiction;

D_j = reduction in differential assessment in a jurisdiction;

B_j = change in racial composition in a jurisdiction;

U_j = rate of urban decline in a jurisdiction;

I_j = inflation increases in housing prices over the general price level;

e_j = the error term.

Again, this equation is specified in a linear, additive form. The effect of the variables is expected to be continuous and constant over their respective ranges and each is viewed as having an independent effect on the level of support for the tax revolt. The error term represents random influences on the level of support for the tax revolt in a jurisdiction. The public choice model would lead us to expect a negative coefficient for N_j because lower levels of assessment would be expected to reduce support for the tax revolt. All of the remaining coefficients would be expected to be positive; increases in the level of taxation, reductions in differential assessment, changes in racial composition, the rate of urban decline, and inflation in the housing market are expected to increase the level of support for the tax revolt. These expectations stand in sharp contrast to the traditional reform-median voter interpretation of the tax revolt which would lead us to expect that

the level of support for the tax revolt would be constant across all jurisdictions.

Public Choice Research

To this point, the foundations of the public choice theory of supply have been examined and public choice models of the determinants of performance and the tax revolt developed. There is very little explicit research on assessment administration from a public choice perspective. But the recent empirical literature on assessment performance is consistent with the public choice model of the determinants of assessment performance and has been recently interpreted from a public choice perspective (Bowman and Mikesell, 1978a). Moreover, a more detailed examination of this literature is required as it is the closest literature to which the work to be present in the next two chapters can be compared. In particular, I would like to call attention to several methodological problems in this literature.

While the model used in this literature is consistent with the public choice model of performance presented earlier, the empirical results are not entirely supportive of the public choice hypotheses. The heterogeneity hypothesis is strongly supported as are the resource and size variables. But the results on the professionalism variable are less clear cut. Most of this research indicates that professionalism is unrelated or very slightly related to performance rather than negatively related as

suggested by the public choice theory of supply.

Franklin James initiated this body of research in 1973 in "An Empirical and Theoretical Analysis of Measures of Uniformity of Property Assessments Under the Property Tax" (James, 1973). James was particularly interested in the extent of sales error in different types of jurisdictions. Using data on 106 New Jersey municipalities, James regressed the coefficient of variation in assessments on 18 variables. The independent variables were divided into administrative factors and property and population characteristics. While James' concern was more methodological than substantive and the results only haphazardly presented, he concluded that, "the basic finding is clear: only a small but significant portion of variance in accuracy is apparently attributable to the administration of the tax, as measured by the frequency of reassessment. The bulk of overall equity in assessment is attributable to differences among municipalities in their location, and in the character of their population and housing stock" (James, 1973, p. 21).

In James' later work, "Assessment Procedures, Community Characteristics, and the Accuracy of Property Tax Assessments: Preliminary Findings," he used slightly different variables to analyze an unspecific number of New Jersey municipalities. He concluded that, "as measured by the coefficient of determination, r^2 , characteristics of assessment administration are capable of explaining only 10

percent of the variance in the coefficient of variation, while community characteristics explain an additional 19 percent" (James, 1976, p. 250).

The major problems with James' work center on the variables used. The key problem is with the measures of assessment procedures. Three variables are used: year of the most recent reassessment, whether the reappraisal was done by the local jurisdiction or a commercial firm, and the expenditures per parcel for the reappraisal. Given the previous analysis of the propositions of the traditional reform theory, it should be clear that the measures used by James fail to tap the full range of institutional factors considered important by the traditional reform theory.

A second problem concerns James' sample. James does not clearly report even the size of the sample used in the final regressions. Moreover, both the largest and smallest cities were excluded due to lack of data. The sample therefore represents only a narrow band of municipalities. James' primary concern was seeing whether assessment error varied systematically with community characteristics, not identifying the determinants of performance. For that limited purpose, the data may be appropriate. But James' conclusion that assessment practices have little impact on performance is not justified given the data problems.

A second attempt to identify the determinants of performance is found in the work of Vincent Geraci and James Plourde (Plourde, 1974; Geraci and Plourde, 1976). They

employ a slightly different model focusing on three sets of independent variables: assessor characteristics, structure of the assessing jurisdiction, and property and population heterogeneity. Analyzing 418 Wisconsin municipalities, they found, like James, that population and property characteristics accounted for most of the variation in assessment performance. Overall, the three sets of variables accounted for 58% of variance in performance.

The Geraci-Plourde analysis is superior to James' work. The range of institutional variables included makes it a better test of the traditional reform theory. Moreover, unlike James, Geraci and Plourde do not conclude that assessor characteristics and structure are meaningless simply because population and property characteristics explain most of the variance.

Geraci and Plourde's work has several problems. First, the sample of 418 Wisconsin municipalities is not a random sample. Additionally, small communities were explicitly excluded from the sample.

Geraci and Plourde have also extended their analysis by developing a measure of the benefits of assessment reform and analyzed the adoption of county assessing using cost-benefit analysis (Geraci, 1977; Geraci and Plourde, 1977). The benefit measure is beyond the concern of this analysis. However, in their analysis they apply the measure to an interesting case in Wisconsin. Kenosha County adopted a county assessing plan allowing Geraci and Plourde to compare

the before and after performance level of the seven municipalities in the county. This unique natural quasiexperiment enabled Geraci and Plourde to identify the impact of two treatment variables: assessment level and the employment of a full time assessor. They found that performance did improve as a result of county assessing and that the benefits (defined as the sum of the absolute values of all overpayments and underpayments divided by the number of parcels) outweighed the costs (defined as assessment cost per parcel).

To many supporting the traditional reform theory, the findings of the recent empirical literature came as something of a shock. The International Association of Assessing Officers quickly responded by initiating its own analysis of assessment performance (Almy, 1977; Corusy, 1977).

The IAAO analysis used a national mail sample. Data on 415 cases was obtained out of the 1,500 questionnaires mailed out. A total of 217 variables from the survey were combined with census data on population and housing characteristics. Again, the dependent variable was the coefficient of variation. A total of 167 independent variables were examined with nine final regression runs employing 25 variables. The nine runs yield R^2 's ranging from .02 to .68.

The policy conclusions are bewildering as one might expect from the clear ideological position of the IAAO and

the atheoretical approach they took to the analysis of performance. Clearly the data run counter to the propositions of the traditional reform theory. Indeed, they support James' conclusion better than James' data. Yet, Almy concludes that, "James tentatively concluded that 'assessors play only a limited role in determining assessment accuracy.' We conclude the opposite" (Almy, 1977, p. 179). Almy makes clear his approach to interpreting the results in his analysis of the role of certification. "Among assessment personnel," he wrote, "there is widespread support for assessment personnel certification. We do not believe that the [negative] empirical results of this research should deter these efforts" (Almy, 1977, p. 178). No attempt is made to explain the negative findings within the context of the traditional reform theory which leads one to suspect that ideology rather than theory is guiding the IAAO's interpretation of the empirical results.

But perhaps Almy is right. It is difficult to evaluate the quality of inferences using the IAAO data. Most important is the significant self-selection in the survey. Second, while a wide range of institutional features are considered, many seem to be poor indicators of the concepts they are designed to tap. For instance, access to data resources is measured by access to deeds, a minor source of information in assessing. Third and most importantly, the IAAO study was a national study. While

better for purposes of generalization, the use of a national survey undermines the internal validity of the results as the property tax varies widely from state to state. Bowman and Mikesell concluded that, "the HUD-IAAO study involves analysis of about 1,500 jurisdictions across the nation, so there is ample institutional variation. Unfortunately, the substantially different structural definitions taken by the property tax across the country are great enough to cloud the findings" (Bowman and Mikesell, 1978b, p. 138).

The final attempt to identify the determinants of performance is Bowman and Mikesell's "Uniform Assessment of Property: Returns from Institutional Remedies." Using data on 137 Virginia assessing units, they use a model similar to that of James and Geraci and Plourde. Again, the coefficient of variation is used as the dependent variable. Four sets of independent variables are used: property heterogeneity, population heterogeneity, assessing structure, and tax intensity.

Their results met their expectations. The relationships were in the predicted direction and significant. The full eleven variable model yielded an R^2 of .802 when applied to residential property. The housing and population characteristics were negatively related to performance and accounted for 70% of the variance.

Yet again there are significant problems with this attempt. As Bowman and Mikesell use data on all of the primary assessing units in Virginia, there is no problem

with the sample. Other problems remain however. First, Virginia, despite the protestations of Bowman and Mikesell, has very little variation in the structure of assessing. In Virginia, all assessors are appointed, there is county and large city assessing, and the state does the primary assessing for most of the units (74%).

A second and related problem deals with the generalizability of the results. Not only are Virginia assessing units similar to each other, but they are very dissimilar to those in most states. Few states have such large districts and such centralization.

Taken as a whole, the literature provides virtually no support for the traditional reform model and supports in part the public choice model. In particular, the findings on heterogeneity support the public choice model's heavy emphasis on the role of information costs.

Conclusion

This chapter has considered the two contemporary approaches to understanding assessment performance and the tax revolt. Two very different sets of hypotheses on both issues were generated by the two models. Table 2.1 identifies the relationships with assessment performance hypothesized by the two models. Table 2.2 identifies the relationships with support for the tax revolt hypothesized by the two models.

Table 2.1 Hypothesized Relationships of Two Models with Assessment Performance

Variable	Traditional Reform Model	Public Choice Model
Property Heterogeneity	0 ^a	-
Assessor Professionalism	+	-
Assessor Resources	+	0
Jurisdiction Size	+	-

^a0 = not statistically significant;

+ = positive and statistically significant;

- = negative and statistically significant.

Table 2.2 Hypothesized Relationships of Two Models with Support for the Tax Revolt

Variable	Traditional Reform Model	Public Choice Model
Level of Taxation	0 ^a	+
Level of Assessment	0	-
Reduction of Differential Assessment	0	+
Housing Inflation	0	+
Change in Racial Composition	0	+
Urban Decline	0	+

^a0 = not statistically significant;

+ = positive and statistically significant;

- = negative and statistically significant.

CHAPTER III

AN ALTERNATIVE THEORY OF ASSESSMENT ADMINISTRATION

The Limits of Conventional Theory

The last chapter examined the two dominant approaches to analyzing property tax behavior. This section notes problems with each of them and suggests criteria for developing and evaluating an alternative. That alternative is developed in the remainder of this chapter.

Two problems were noted with the traditional reform theory in the last chapter. First, it was pointed out that the early empirical research on assessment administration generated findings that were inconsistent with the tenets of the traditional reform theory. Specifically, the discovery of substantial intra community variation in assessment performance indicated that the traditional reform theory did not fully explain assessment performance. The second challenge was conceptual. The post war revolution in public administration theory challenged the theoretical foundations of the orthodox perspective (Simon, 1946; Dahl, 1947; Appleby, 1949). It was pointed out that the traditional reform theory was not theory but rather a set of loosely connected prescriptions which were not based on any understanding of human behavior (Caldwell, 1968, pp.

207-208). Burkhead and Ross reiterated the point when they wrote:

There is a lack of behavioral theory underlying this type of analysis [analysis of the determinants of performance in the public sector]. For the private sector such a theory exists, based on the maximization of profits by businessmen and the maximization of utility by the consumer. For the public sector there is no simple behavioral theory. As a result the independent variables included in the model and the parameters that are estimated often lack theoretical justification. (Burkhead and Ross, 1974, p. 47)

The lack of theoretical justification noted by Burkhead and Ross, reduces the traditional reform theory to a set of unattached and ungrounded prescriptions. Even when the prescriptions are empirically supported, it is difficult if not impossible to explain why they are so. The traditional reform theory provides an insufficient framework for understanding assessment performance for these reasons. The traditional reform theory, both theoretically and empirically, provides a poor explanation of assessment performance and, more importantly, does not constitute a viable research program because of its pretheoretical character.

Public choice theory was examined in some detail in the first chapter. It was concluded that public choice theory as presently constructed, with its protective belt predicated on the presumption of market superiority, can not be considered a healthy research program. The competition between alternative protective belts which the positive heuristic defines as necessary for progressive research programs is precluded on a normative basis; the market based

protective belt is considered superior to any others because of its "freedom" and "efficiency" advantages. The definitions of freedom and efficiency employed by public choice theory were criticized and an institutionalist interpretation of public choice theory was suggested as a way to break public choice theory out of its static condition. This conceptual limit on public choice theory is compounded by at best incomplete success of the public choice empirical work on assessment administration as seen in Chapter Two. This lack of success is an indication that there is a need for an alternative protective belt that would both account for the success of the current public choice protective belt and expand the bounds of explanation. Given the inability of public choice theory as currently constructed to consider such alternatives, it is necessary to shift to an institutionalist model to implement the positive heuristic.

The remainder of this chapter is used to develop such an institutionalist model which I have labeled the property rights model because of its emphasis on a detailed specification of property rights in model construction. Two sets of rules must be identified before we can proceed further. The first set concern model construction. In the first chapter, I argued that an institutionalist approach would not rely on the simplifying rule of market superiority to invoke closure in the specification of the protective belt. Instead, researchers are directed to: (1) identify

the actors involved in a situation of collective choice, (2) identify the specific focus and content of each actor or set of actors self-interest, and (3) identify, through an analysis of the property rights governing the situation of collective choice, how the actors can influence each others' pursuit of those self-interests. Hypotheses can be developed from the resulting set of interest and influence patterns. This institutional approach to constructing a public choice model (again, it relies on the same hard core associated with conventional public choice theory) is applied to property tax assessment administration in the following section. The next section relates that property rights model of behavior in assessment administration to the institutional context of assessing. In the following two sections, the model of behavior and the analysis of the institutional context are used to develop hypotheses on assessment performance and the tax revolt.

The second set of rules concern model evaluation as developed in Chapter One. The Lakatosian understanding of progress requires that an alternative protective belt be both theoretically and empirically progressive before it can be identified as a progressive problem-shift and thereby supercede the existing protective belt. While an evaluation of the empirical progressiveness of the property rights model must wait until the next chapter, the last section of this chapter will assess the theoretical progressiveness of the property rights model. That is, the property rights

model will be compared to the public choice model to see if the property rights model can account for the explanatory success of the public choice model as well as predict novel facts that would expand the bounds of explanation.

Model of Individual Behavior

The alternative property rights theory of individual behavior under the property tax will be developed using Schmid's interdependence, structure, behavior, performance analytic framework (Schmid, 1978b). This approach entails several steps. First, the various actors and their interests must be identified. Second, the interdependencies of their individual choice functions are specified. Third, the structure of rights governing the solution of that interdependent choice function is specified. Finally, behavior predictions are deduced from the previous three steps. On the basis of an identification of interests, interdependencies and the rights governing interdependence, performance predictions can be made.

The Actors and Their Interests

Specifying who the actors are and what their interests might be brings up the inevitable problem of closure in model design. Simply put, when do we know that all the relevant actors and interests have been included? Various individuals and governmental bodies influence property tax outcomes in many different ways. Answering such a question is to some extent an iterative process.

Later analysts may find it necessary to augment or expand the range of persons and behaviors considered. But since this is a first effort to develop a model of property tax behavior, two simplifying rules will be used: one on interests and one on actors.

The first simplifying rule is that the model developed here will build directly on the conventional model of man used in neoclassical public choice analysis. This is important as no criticism will be directed at the core elements of the public choice model of man. In Steinbrunner's terms, the assumptions underlying Ostrom's understanding of methodological individualism (what Steinbrunner calls the Analytic Paradigm) are established "tautologically."

That is, the decision process is assumed to approximate the formal ideal, and observed data are interpreted in such a way as to make them consistent with the critical assumptions of the paradigm. In this usage the assumptions themselves are not held open to revision or disconfirmation. (Steinbrunner, 1976, p. 26)

This approach has not gone uncriticized. But, since the critical issue examined here is the set of antecedent assumptions about freedom and efficiency rather than the hard core assumptions about the model of man, such an approach is appropriate. It is consistent with the existing literature in the research program (i.e., Olson, 1965; Downs, 1967; Buchanan and Tullock, 1962; Ostrom, 1974; Downs, 1957).

The assumptions of that model of man were identified in the first chapter. Self-interest is the central

motivating drive of the model. If individuals are not viewed as self-interested, the selection of one set of preferences over another would not matter. Goods and services could be distributed randomly (Bartlett, 1973, p. 24). Yet, individuals need not behave in an entirely selfish manner to satisfy the assumption. What the assumption does suggest is that individuals in the model undertake all activity solely from the utility that they derive from it even if that utility is limited to a feeling of satisfaction that someone is consuming a desired good or service. Yet, like Bartlett, I "assume that there are marginal operations. Individuals make small contributions to the well being of others, but [I] assume that this will occur only when the costs of doing so are relatively small" (Bartlett, 1973, p. 23).

Individual rationality is the second assumption made about how individuals in the model interact. The individual rationality assumption is that "an agent who is faced with a given set of options and a set of expectations as to the effects of choosing each option, will choose that one which he thinks will bring him closest to his goals" (Bartlett, 1973, p. 23). Having already assumed that the actors are self-interested, the assumption of rationality posits that they will behave in a consistent manner in the pursuit of their self-interest. Importantly, this assumption is limited to individual behavior. As Arrow, Olson and Platt have argued, the sum of each individual's rational choice

need not coincide with rational collective choice (Arrow, 1951; Olson, 1965; and Platt, 1973).

The third assumption is that there is law and order. That is, all rights and duties are specified in advance and that these rights and duties define the relevant opportunity set from which an individual selects modes of behavior in the pursuit of individual self-interest (Ostrom, 1974, p. 52). A specification of rights in assessment administration is provided in the next section.

The fourth assumption is that individuals pursue maximizing strategies or select behavior modes that provide the greatest net return in value as defined by self-interest (Ostrom, 1974, p. 52). Or as Steinbrunner suggested, "The quintessential analytic decision maker is one who steams toward as complete an understanding as possible of the causal forces which determine outcomes. He seeks to predict the flow of events and, where he has leverage, to manipulate them to his advantage" (Steinbrunner, 1976, p. 35). That leverage, as defined by the structure of rights, is used to produce the maximum advantage.

The fifth assumption is more problematic. While public choice theory is consistent on the first four assumptions, considerable variation exists on the information assumption. Some have assumed complete certainty (i.e., Coase, 1960; Tiebout, 1956). Others posit uncertainty (i.e., Downs, 1967; Ostrom, 1974; Bartlett, 1973). Still others employ assumptions of both certainty

and uncertainty at different stages of the same analysis (Downs, 1957). Not only are different information assumptions used, but the meaning of certainty itself varies. Steinbrunner distinguishes, for instance, uncertainty as risk, where probabilities of various outcomes are known but the outcome is a function of chance, from structural uncertainty, where outcomes are not necessarily known and probabilities can not be estimated. These two problems necessitate that the assumptions used here be spelled out.

First, uncertainty is assumed in the model. Certainty is too implausible to maintain (Downs, 1957, p. 13). But what is the nature of uncertainty in the model. Both structural uncertainty and uncertainty as risk can be found in assessing. Assessors can be said to be influenced by uncertainty as risk in determining true cash value. As noted before, heterogeneity makes the determination of true cash value difficult and it has been treated as a probabilistic decision process in the previous literature (Paglin and Fogarty, 1972; Holland and Vaughn, 1969; Sabella, 1976; Cheng, 1972; Cheng, 1975). Risk increases with heterogeneity. But this is not the dominant interpretation of uncertainty in the public choice literature. Rather, structural uncertainty is often posited in that literature (Ostrom, 1974, p. 51; Bartlett, 1973, pp. 24-25). Many actors simply do not know what the range of outcomes could be and can not estimate probabilities. More specifically,

the degree of structural uncertainty is assumed to vary across the several sets of actors according to their relative information costs (Bartlett, 1973, p. 25). The property tax is a complex tax in a complex institutional setting. Even if an actor has information on the sometimes complex institution setting of metropolitan government, the relation between tax rate and assessed value of a piece of property is often unclear and may be complicated by fractional assessment. Information costs for some actors will be very high leading to a high level of structural uncertainty. For instance, Paul has concluded that, "taxpayers must act within a context of imperfect information, with data which are often difficult to understand and sometimes not available at all, and where understanding is contingent on research which requires substantial skills, time, and money" (Paul, 1975, p. 43). For this reason, the relative uncertainty of each of the actors must be specified given their relative information costs.

These five assumptions make up the model of man used in this analysis. They are the same used in conventional public choice analysis so that the model developed here is in the same research program. And they are very simple. There are no precise assumptions made about perception, learning, or cognition. That simplicity may lead to problems later on. But the main concerns in designing the initial model center on the need for consistency with public

choice theory and parsimony. Later development of the model may necessitate greater complexity in the assumptions.

The second decision rule that is employed to reduce the closure problem is that only directly involved local tax actors are considered in the model. First, only property tax actors at the local level of government are considered.¹ State action on the property tax will necessarily be considered but that action will be treated as exogenous to the model. This necessarily restricts the analytic scope of the model; but it is hoped, should not invalidate the local behavior predictions. State actions are still considered (i.e., equalization) but no effort is made to explain why they happen except to point to constitutional and legal requirements. Second, local expenditure choice actors are not fully incorporated into the model. Expenditure decisions necessarily influence property tax revenue decisions: spending money requires revenue sources. And, some of the actors to be considered are involved in both sets of choices. But the model developed here will not fully specify the expenditure choice situation except insofar as it directly influences tax decision actors.

¹That does not mean that the model developed here is irrelevant to state property tax actors. Even though I have not developed a state counterpart to the model presented here, preliminary work seems to indicate that this model is directly applicable to the state level. State legislators and governors would be expected to act as government officials. The State Tax Commission would be expected to act like appointed assessors.

Having identified who the actors are not (those concerned with expenditure decisions and non local actors) and identified the model of man used to analyze actor behavior, we can now examine the actors and their interests. At the local level there would seem to be two major groups of actors we have to consider: those who pay taxes and those who determine tax burden. Several subdivisions of each group are examined below including an identification of their self-interest and an evaluation of their relative property tax information costs.

Taxpayers are those who have some property tax liability. There are two groups of taxpayers. They must be treated separately because their interests and particularly their information costs are quite different. The first group of taxpayers are residents or individuals who own their own home or farm, or who rent homes or farms, primarily as a source of shelter. These individuals consume local public goods and services such as police and fire protection, education, and refuse collection. They pay property taxes on their shelter (in Michigan, 17% of rent is considered to be property tax) at least in part in exchange for those goods and services.

Consistent with traditional micro-economic theory, the resident is assumed to have two related interests. He or she seeks to maximize goods and services received while minimizing taxes paid for those services. Since the ability to achieve either interest is limited by the other under

conditions of scarcity (money reserved for private consumption cannot fund desired services and money paid in taxes cannot fund private consumption), there is a tradeoff between the two creating a situation of constrained utility maximization. In Bartlett's terms, "consumers desire to attain the highest possible level of total utility by consuming goods and services which possess subjectively desirable utilities" at a given level of taxation (Bartlett, 1973, p. 5).

Compared to business taxpayers and those who make decisions on tax liability, residents are assumed to be relatively uncertain about property tax practices. Lacking time and specialized financial information resources, their information costs will be considerably higher than the other actors (Governor's Advisory Task Force on Property Tax Revision, 1976). But not all residents will be equally uninformed about property tax practices: differences in costs can be observed among residents as well as between residents and the other actors (Paul, 1975, p. 43). Poor residents and new residents have greater information costs than high income or old residents. We can differentiate therefore between attentive residents and nonattentive-residents. Attentive residents, while still poorly informed and uncertain relative to nonresident actors, are better informed and more certain than nonattentive residents.

Businesses make up the second class of taxpayers. Business is defined as ownership of commercial, industrial,

or agricultural property for the primary purpose of producing goods and services. Businesses, like residents, consume local public goods and services with emphasis on services designed to protect their assets such as police and fire protection.

Businesses are assumed to be profit maximizers consistent with classical economic theory. They seek the highest return on investments in the production of goods and services.

Businesses are assumed to be better informed about property taxation and property tax practices. Except for "mom and pop" stores, businesses rely on accountants and other professionals for tax purposes. This is an important source of financial expertise that businesses have and most residents (especially for property tax purposes) do not. Large businesses directly employ tax professionals.

The second major set of actors is made up of those individuals who determine tax liability. Property tax liability is determined by two factors: the tax rate is multiplied by a fraction of property value to determine liability. Therefore, this set of actors has to be divided into two groups: those who determine the tax rate and those who determine property value.

The government actors are made up of the legislative and executive officials at the municipal level. They determine the tax rate.

Government officials are assumed to operate as vote maximizers. Since maintaining office is essential to the achievement of any other objective, the government official must act as if he or she were maximizing votes. In Anthony Downs' terms:

Politicians . . . are motivated by the desire for power, prestige, and income, and by the love of conflict, i.e., the "thrill of the game" common to many actions involving risk. However, they can obtain none of these desiderata except the last unless their party is elected to office. Therefore we do not distort the motives of the party members by saying that their primary objective is to be elected. (Downs, 1966, p. 30)

Self-interest guides government officials to maximize votes as instrumental to achieving any other goals.

It is assumed that government officials are certain about property taxation and property tax practices. They have ready access to assessor records which can document both; information costs would be low.

The last set of actors are assessors who determine property value. But there are two types of assessors. In small townships, the assessment task is performed by the elected supervisor-assessor as one part of his or her duties. In larger townships and cities, the assessment task is more than a part time job necessitating the appointment by the government of those municipalities of a bureaucratic assessor.

Assessors are assumed to be security maximizers. Yet, because of the different nature of their offices, the elected supervisor and the appointed or bureaucratic assessor maximize security in different ways. The elected

supervisor maximizes security by maximizing votes. Like government officials, the supervisor must maintain his or her office prior to achieving any other objective.

Analogous to the supervisor-assessor, the appointed or bureaucratic assessor must maintain office in order to pursue any other objectives. In the existing literature, bureaucrats are viewed as maintaining office by expanding their budget allocation (Niskanen, 1971, pp. 36-42), marking out and protecting an issue area (Downs, 1967, p. 213), expanding the size of the agency (Kaufman, 1971, p. 107), and developing outside support (Rourke, 1969, pp. 11-12).

One important means of maintaining office not often appreciated is through professionalism. The insulation gained from attaining professional status was pointed out by Mosher when he wrote:

The professions--whether general or public service, whether established or emergent--display some common characteristics which are significant for democracy and public service. One of these is the continuing drive of each of them to elevate its stature and strengthen its public image as a profession. . . . A prominent device for furthering this goal is the establishment of the clear and (where possible) expanding boundaries of work within which members of the profession have exclusive prerogatives to operate. Other means include the assurance and protection of career opportunities for professionals; the establishment and continuous elevation of standards of education and entrance into the profession; the upgrading of rewards (pay) for professionals; and the improvement of their prestige before their associates and, if possible, the public in general. (Mosher, 1968, pp. 107-108)

This is the major theme of the assessing literature (Botts, 1970; Loveland, 1974; Holland, 1974; Dykstra, 1970; Flanagan, 1970; Eisenlauer, 1970; Woolrey, 1970; Glaser,

1968; Rose, 1968; Perry, 1970; Vick, 1972). This theme has also been emphasized by Michigan assessors (Michigan Assessors Association, 1976). And Michigan assessors have been effective in incorporating some of the protection afforded by professionalism into law. A certification standards program is enforced by Michigan law and assessors are protected by state law and the local equivalent of civil service from dismissal for reasons other than malfeasance, misfeasance, or nonfeasance of office.

Assessors are assumed to have very low information costs minimizing structural uncertainty. They are property tax experts who have available in their offices data on assessing practices and are aware of assessing law through training for certification. But, they must deal with uncertainty as risk when determining property value. Heterogeneity increases the difficulty of determining value. Uncertainty as risk is therefore assumed to increase as property heterogeneity increases.

Finally, it must be noted that the actors are interdependent; the pursuit by each component of its interest is constrained by the other components' pursuit of their interests. The ability of the government to maximize votes is dependent on the behavior of residents as voters. The resident's pursuit of utility maximization is dependent on the government's decision on the tradeoff of taxes and expenditures. The assessor's pursuit of security is dependent on government appointment or election. Finally,

as will be made clear, the ability of the government to maximize votes is dependent on the assessor's determination of available tax revenue. As we shall see, this interdependence is the raw material required for the emergence of political behavior. When self-interests conflict, politics will determine whose interests prevail.

This initial specification of the actors and their interests is influenced by both the positive heuristic and the negative heuristic. The negative heuristic's influence can be seen in the uncritical acceptance of the public choice model of man. The positive heuristic is best seen in the attempt to detail how "specific" groups are influenced by property taxation. Unlike the current public choice model, for instance, not all taxpayers are identified as having uniform content in their self-interest. Unlike the current public choice model, the specification of the means assessors use to pursue their self-interest is not limited to bureau expansion but includes professionalism. But we need to know more before we can predict how these actors will behave in the pursuit of their self-interest.

The Structure of Rights

Knowledge about who the actors are, their interests, and the assumptions governing their behavior, however, is not sufficient to explain and predict behavior. For example, knowledge of the interdependence of producers and consumers is insufficient to predict economic outcomes in the absence of knowledge of the structure of rights

governing the situation. At the most general level we would need to know whether that interdependence takes place in a command or market economy. As Schmid has observed, "the situation creates interdependence, but it is the structure of rights that gives order to this interdependence and determines the opportunity sets of the interdependent parties" (Schmid, 1978b, p. 179). Property rights identify how the interdependent parties can influence each other in the solution of their interdependent choice function.

Because of the importance of property rights to this analysis, the concept requires further definition. A broad definition was provided by Furobotn and Pejovich when they wrote:

Property rights . . . refer . . . to the sanctioned behavioral relations among men that arise from the existence of things and pertain to their use. Property rights assignments specify the norms of behavior with respect to things that each and every person must observe in his interaction with other persons, or bear the cost of nonobservance. The prevailing system of property rights in a community can be described, then, as the set of economic and social relations defining the position of each individual with respect to the utilization of resources. (Furobotn and Pejovich, 1972, p. 1139)

Or, as Demsetz has argued, "property rights specify how persons can be benefited or harmed, and, therefore, who must pay whom to modify actions taken by persons" (Demsetz, 1967, p. 347). These "rights" can arise from a number of sources and are not restricted to constitutional rights. Shaffer has defined property as, "sets of rights and obligations established by law, custom, and covenant" (Shaffer, 1966, p. 1-2). Property rights are the totality of social relations

that govern the solution of interdependent choice by the imposition of costs and benefits.

Property rights can be used to answer several different types of questions. Alchian and Demsetz noted that, "Three questions are suggested by this growing literature: (1) What is the structure of property rights in a society at some point in time?, (2) What consequences of social interaction flow from a particular structure of property rights?, and (3) How has this property right structure come into being?" (Alchian and Demsetz, 1973, p. 17). Schmid has made a distinction between developmental theories using property rights (Alchian and Demsetz's third question) and impact theories which examine the consequences of rights distributions (Schmid, 1978a, Schmid, 1978b, p. xiv). This dissertation is concerned with impact theories rather than developmental theories. (For an example of developmental theory use of property rights, see: Libecap, 1978; Davis and North, 1971.) That is, the current distribution of rights must be specified and the performance consequences of that particular configuration of rights must be predicted and tested. Property rights analysis has always had a very strong emphasis on prediction and testing. Furobotn and Pejovich saw both as the key task of this analytic framework.

From a practical standpoint, the crucial task for the new property rights approach is to show that the content of property rights affects the allocation and use of resources in specific and predictable ways. For without the latter assurance, there would be no possibility of

developing analytically useful and empirically refutable propositions about the effects of various property rights assignments on the level and character of economic activity in the community. (Furobotn and Pejovich, 1972, p. 1139)

Schmid has also emphasized that the approach is constructed to develop testable hypotheses about the performance resulting from a given rule when applied in a given situation (Schmid, 1978b, p. 253). This interpretation of the analytic uses of property rights suggests that three steps are needed to analyze assessment administration from a property rights perspective. First, the current distribution of rights must be described. Second, performance predictions must be generated. Third, the performance predictions must be tested. Step Three will be the subject of Chapter Four while Step Two will be examined later in this chapter. The critical task of this section is to describe the current structure of rights.

Description is not a neutral phenomena. In fact, it is in the description of the domain of rights relevant to analysis that the public choice and property rights model differ. Both the public choice and the property rights (institutional-heterodox) approach are in agreement on the nature of rights as developed above. The literature on property rights cited above is used by both institutionalist and neoclassical public choice analysts. They tend to diverge considerably, however, in the specification of the set of rights relevant to any particular choice situation. The public choice antecedent assumptions on efficiency and

freedom lead that approach to investigate a rather narrow set of rights. Public choice analysts like Elinor and Vincent Ostrom would look at the pattern of factor ownership and ask how market-like that pattern is. If the pattern is market-like (the technological character of the goods does not inhibit free exchange) then the market rights are, by definition, expected to produce greater efficiency and freedom. If the pattern is nonmarket-like, then rights should be restructured through the application of the Coase Rule, the Tiebout Model, or through contracting to produce greater efficiency and greater freedom. Thus, while property rights are defined quite broadly, the neoclassical public choice theory of supply restricts the domain of rights considered relevant to any choice situation to the marketness of production. The broad conceptual treatment of property rights stands in sharp contrast to the narrow analytic uses of property rights in the public choice literature. And, as pointed out in Chapter One, this narrowing of the domain of rights used in analysis is a direct function of that approaches emphasis on the global concepts of freedom and efficiency and the role competition plays in maximizing both (Goldberg, 1974; Furniss, 1978; DeAlessi, 1978; Broder, 1977). Reliance on those concepts in specifying the public choice protective belt draws the analysts attention to market issues.

The public choice concepts of freedom and efficiency were criticized as normatively loaded because they ignore

distributive issues. The institutionalist model, it was argued, rejects them in favor of identifying the specific focus and content of each actor or set of actors self-interest. The institutionalist approach to specifying the structure of rights follows directly from its approach to specifying self-interest. Unlike the public choice approach, attention will not be automatically focused on the marketness of production. Instead, based on the identification of self-interest, the institutionalist approach asks how each actor or set of actors in an interdependent choice situation can influence each others' pursuit of their own self-interest. The resulting set of influence patterns represent the hypothesized structure of rights relevant to a given choice situation.

This approach to specifying the structure of rights offers two important advantages. First, this broader specification of the structure of rights can lead to different performance predictions than those of the public choice approach. This seems reasonable; it is difficult to believe that competition and marketness are all we need to know to fully describe performance in all public production processes. As Schmid has written, "we need to know more than factor ownership and degree of competition" (Schmid, 1978b, p. 57). And this view has been reinforced by a few empirical institutional studies. Most analyses of electric utilities, for instance, stress public and private ownership as the key determinant of performance and almost

uniformly find that private production is more efficient (DeAlessi, 1974). However, Marc Roberts' use of a more detailed specification of rights as measured by a wide range of institutional variables led him to conclude that there were no efficiency differences between private and public utilities (Roberts, 1975). Few other studies of this type have been conducted given the dominance of the neoclassical public choice theory of supply. (A survey of a few case studies that can be interpreted as an application of institutional property rights analysis is provided by Schmid, 1978b, pp. 253-286.) Public choice theory's reliance on freedom and efficiency can introduce a tunnel vision on marketness that may lead to specification error as in the case of electric utilities. The institutionalist approach, by not restricting the types of rights that can be examined, reduces the likelihood of specification error.

The second advantage of this approach to identifying the relevant domain of rights goes back to the normative issues raised in Chapter One. The public choice protective belt ignores distributive issues because they can not be resolved through exchange. By rejecting the market as the only way individuals pursue their self-interest, the institutionalist approach can consider distributive issues; market values will not be built directly into the public choice research program (Samuels and Buchanan, 1975). But this does not mean that the property rights model to be developed below is value free. As noted above, description

of the structure of rights is not a neutral phenomena; some value choices are inherent in any specification process. But the approach developed here does not build market values into the very heart of the specification process. And, more importantly, the institutionalist approach is consistent with the positive heuristic in that it does encourage testing between alternative specifications. In both ways, the normative content of the public choice research program can be reduced. Given this understanding of property rights, we can develop a property rights model specification of the structure of rights governing assessment administration. I will look at each set of actors' self-interest as defined in the previous section and ask how the other actors can influence pursuit of that self-interest. The set of resulting influence patterns are defined as the hypothesized domain of rights in assessment administration. Theoretical and empirical analysis will indicate whether all of the relevant rights have been specified or whether an alternative institutional protective belt needs to be developed and defined as the hypothesized domain of rights in assessment administration. Empirical analysis will indicate whether all of the relevant rights have been specified or not.

Government. The government operates as a vote maximizer. What property rights do the other actors have that enable them to influence government vote

maximization?²

The resident can influence the government in two ways. First he or she as a citizen provides the vote that the government official desires. This is obviously a direct and, albeit intermittent, powerful influence on the government. Voting has been criticized as an inefficient mechanism of choice because of its indivisibility: a single choice is forced between bundles of policy choices, none of which may reflect the voter's preferences (Buchanan, 1954). Yet, the unique importance of the property tax often makes it the central concern of the resident as voter in making his or her voting decision. Diane Paul has concluded that there is a

readiness of homeowners to express their resentment at the polls. . . . Property tax increases are always a double blow to homeowners; first in the increased tax liability, second in reduced property values. Their home is the largest single investment most families will ever make; for many it is the repository of their life savings. It is therefore not surprising that they are sensitive to policies affecting its worth including property assessing. . . . Public officials fear to offend homeowner's interests and with good reason. (Paul, 1975, pp. 28-29)

Compared to other policy areas, voting is critical to government vote maximization when dealing with the property tax. But not all residents are equally aware of tax practices. As we have seen, nonattentive residents are

²There are clearly alternatives to viewing government interest as vote maximization. Minimum winning coalitions are one such alternative. But since I am trying to keep within the neoclassical model of man, maximization is assumed.

less aware of tax practices than attentive residents due to relative information costs. The central linkage between taxes and voting is weakened for the nonattentive resident.

The second mechanism is what Hirschman has called exit (Hirschman, 1970). The resident votes with his feet by moving to another taxing district. This exit option is the core of the Tiebout model. It is important now, however, to note that exit does influence the government official's ability to maximize votes. As Paul has noted, "one of the most compelling [pressures] is city officials' desire not to hasten the exodus of white, middle class homeowners from the city, a process they believe is affected by tax policy" (Paul, 1975, p. 27). Such flight directly threatens the government's vote maximization interest by decreasing its electoral base of support. Indirectly, the official's vote is threatened by the resident's exit as taxes are raised and/or services decreased due to the decline of revenue associated with flight. Finally, it is essential to note the relative nature of the exit option. Not all residents are equally mobile. Factors influencing mobility include the size of the jurisdiction, income, and race. Size affects mobility by increasing the costs of moving from one district to another. An individual can move from a smaller district to improve his utility without jeopardizing employment, friendship, and kinship ties. Moving from a larger district to reduce one's tax burden disrupts a person's lifestyle. Income affects mobility because moving

is not costless. Moving expenses as well as the costs of becoming informed about location options decreases mobility as income decreases. Race would affect exit to the extent that racism restricts mobility for minority group residents.

Businesses have less ability to influence the government. This may sound surprising and therefore warrants a more extensive discussion. Two influence mechanisms were noted for residents and one could ask whether or not they are available for businesses.

The first mechanism was voting. Businesses lack the voting franchise so are denied direct recourse to this influence mechanism. But as Bartlett has noted, "even though producers cannot vote, they may be able to affect the decisions . . . of those in power" (Bartlett, 1973, p. 106). Specifically, they may provide officials with resources useful in maximizing votes: campaign funds for instance. While important at the national and, in some cases, the state level, such resources are less important at the local level. Campaigning for office in a municipality of 8,000 population or less is not so expensive that a candidate needs access to business funds. As the size of the district increases, however, so will the importance of campaign contributions. At the township and small city level, business influence through campaign contributions will be minimal.

The second mechanism was exit. Classical economics assumes complete mobility of the factors of production

(Tiebout, 1957; Coase, 1960). The opposite assumption is made here. Businesses are immobile because of fixed assets and markets. Moreover, both of these factors are related differently to the size of the business. As business size increases, so does the likelihood that the business would have large fixed assets which would restrict mobility even though large size also increases the likelihood that the business would rely on a nonlocalized market. As producer size decreases, so does the likelihood of reliance on a localized market even though the likelihood of large fixed assets is diminished. So, regardless of producer size, immobility will generally obtain.

Also, it is important to note the relationship between these two influence mechanisms: exit and campaign contributions. If exit is not a realistic option, the effectiveness of campaign contributions in influencing government decisions is weakened. Thus, even for larger districts where campaign contributions may make a difference to a candidate's getting elected, the lack of a viable exit option weakens the effectiveness of those contributions in affecting government decisions. (Campaign contributions may still occur but more as a form of extortion than influence.) In the face of countervailing pressure from the other components, particularly resident votes, businesses are not very successful in influencing the government's vote maximization.

But, there are two other mechanisms available. First, there is the special case of entrance. The opposite of exit, entrance can affect the government's vote maximization interest. New businesses are mobile. As one Boston official, quoted by Paul, observed, "there's nothing as mobile as an unbuilt building" (Paul, 1975, p. 44). To the extent that expansion of the economic base of a government unit increases tax revenue and can therefore fund increased services or lower residential taxes, the government will view entrance as contributing to vote maximization. So entrance would influence government decisions.

Second, the businesses can directly or indirectly lobby government by linking business interests to those of the other actors who do have means to influence government vote maximization. This has been developed extensively by Bartlett. He pointed out two forms of this type of influence. The indirect means plays on resident uncertainty and urges through a public relations campaign that residents lobby their government for lower business taxes. Businesses claim that high taxes on them will be passed on to residents and that higher taxes may lead to exit and loss of jobs. The direct form plays on government uncertainty. As Bartlett has noted, it is "based on the fact that government is also uncertain as to the exact nature of consumer preferences. Firms may openly lobby in the seat of government for particular policies and may provide the

results of 'unbiased research' to the members of government at a subsidized rate" (Bartlett, 1973, p. 106). Yet, neither form is very effective in the area of property taxation. In regard to the first, it is unlikely that residents will lobby the government for business interests. All residents would lose from a tax increase or a decrease in services; only a few would directly lose from business exit. Moreover the costs of informing the public would limit business recourse to the public relations strategy. Finally, even if the information were transmitted and were related to the interests of residents, the business claim is an intangible threat compared to the resident's very real tax bill. In regard to the second, government officials have already been assumed to be relatively certain about the impact of property tax practices. Such certainty may not hold on other choices such as between a graduated or flat rate income tax, or between the relative reliance placed on consumption and property taxes. In these cases, the conflict is between classes of residents. In the case examined here, the conflict is between businesses and residents. Certainty is more likely as it is clear who can and cannot vote. This greater certainty breaks the link between businesses' "unbiased research" and the government's pursuit of vote maximization. For all of these reasons, business influence will not be important to the government except in the limited case of entrance.

Assessment officials have some ability to influence government's maximization of votes. The government is dependent upon the assessor's definition of the tax base. The government's decision on the tax-expenditure trade-off is constrained by the amount of available revenue. If that pool of revenue is not sufficient, services must be cut or taxes raised, actions that directly influence the ability of the government to maximize votes. In conditions of fiscal crisis, behavior identified by Meltsner as revenue budgeting increases the dependence of the government on the assessor (Meltsner, 1971, p. 17).

Assessment administration officials. Assessment administration officials are either vote or security maximizers. How do the other three components influence the assessors' pursuit of their self-interest?

If the assessor is an elected supervisor, residents directly influence his or her ability to maximize votes by providing the desired vote. Like government officials, assessors are sensitive to voter reaction to property taxes. In some cases, as will be seen, the assessor is threatened with public censure at the polls more than the elected officials of the government because of their direct tie to property taxes. Unlike the previous discussion of government, the elected supervisor-assessor is not influenced by exit. Exit influences some government officials by weakening the economic base of the city and

thus exacerbating white flight. The jurisdictions that employ the elected supervisor as assessor are too small to have an established commercial and industrial base to be threatened by flight. Moreover, the services provided by a township are likely to be less than those of a city. The resulting lower tax rate would make exit less likely. Moving from one township to another would have less influence on the amount of taxes paid than moving from a city to a township.

What of the appointed assessor? Residents have little ability to influence an appointed assessor. No direct tie exists between the security drive of the assessor and the resident. Indirectly, the resident, through voting and exit, could influence government and thereby the appointed assessor. As we shall see, however, the necessary link in this chain of influence, that between the government and the appointed assessor, is missing. Influence placed on the government is easily transferred to the elected assessor. In fact, the elected supervisor is both an assessor and a member of the general government of a township. The only difficulty that could arise is if the two roles conflict. As we shall see, however, they do not because of equalization. The government has significant initial influence on the appointed assessor: the government provides the appointment. After the initial appointment, however, the government's influence is slight. Assessors are protected by state law and the local equivalent of civil

service from dismissal for reasons other than malfeasance, misfeasance or nonfeasance of office. Pressure may exist, but that pressure cannot strike directly as the security interest of the appointed assessor as expressed through professionalism.

So far, only the local government has been considered. Cannot the state government through its oversight function influence the actions of both elected and appointed assessors? Clearly, the state has little actual power. The Governor can legally dismiss any assessor for malfeasance, misfeasance or nonfeasance. The State Assessor's Board may revoke an assessor's certification for the same reasons. Neither has been done in recent history. This influence mechanism has atrophied.

Finally, business has little ability to influence the assessor whether elected or appointed. Businesses cannot vote and therefore lack recourse to the means necessary to directly influencing the elected assessor. The units that employ the elected supervisor as assessor are also too small to make campaign contributions an important tool of influence. The appointed assessor is less exposed to business influence. Businesses would have to indirectly influence the assessor through the government. But, as already pointed out, a business' ability to influence government is very weak except in the case of entrance.

Business. Businesses are profit maximizers. The other components can influence the ability of businesses to maximize profits.

Government affects business profit maximization by its tax-expenditure tradeoff decision. To the extent that the incidence of the property tax cannot be completely shifted forward to residents, government determination of the tax rate influences business profit maximization (Aaron, 1975, pp. 39-55). Money paid in property taxes reduces business profit.

In the same way, assessment administration officials influence profit maximization. While the government determines the tax rate, the assessor, through assessment and equalization, specifies the tax liability of the business.

Residents. In attempting to maximize utility, residents can be influenced by the other components. The government and the assessor, through their respective determination of the tax rate and assessed value, limit resident income available for private consumption.

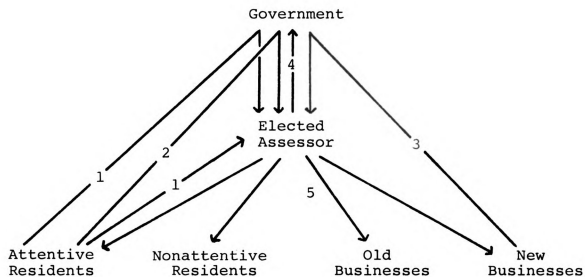
A Model of Assessment Behavior

Having identified the actors, their interests and the rights governing the interaction of those interests, the model can be graphically represented as seen below where the lines between the actors represent the operative structure of rights governing their interdependence. While

the two figures should be largely self-explanatory, three points are worth noting.

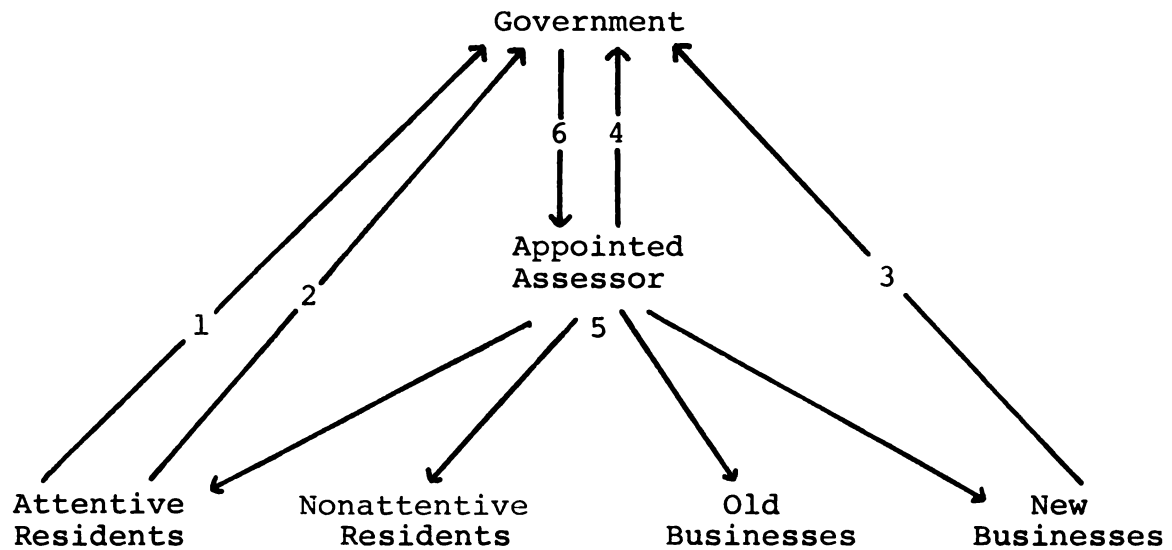
First, based on the previous discussion of the structure of rights, it should be clear that the nature of the assessor's office is a central concern. Indeed, the pattern of rights governing the behavior of the elected assessor, as seen in Figure 3.1, is considerably different from that influencing the appointed assessor as seen in Figure 3.2. In contrast to his elected colleague, the appointed assessor is largely insulated from influence by the other components, especially after initial appointment. The difference in the structure of rights governing the two situations suggests that the behavior of the two types of assessors will be quite different.

A second feature worth noting is the differentiations of attentive and nonattentive residents and new and old businesses. Old businesses, it was argued, lack the entrance right that new business can bargain with. Their influence on the tax practices will be therefore restricted. The differentiation between attentive and nonattentive residents also rests on differences in property rights. The extreme uncertainty of nonattentive residents restricts their use of exit and voting so that their influence on the other actors' pursuit of self-interest is limited. As we will see in the next section, these differences in rights lead to nonuniform tax practices.



Key: 1. Vote
 2. Exit
 3. Entrance
 4. Definition of the Revenue Base
 5. Assessment

Figure 3.1 A Model of Assessing Policy with an Elected Assessor



Key: 1. Vote 4. Definition of the Revenue Base
2. Exit 5. Assessment
3. Entrance 6. Appointment

Figure 3.2 A Model of Assessing Policy with an Appointed Assessor

A third characteristic of this model is its simplicity. Only a limited number of assumptions were made about the actors and their interests. Only local tax actors were considered. The list of rights is certainly not exhaustive. Depending on the empirical results, later work may want to make the model more complex in one or more of those three areas.

Behavior of the Components

The model specifies who the actors are, their interests, the assumptions underlying the pursuit of those interests, and the ways in which the components can affect each other. Given that specification, we can identify how the components will behave. That is, what actions will the components take in the pursuit of self-interest? Each of the four components are analyzed below to answer this question.

Government

The government was assumed to be a vote maximizer. In the rational, relatively certain pursuit of votes, the government is exposed to costs imposed by the other components. Residents can influence government through voting and exit; businesses through entrance or non-entrance; and assessors by determining the pool of revenue available in making the tax-expenditure tradeoff decision. Given this structure of rights we can deduce how the government will act to maximize votes.

At the most general level, the government will attempt to maximize costs and minimize benefits in the tax expenditure tradeoff decision. By providing desired services, the government meets the public's demand for those services and expects therefore to be rewarded with electoral support. Unfortunately, paying for those services requires taxation. Taxation, because it reduces the amount of income available for private consumption, reduces resident utility. Taxation will therefore lead to a decrease in electoral support. The government is faced with a dilemma in its pursuit of voters; it is trapped in "a tenuous relationship between what citizens want and what they pay" (Meltsner, 1971, p. 4). Given the dilemma, government behavior will be directed at maximizing the public's perception of government responsibility for service provision and minimizing public perception of government responsibility for taxation.

Since the principal concern of this analysis is taxation, the expenditure behavior of government will not be examined in detail here. However, the relation of expenditures to taxes will be brought up later in the consideration of the emerging tax revolt. Moreover, the assumption that the government will attempt to maximize citizen perception of government responsibility for service provision seems plausible. But taxation behavior is central to this analysis and is not so plausible that it can be easily dismissed. Seven types of behavior flowing from the model can be deduced.

First, government will support systematic under-assessment of property. Underassessment occurs when property is assessed at less than the legally required percentage of true cash value. (In Michigan the legal requirement is 50%.) By supporting assessment at 30%, for instance, the government lowers the initial tax liability of residents and thus resident perception of the true costs of the services they receive. This behavior is costless to the government because of county and state equalization. Without equalization, systematic underassessment of property would lower governmental revenues and therefore necessitate an increase in the tax rate or a cut in services. With equalization, the county and the state step in and raise the assessed value of property by applying an equalization factor to the original assessments. The government receives the revenue required for service provision yet partially shifts responsibility for property taxes to the assessment administration officials at the county and state level.

Second, government will support differential assessment. That is, those who can least influence the government's ability to maximize votes will be assessed at higher rates and will pay higher taxes than those who can most affect vote maximization. This shift can take two forms. First, the government will support shifts in tax burdens from residents to businesses. In the previous section, it was noted that businesses have little ability to influence vote maximization while residents have considerable

ability to do so. Second, the government will support shifts within the resident component from those taxpayers most informed and most mobile to those taxpayers least informed and mobile. Given the high information costs facing residents, nonattentive or poor residents will pay more than attentive middle or upper income residents. The immobility of the poor, complicated by racism, makes this shift even more likely. Again, this is costless to the government. Nonattentive residents, because of their greater uncertainty and restricted mobility, are unlikely to discover that they carry an excessive tax burden. Nor can the state and county assessment administration officials step in. Michigan law only requires that the average assessment be 50%. Within and between class differentials are not subject to equalization.

Third, government will finance increases in services through increases in assessments due to inflation in housing prices over the general price level and the maintenance of the tax rate. The property tax has traditionally been viewed as income inelastic. That is, property tax collections were believed to grow at a lower rate than income (Groves, 1945, p. 118). More recent analysis of the post war behavior of the property tax has called that traditional view into question (Netzer, 1966, pp. 188-190). Even more recently, the rapid rise of housing values relative to the general price level has enabled government to increase property tax revenue without increasing the tax

rate. Higher assessments rather than higher tax rates account for the increased revenue. This enables government to blame inflation for higher taxes and yet appear responsive to resident demand for lower taxes by holding the line on the tax rate. Again, this behavior has little cost as government plays on resident uncertainty about the relation between the tax rate and assessments.

Fourth, and directly related to the previous three, government rhetoric will attempt to shift the responsibility for higher taxes to the county and state equalization officials and inflation. This behavior is a necessary compliment to the others. Playing on resident uncertainty, this public relations campaign attempts to place public perceptions of the responsibility for the burden of higher taxes on shoulders other than those of government. How can we distinguish rhetoric from reality? If government were not attempting to maximize public perception of government responsibility for service provision and minimize public perception of government responsibility for taxes, then government would not build expectations of equalization and inflation based revenue increases into local budget and tax rate decisions. In the face of rising property values, government could reduce tax rates with no effect on revenue yield. If systematic underassessment was not supported by government, then government budgets would reflect revenue availability based on the initial assessment rather than equalized assessments. If one observes this, the inference

is that government planned on the increased revenue. The rhetoric attempts to inform the taxpayer that the government is not responsible for the increase.

Fifth, government will attempt to restrict state and county oversight of local assessing practices. Local governments will actively lobby against any proposed reform designed to strengthen state oversight. Proposals such as basing state aid on assessed rather than equalized value, equalization by property class, revocation of assessor certification for systematic underassessment, and requiring a millage rollback upon the application of an equalization factor will be vigorously opposed. State and county equalization is a necessary tool in the government's attempt to avoid responsibility for higher property taxes. Strong state oversight would weaken the usability of that tool.

Sixth, government will offer substantial tax breaks to encourage business location. As noted in the previous section, some producers can influence government vote maximization via entrance. Tax breaks for entering businesses will result from that influence.

Importantly, not all governments will be successful in pursuing these strategies. For several of the strategies, such as systematic underassessment and differential assessment, the government is dependent on the assessor in the jurisdiction. If the assessor is appointed, the government usually has few means to influence his or her performance of the assessment function and, as will be seen, the appointed

assessor's interests need not coincide with the governments'. In such cases, the government will shift the blame for higher taxes to the assessor. This seventh type of behavior is less effective than the others as the resident's assessment will be at its legally required level prior to equalization; local responsibility will be clear. Moreover, resident taxes will be higher because of fewer between property class differences. The strategic nature of this behavior will be evident in the government's determination of the tax rate. While blaming the assessor for higher taxes, the government will not reduce the tax rate. Therefore, a higher level of service provision can be funded with the assessor being held responsible for the increase in taxes.

Assessment Administration Officials

There are two types of assessors: elected and appointed. They behave quite differently given their different interests and the different structure of rights governing each. Therefore, they are considered separately below.

Elected supervisor-assessors will behave in a manner similar to the government. Like the government, indeed as supervisor the elected assessor is part of government, the elected assessor will attempt to minimize costs by shifting resident perceptions of the responsibility for higher taxes to someone or something else.

The elected supervisor-assessor will maximize votes by systematically underassessing property. This strategy is both readily pursued and costless to the assessor. Unlike the government, the assessor need not depend on another party: he or she can do the underassessing. The equalization process assures the supervisor-assessor that the revenue needed to fund increased services will be available. Moreover, it is unlikely that the state will step in and remove an assessor for systematic underassessment. Given the few costs, it is rational for the supervisor-assessor to pursue his or her self-interest of maximizing votes by manipulating assessments.

While systematic underassessment will be the elected assessor's major strategy, one necessary compliment is the political rhetoric to assure that the public perceives the county and state equalization authorities as the source of tax increases. Again, we can see the difference between rhetoric and reality by viewing tax rate and budget decisions. If systematic underassessment were not planned on, tax rates and budgets would be realigned after the application of an equalization factor.

Additionally, differential assessment will supplement the behavior suggested above. Most townships have at least one large commercial or industrial property that can be assessed at more than 50% of true cash value. (For example, the Cook Nuclear Center in Berrian County has, according to an official of the State Tax Commission, long

been overassessed.)

Appointed assessors will act quite differently than their elected brethren. Appointed assessors are security maximizers. It is now essential to inquire further into the meaning of security. Only one of the other components can directly influence the appointed assessor: the government through the assessor's initial appointment. But once on the job, the assessor is less exposed to influence. His or her pay might be affected but the assessor is protected by state law and the local equivalent of civil service. At this point security takes on a new meaning. Whether he or she intends to stay within the existing jurisdiction or move to another city, county equalization office, or the State Tax Commission, the drive for security will lead the assessor to reduce the "probability of future losses in power, income or prestige" (Downs, 1966, p. 84). To the extent that security depends then on performance as judged internally by the assessing bureaucracy according to the standards of the profession, the assessor will behave in accord with those standards or norms. Those standards or norms are very clear. As Franklin James has written, "accurate appraisals are the sine qua non of a well administered property tax" (James, 1976, p. 237). Accurate appraisals leading to low inter and intra area dispersions in the ratio of sales price to assessed value has been the dominant guide to professional assessing for decades (National Association of Assessing Officers, 1937). Moreover, these norms are

incorporated into state law. As Brandon, Rowe and Stanton have written, "there are two legal standards that assessments are supposed to meet: (1) they are supposed to be the full market value or a specific percentage of the full market value of the property, and (2) they are supposed to be uniform" (Brandon et al., 1976, p. 183).

Given the pursuit of security and its meaning as noted above, the behavior of appointed assessors can be specified. First, and most importantly, they will attempt to accurately assess all properties. Systematic under-assessment and differential assessment will be minimized.

Second, they will attempt to insulate the assessment function from influence by the other components.

Specifically, assessors will lobby the state government to enact laws protecting assessors from being pressured by local governments to violate state law.

This behavior obviously brings the assessor into direct conflict with local government officials. Since somewhat insulated already, they are able to behave in accord with the norms of the profession and therefore deprive government of several strategies designed to lower public perception of government responsibility for tax increases. Government, in some cases however, will go to extremes to control the assessor's performance of the assessment function. In Dearborn, for instance, the city has refused to hire an assessor at the legally required certification level. Instead, an assessor from another

jurisdiction is brought into the city for one day each year to sign the assessment roll once it has been determined by the city officials. Such cases are rare but they make the assessors' concern for increased insulation understandable (Almy, 1973, pp. 178-197).

Residents

Residents are motivated by utility maximization and are very uncertain relative to the other components of the model. These characteristics combine to produce a distinctive pattern of behavior.

First, attentive residents in districts practicing systematic underassessment and differential assessment will support the government and/or the supervisor-assessor by voting for them. A person who buys a \$100,000 house and receives an assessment of \$30,000 will believe that he or she is being advantaged by the system. To continue the advantage, the consumer will be disposed to vote for the agents responsible. Even when the assessment is raised by an equalization factor, the resident is still likely to think that he got away with something. His local government tells him he was assessed right in the first place. He will blame the state and county for the increase in taxes. To some extent he may not even realize that his special advantage is not his alone but is one small part of a systematic pattern of underassessment.

The resident is even discouraged from appealing to the State Tax Tribunal. If an equalization factor of two is

applied to the \$30,000 assessment, the consumer will pay taxes on a \$60,000 assessment of 60% of true cash value. The resident is discouraged from complaining, however, as the first thing that assessment review process will check is the original assessment. The resident would fear that they would raise his original assessment to \$50,000 and then apply the factor of two. The resident could expect that complaining will in fact lead to higher taxes.

Nonattentive residents also will not question the assessed value of their property. The cost is too great. First, there are substantial information costs to finding out about systematic inequities in assessments. If there is differential assessment and houses of equal value are grouped by neighborhood, simple comparisons with neighbors will be inadequate: they will be overassessed too. So the poor resident will have to compare assessments across neighborhoods to find out if he is being discriminated against. And new residents will not be aware of prevailing practices. Second, there are transactions costs to appealing. Even if poor residents find out that they are overassessed, these appeals costs will discourage complaint. As Paul has written, "even in communities where the appeals procedure is less involved, most applicants for tax reductions will be owners of high value property because only they will have the resources to argue a case and the incentive to make it worthwhile" (Paul, 1975, p. 38). Poor residents, though overtaxed, will not be able to see the

discrimination, nor, if they do see it, will they be able to complain.

At the core of resident behavior is their uncertainty. The property tax is a complex tax. Understanding the relation between the tax rate, assessments, and equalization is difficult. Moreover, as we have seen, government and some assessors have an incentive to keep the resident uncertain. Efforts to shift the political incidence of the tax from local government to other levels of government and to inflation increases resident uncertainty even beyond the level due to the inherent complexity of the tax.

Businesses

Businesses are profit maximizers. The model indicates that businesses have little ability to influence government property tax policy. Given this self-interest and the structure of rights, business behavior can be predicted.

First, businesses in districts with an elected supervisor-assessor will pay property taxes on an assessed value greater than the average in the district. This may also occur for other reasons as we shall see. But for now attention is restricted to purposive behavior and its consequences. Those businesses who are large enough to be informed of the discrimination and to have an incentive to appeal will seek relief at the State Tax Tribunal.

But many businesses will not contest differential assessment. Diane Paul has discussed these in detail and the following will, therefore, depend to a large extent on her work. While readjustment of the business' assessment may lead to a short term profit gain, its long term consequences may harm profits. First, some businesses may not be very concerned with overassessment. It may be viewed as a necessary cost of doing business and to some extent included in the prices charged to consumers. Second, as Paul has noted, businessmen "are hesitant to take action for fear of reprisals by city officials. The mayor controls city agencies which have discretionary authority over some aspect of every business. In general, businessmen believe they should try to get along with the city administration" (Paul, 1975, p. 87). But these incentives are not likely to be as important as a third. As Paul has written:

Businessmen fear that a homeowner's "backlash" would follow assessment equalization. They believe it could lead to passage of legislation even more harmful to business interests than the present structure. . . . If assessments were equalized, they [the homeowners] would learn quickly who benefits and who loses from the present structure of assessing, and they would almost certainly support new moves to legalize it. As one city official said of businessmen: "They say they only want the status quo. The defacto system is all right although they must know they are being screwed. What they don't want is for it to be frozen into law because then they couldn't negotiate." (Paul, 1975, p. 82)

Particularly, businessmen fear the institutionalization of different tax rates or assessment levels for different classes of property. These constraints, coupled with business interest in profit maximization, will limit

business response to differential assessment.

Instead, businesses will actively lobby the state legislature in support of legislation favoring the professionalization of assessment administration in the name of good government. Professional assessors, as seen above, are less likely to differentially assess business property. Business has an interest, therefore, in professionalization. This need not be overtly linked to business interests as professional norms are already incorporated into state law. Businesses can appear to be supporting the status quo when in fact they are subverting it.

Finally, entering businesses will bargain with government for property tax breaks. Homeowners will not perceive this as a threat as its relation to new job opportunities is clear. Moreover, time limits are usually placed on the tax advantage.

A full list of the hypotheses is presented in Table 3.1. When taken together, the hypotheses indicate that actor behavior will produce two important effects.

First, the behavior of the components will lead to shifts in the economic incidence of the tax.³ Only a narrow view of incidence is taken, however; only the difference between statutory incidence and actual first round incidence is considered. In those cases where an elected

³For a discussion of incidence, see Chapter 2 of Henry Aaron's Who Pays the Property Tax. Political incidence is a logical extension of convention incidence theory except political rather than economic costs are considered.

Table 3.1 Property Rights Model Hypotheses on Individual Behavior

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1. Government will support systematic underassessment of property.
 2. Government will support differential assessment. (Business and nonattentive resident property will be overassessed.)
 3. Government will finance increases in services through increases in assessments due to inflation in housing prices over the general price level and maintenance of the tax rate.
 4. Government will attempt to shift the responsibility for higher taxes to the county and state equalization officials and inflation.
 5. Government will attempt to restrict state and county oversight of local assessing practices.
 6. Government will offer substantial tax breaks to encourage business location.
 7. Elected supervisor-assessors will systematically underassess.
 8. Elected supervisor-assessors will differentially assess. (Business and nonattentive resident property will be overassessed.)
 9. Elected supervisor-assessors will attempt to shift responsibility for higher assessments to the county and state equalization officials.
 10. Appointed assessors will attempt to accurately assess all properties.
 11. Appointed assessors will lobby state government for increased professionalization of the assessment function.
 12. Attentive residents will electorally support governments and/or elected supervisors-assessors who systematically underassess and differentially assess.
 13. Nonattentive residents will not vote on the basis of assessment practices nor contest differential assessments.

Table 3.1 (cont'd.)

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14. Many businesses will not contest differential assessment.
 15. Business will lobby state government for increased professionalization of the assessment function.
 16. Entering businesses will bargain with government for property tax breaks.
-

supervisor-assessor and/or government dominate, poor residents and businesses will pay property taxes on relatively higher assessed values than middle income and upper income residents.

Second, there will be shifts in the political incidence of the tax. By political incidence I mean who is held responsible for the property tax and for tax increases politically. Just as tax burdens can be shifted forward and backward, public perceptions of political responsibility for taxes can be shifted. Much of the previous discussion has been about shifts in the political incidence of the tax. Government and some assessors have an incentive to blame other levels of government and inflation for higher property taxes.

The Context of Assessing

Hypotheses on individual level behavior were developed in the last section. But individual behavior are not the only factors thought to influence assessing. As we saw in the previous chapter, the traditional reform theory argued that assessor resources and jurisdiction size also influenced assessment performance. Moreover, the public choice theory of supply drew attention to the technology of assessing and, in particular, to the heterogeneity of the property market as a major determinant of assessment performance. We must now inquire into how these three factors, and one more to be presented below, fit into the

property rights model of assessment performance. Each is examined below.

Resources

The first of these contextual factors is the resource base of the assessor. Assessors need different tools and skills to assess different types of property. One, for instance, is the skill of the assessor. Not all assessors are capable of assessing commercial and industrial property. Experience and training in the cost and income approaches to valuation are needed in addition to the more common market data valuation. The availability of computers for the use of multiple regression analysis to revalue property is thought to improve the ability of the assessor to make accurate assessments. Other aids to quality assessing have been examined by Almy (Almy, 1973, pp. 182-185).

The traditional reform theory has long argued that well trained, well paid, and well equipped assessors perform better than poorly trained, paid, and equipped assessors. Paul Corusy, Executive Director of the International Association of Assessing Officers, laid out the conventional wisdom over ten years ago when he observed that there must be three essential features in any plan to improve performance of the assessment function: higher pay for assessors, mandatory training and certification programs, and larger budgets for assessing officers (Corusy, 1967,

pp. 91-92). This belief is much older than Corusy's statement (Groves, 1945, pp. 83-86) and continues strong today (Almy, 1977, pp. 153-179). Those supporting the traditional reform theory, as pointed out in Chapter One, failed to empirically examine the assumed relationship between resources and performance. Yet, the relationship does seem plausible. Given a level of heterogeneity and assessor motivation, assessors with greater resources would be expected to perform better than assessors with fewer resources.

But we have seen (in Chapter Two) that the public choice literature called this emphasis on assessor resources into question. Geraci and Plourde, James and Mikesell and Bowman found that assessor resources had little impact on assessment performance. Can the public choice findings and traditional reform's seemingly plausible view be reconciled? I think that they can given the analysis of individual level behavior in assessing. If the elected assessor has an incentive to perform in a nonuniform manner, resources become largely irrelevant to the determination of performance. Only assessors who have an incentive to produce uniform assessments would find resources more useful. In those cases, more resources would reduce information costs on property values. More and better trained assessors with data processing resources would have a better chance of equating assessed value and true cash value. Thus, for appointed assessors, resources would

reduce uncertainty as risk in determining property value.
Resources would be positively related to performance in
 appointed assessor districts.

Jurisdiction Size

Perhaps the most commonly suggested reform in property tax administration has to do with assessing unit size. Traditional reform theory has long argued that unit size and performance are positively related. The Advisory Commission on Intergovernmental Relations has claimed that "centralized assessment administration . . . offers an uncomplicated and effective means of obtaining uniformly high standard assessing throughout a state" (Advisory Commission on Intergovernmental Relations, 1963, p. 14). In more dire terms, Michigan's Advisory Task Force on Property Tax Revision concluded that "the major deterrent to effective assessment administration is geographical fragmentation resulting in assessment jurisdictions that are too small to realize the advantages of large scale economies" (Governor's Advisory Task Force on Property Tax Revision: Task IV Group, 1976, p. 4).

However, the recent empirical literature on assessment performance has failed to find that assessing unit size is associated with assessment performance as suggested by the traditional reform theory (Almy, 1977, p. 171; James, 1973, p. 19; Bowman and Mikesell, 1978b, p. 141). The empirical findings have been interpreted as

evidence of the bankruptcy of traditional reform theory and as support for public choice theory (Mikesell and Bowman, 1978a).

Those making this interpretation commit two fundamental and related errors. First, they misinterpret the nature of the relationship between size and performance hypothesized by the traditional reform theory. Second, that misinterpretation has led to a misspecification of size in the empirical analysis. Past research included assessing unit size in the model as a separate independent variable. Size is important not because of any intrinsic influence on performance but because of the relation of size to assessor professionalism, property heterogeneity, and assessor resources (Advisory Commission on Intergovernmental Relations, 1963, p. 14; National Association of Assessing Officers, 1937, p. 11).

The property rights model stresses the importance of assessor professionalism. Two types of assessors have been identified and their relation to performance hypothesized. The elected assessor is hypothesized to perform less uniformly as he or she has both incentive and opportunity to manipulate assessments. The appointed assessor will perform uniformly as he or she has incentive and opportunity to conform to the requirements of Michigan law. It would seem reasonable that the type of assessor used in a district is related to the size of the district. As population and parcel number increase, the assessing

function becomes more time consuming. At some point, the poorly paid, part-time supervisor will find that the income and electoral advantage of assessing no longer compensate adequately for the time spent on assessing. The jurisdiction will hire an appointed assessor. As size increases, therefore, the number of units appointing rather than electing assessors will increase.

The public choice model stresses the property heterogeneity of the assessing unit. As heterogeneity increases, it was hypothesized that the assessment function becomes more difficult. Performance would be expected to be less uniform. It is further hypothesized that assessing unit size is related to the property heterogeneity of a unit. This heterogeneity stems from two sources. First, greater variation on the prices and types of residential property can be found in a large unit. A larger unit is more likely to contain a mix of higher and lower income neighborhoods rather than residential property confined to a narrow band of prices. Second, large assessing units are likely to be found in urban centers. The larger the unit, therefore, the more likely that commercial and industrial property will be found and thus greater heterogeneity.

Finally, it was hypothesized that assessor resources determine, to some extent, performance of the assessment function. Low resources lead to less uniform performance. Further, resource availability is hypothesized to be associated with jurisdiction size. While all units are

likely to be underbudgeted, larger units are likely to provide greater resources to the assessor than small units. In larger units, property heterogeneity will be greater. The greater the heterogeneity, the more likely that commercial and industrial property will be found in the unit. With a large amount of commercial and industrial property, assessor specialization becomes more economical. In terms of computer resources, the relative per parcel or per person cost will be less in a larger unit. Therefore, it is hypothesized that jurisdiction size is positively related to resource availability.

The finding of the recent empirical literature that size is unrelated to performance can be accounted for given this interpretation of the role of jurisdiction size. The overall relationship between size and performance appears slight because jurisdiction size's relation to performance is an aggregate of conflicting relationships whose directions tend to cancel out each other. The public choice literature's inclusion of size as a separate independent variable thus misinterprets the role of jurisdiction size and the findings of that literature can be fully accounted for without accepting the public choice model. It is hypothesized that size is unrelated to performance except as it is indirectly related through heterogeneity, professionalism, and heterogeneity.

Heterogeneity

The public choice literature emphasis on and rationale about property heterogeneity was explained in the last chapter. The emphasis on property heterogeneity is at least in part consistent with the property rights model. A high degree of heterogeneity increases the difficulty of determining true cash value and thereby increases the risk the assessor faces when determining assessed value. But the property rights model's emphasis on assessor professionalism would alter the interpretation of exactly how heterogeneity influences performance. As we have seen, elected supervisor-assessors have both motive and opportunity to assess in a nonuniform manner. The nonuniformity introduced by heterogeneity would not bother such assessors and may even help them to the extent that it would mask purposive nonuniform assessment. Appointed assessors under the influence of a professional assessing ethic would try to reduce the effects of heterogeneity by careful assessing. Heterogeneity would still be a problem and would still lead to some nonuniform assessing. But, we can expect that heterogeneity would reduce assessment uniformity in elected supervisor-assessor districts to a greater degree than it would in appointed assessor districts.

Externalities

Each of the models examined to this point share an assumption that each community's decision on taxes has no

effect on any other community. The public choice theory of supply explicitly assumes all costs are internalized. This seems to be highly unrealistic. Resident preferences and pressures in other districts as well as the assessment practices of other districts may impose costs on assessors that influence their actions. We can look at this on both the tax revolt and assessment performance. On both, the history of Michigan taxation provides clues on possible cross-jurisdictional pressures.

On assessment performance, an examination of assessing records shows that jurisdictions within counties tend to have similar performance records regardless of the values of other variables thought to influence assessment performance. If assessment performance is thought to be a function of politics through attentive public pressure and assessor motivation, then that similarity can be explained as an externality between districts. One assessor's performance decisions influence the costs the neighboring assessor must consider when making his or her performance decision. It would be easier for an elected assessor who wants to systematically underassess at 20% of true cash value to do so if all of his neighboring assessors were assessing at 20%. His or her actions would not stand out quite so much. In fact, if an assessor's neighbors were assessing at 20%, attentive resident pressure may force him or her to lower assessments to the county average. This would seem to explain, for instance, why all but one of the

assessing units in Hillsdale County assess at less than 25%, a level that is extremely low, even though the jurisdictions in Hillsdale are similar to those in other counties in other respects. (The exception was the largest unit in Hillsdale County which had an appointed assessor and assessed at 50% of true cash value.) We can hypothesize that a county's average assessment influences the assessment performance in the jurisdictions of that county.

History also gives us a clue to possible inter-jurisdictional interactions on the tax revolt. Michigan has faced tax crises before. In 1959, the State went "bankrupt" and had several payless paydays due to a deadlock between the Governor and Legislature over new taxes (Stieber, 1970, pp. 9-14). Charles Press and Charles Adrian developed an explanation for that conflict that might be useful in explaining the more recent crisis.

Press and Adrian saw two very different public ideologies in the State. The first is the small-town ideology based on the rural past of Michigan. They noted that:

The attitude toward government that followed from this belief system was, of course, that government should not spoil the process by interfering with it or by making wasteful expenditures that would deplete the capital of the entrepreneur. If government did little more than its traditional functions of keeping order and enforcing civil contracts leaving other decisions in private hands, the land would flow with milk, honey, and the useful industrial artifacts of automobiles, zippers, and prepackaged breakfast foods. (Press and Adrian, 1964, p. 257)

The other is the social-service state ideology of the cities

which calls for a much broader role for public production.

If the two different types of communities dominated by these ideologies adopted local tax-expenditure decisions based on the median voter model and left each other alone there would be no problem. But Press and Adrian concluded that, "probably the most debilitating effect of the small-town ideology on state government today is the attempt to apply to all citizens the morality of small-town life of a half century ago" (Press and Adrian, 1964, p. 161). They went on to explain the 1959 crisis as such an attempt by small-town legislators in a malapportioned Senate to frustrate the urban majority represented by Governor Williams.

What would we expect to see if the same explanation is operative in the more recent crisis? First, we would expect the greatest support for the tax revolt to be found in the rural areas of the state. More importantly, we would expect to find the greatest support for the tax revolt in the low tax municipalities. Local decisions would reflect local tax-expenditure preferences. But the crusading zeal of the small-town ideology would lead to an effort by the low tax municipalities to impose their preferences state wide.

The four factors make up the context of assessing within which the model of individual assessing behavior works. There is a significant degree of interaction between individual behavior and the contextual factors, especially

on resources and heterogeneity. A full list of the contextual hypotheses is presented in Table 3.2 below.

Table 3.2 Property Rights Model Hypotheses on Contextual Factors

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1. Assessor resources positively related to assessment performance in appointed assessor jurisdictions.
 2. Jurisdiction size is unrelated to assessment performance except as it is indirectly related through heterogeneity.
 3. Heterogeneity will reduce assessment uniformity in elected supervisor-assessor districts to a greater degree than it would in appointed assessor jurisdictions.
 4. A county's average assessment will influence the assessment performance in the jurisdictions of that county.
 5. Support for the tax revolt will be higher in rural jurisdictions.
 6. Support for the tax revolt will be higher in low tax jurisdictions.
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Assessment Performance

The property rights model has been used to develop a series of predictions on assessing behavior and context. These predictions are used in this section to develop a formalized statement on the determinants of assessment performance. Before that, however, the meaning of performance must be discussed.

The Meaning of Performance

To this point, the precise meaning of assessment performance has been left rather vague. Actually, two standards of assessment performance can be identified; both of which flow out of Michigan's constitutional requirement that all property be assessed at 50% of true cash value. The first is the level or average assessment. The average or mean of all assessments should equal 50% of average or mean of property value. This measure of performance concerns the degree of systematic underassessment. A jurisdiction's property is systematically underassessed if, for instance, the mean assessment were 30% of the true cash value. But the constitutional requirement goes beyond the requirement that the average assessment be 50% of true cash value and requires that each property be assessed at 50%. Even if there is systematic underassessment, the dispersion of assessments is expected to be zero. This is measured by the coefficient of dispersion or the average deviation of assessments divided by the mean of assessments. The greater the coefficient of dispersion is, the less uniformity there is. This measure of performance concerns the degree of differential assessment. Thus the uniform in "uniform performance" has two meanings: inter and intra jurisdiction uniformity as measured by the mean and coefficient of dispersion respectively.

The existing literature on assessment performance treats the two measures of performance as if they were

interchangable. There is some support for this. First, past research has shown that the level of assessment and the dispersion of assessments have a strong positive association (Maxwell, 1969, pp. 137-142; Aaron, 1969, p. 157; Bowman and Mikesell, 1978). Second, this chapter has shown that systematic underassessment and differential assessment arise from the same series of incentives. There is reason, however, to believe that the two are not determined by identical sets of factors even though they are related.

While both dimensions of performance are positively related and are based on the same underlying pattern of behavior, their relation to other variables may not be the same. First of all, the level of assessment is a much more political decision than the dispersion of assessments. It takes conscious effort to say that a house worth \$100,000 is worth \$50,000. Level speaks to aggregates while dispersion assesses the valuation of individual units. Even if there is great dispersion in assessments, the level of assessment should still average 50%. Therefore, heterogeneity may influence the dispersion of assessment but not the level of assessment. To seriously bias the level of assessment away from 50%, an explicit political decision must be made to underassess regardless of the degree of population and property heterogeneity. Thus, the assessor's motivation becomes critically important to the level of assessment. Of course, the assessor's motivation is also important to the dispersion of assessments as argued above. But the point is

that both heterogeneity and assessor motivation affect the level of assessment. Therefore, the determinants of performance may be different depending upon which measure of performance is examined. Unlike the existing traditional reform and public choice models, separate consideration of the two dimensions of performance are given below.

Level of Assessment

The property rights model would lead us to expect that several individual behavior and contextual variables would determine assessment level. First, the property rights model would lead us to expect that the level of assessment will be lower in jurisdictions with a high percentage of attentive residents. Government and elected assessors are subject to resident electoral pressure. That pressure would be greater in jurisdictions with a greater percentage of attentive residents. In such jurisdictions, the risk of increasing taxes to public officials is greater; voter reaction is more likely. In jurisdictions with appointed assessors, that pressure may still be great but the insulation provided by professionalism would screen the assessor from it. We can expect, therefore, that there will be a negative relation between the size of the attentive resident population and performance level and that this will be particularly true in elected assessor jurisdictions.

A second determinant is assessor professionalism. It was hypothesized that elected assessors have an incentive and opportunity to systematically underassess while

appointed assessors do not. Performance levels will be lower in nonprofessionalized assessor jurisdictions.

A third determinant is assessor resources. It was noted in the last section that resources would be positively related to performance in only the appointed assessor jurisdictions. Resources can be used to improve performance in only those jurisdictions with assessors who are pursuing uniformity. The interaction between resources and professionalism will be positively related to performance as level of assessment.

A fourth determinant is the county average level of assessing. County averages will define a baseline against which assessors desiring to skew uniformity will work as pointed out in the previous section. We would expect to find a positive relationship between the county average and jurisdictional performance. Counties with lower averages would lower the baseline the assessor would use to measure his own performance decisions.

The property rights model would lead us to expect that:

$$P_j^1 = a + b_1 L_j + b_2 A_j + b_3 C_j + b_4 (A_j \cdot L_j) + b_5 (A_j \cdot R_j) + e_j \quad (4)$$

where:

P_j^1 = the level of assessment;

L_j = % of attentive residents in a jurisdiction's population;

A_j = the professionalism of the assessor;

C_j = the county average assessment;

$(A_j \cdot L_j)$ = the interaction of assessor professionalism and the % of attentive residents in a jurisdiction's population;

$(A_j \cdot R_j)$ = the interaction of assessor professionalism and assessor resources;

e_j = the error term.

The equation takes a linear additive form; the independent variables are hypothesized to have a continuous and constant impact on assessment level across their full range and most are expected to influence assessment level independent of the other independent variables. The exceptions are $(A_j \cdot L_j)$ and $(A_j \cdot R_j)$ where professionalism is expected to interact with the attentiveness of residents and assessor resources; it is expected that the impact of attentiveness will be less and the impact of resources will be greater in professionalized jurisdictions. The error term represents a variety of random influences on assessment level. The property rights model would lead us to expect positive coefficients for A_j because assessor professionalism is hypothesized to lead to higher quality assessment. The coefficient for C_j is also expected to be positive as the county average defines a baseline in assessing that a local assessor must take into account in performing his job. A negative coefficient is expected for L_j because the political pressure to lower the level of assessment is expected to be greater in jurisdictions with a greater percentage of attentive residents. Since the negative

influence of L_j is expected to be moderated in professionalized jurisdictions, the coefficient for $(A_j \cdot L_j)$ is expected to be positive. Finally, the coefficient for $(A_j \cdot R_j)$ is expected to be positive as resources are expected to be positively related to performance in only professional jurisdictions. Two conspicuously absent variables are heterogeneity and size of jurisdiction. It was argued that size is not directly related to performance. And it was suggested that heterogeneity will influence the dispersion of assessment but not the average level of assessments.

Dispersion of Assessments

Heterogeneity is expected to influence the dispersion of assessments. Determining true cash value is more difficult in heterogeneous units so that we would expect a negative relation between heterogeneity and performance as dispersion.

Assessor professionalism and the percentage of population that is attentive are included in this equation in the exact same way as the one for level of assessment. Once again, a high degree of professionalism and a low degree of political pressure would lead to more uniform performance.

Several interaction terms are included in this equation. First, resources would be positively related to performance uniformity in appointed assessor districts.

Second, professionalism will interact with heterogeneity. Heterogeneity will not be used to hide purposive differential assessment in appointed jurisdictions leading to an expectation that this interaction term will be positively related to performance. The same is true with the interaction between professionalism and the percentage of the population that is attentive. Since appointed assessors are relatively insulated from political pressure, the vote threat of the attentive public will be less influential in determining performance in those districts. Finally, we can expect a three way interaction between professionalism, resources and heterogeneity. The use of resources to reduce the uncertainty arising out of heterogeneity in appointed assessor jurisdictions would reduce the negative influence of heterogeneity on performance in those jurisdictions; a positive coefficient for this interaction term, therefore, would be expected.

The property rights model would lead us to expect that:

$$\begin{aligned}
 P^2_j = & a_j + b_1 H_j + b_2 A_j + b_3 L_j + b_4 (A_j \cdot R_j) \\
 & + b_5 (A_j \cdot H_j) + b_6 (A_j \cdot L_j) + b_7 (A_j \cdot H_j \cdot R_j) \\
 & + e_j
 \end{aligned}
 \tag{5}$$

where:

P^2_j = the dispersion of assessments;

H_j = the heterogeneity of a jurisdiction's property market;

A_j = the professionalism of the assessor;

L_j = % of attentive residents in a jurisdiction's population;

$(A_j \cdot R_j)$ = the interaction of assessor resources and assessor professionalism;

$(A_j \cdot H_j)$ = the interaction of heterogeneity and assessor professionalism;

$(A_j \cdot L_j)$ = the interaction of assessor professionalism and the % of attentive residents in a jurisdiction's population;

$(A_j \cdot H_j \cdot R_j)$ = the interaction of assessor professionalism, assessor resources and property heterogeneity; and

e_j = the error term.

Once again, the equation is presented in a linear additive form. The variables are expected to have a continuous and constant impact on the dispersion of assessments across their full range. The independent variables are expected to have an additive and independent effect except in so far as specified interaction terms. In this equation, the intercept can be substantively interpreted as the expected dispersion of assessments in the least professionalized, most homogeneous, and least attentive jurisdiction. The error term again represents any random influences on assessment dispersion. The coefficients for A_j , L_j , $(A_j \cdot R_j)$, and $(A_j \cdot L_j)$ are expected to be like those for their counterparts in the assessment level equation for the same reasons as seen above. The coefficient for H_j is expected to be negative as heterogeneity is hypothesized to be negatively related to

dispersion performance. That relationship is expected to be moderated in professionalized jurisdictions, particularly those with substantial resources. Therefore, the coefficients for $(A_j \cdot H_j)$ and $(A_j \cdot H_j \cdot R_j)$ are expected to be positive. Once again, size is not included for the same reasons noted in the presentation of the assessment level model. More importantly, there is no consideration of intra county interaction in this equation. Since Michigan does not collect or publish data on dispersion, individual assessors would have no way to gauge what their neighbors are doing on differential assessment. Unlike the level of assessment, interjurisdictional externalities would not be expected.

This lack of data also presents problems for testing the dispersion equation. Michigan does not systematically collect data on assessment dispersion; it is one of the few states that does not. Individual sales samples would have to be taken in every jurisdiction that we were interested in to generate the data. Such a task would be excessive for any individual researcher. Only the first equation on performance as level of assessment will be tested in the next chapter because there is no measure of the dispersion of assessments by jurisdiction in Michigan.

The Tax Revolt

The property rights model also leads to a somewhat different interpretation of the tax revolt than that

presented by the two conventional models. We can start by reexamining the public choice theory of supply interpretation of the tax revolt presented in the last chapter. That explanation had two strains. The first was the political bureaucratic strain based on Down's, Niskanen's, and Borcharding's view of political and bureaucratic actors as self-interest actors with a stake in the expansion of public production. The use of systematic underassessment, differential assessment, and inflation funding of increased production were singled out as sources of fiscal illusion designed to artificially inflate demand for public goods. The second strain was a technological strain based on the work of Baumol and Bradford, Malt, and Oates which suggests that the lower productivity of public production processes mandate ever increasing costs for a static level of public production.

The second strain is unrelated to the property rights model but is not inconsistent with it. So, it can be included in the model developed here as an exogenous source of support for the tax revolt. Urban decline and racial composition were suggested as two measures of the effect of productivity induced increased costs at static levels of production. More importantly, the property rights model would lead us to modify the political-bureaucratic strain of public choice's excessive government model. As we have seen, bureaucratic or appointed assessors have incentives arising from professionalism to avoid

differential and systematic underassessment. Elected assessors, however, are expected to assess nonuniformly. Therefore, the property rights model would lead us to include differential assessment and systematic underassessment as interaction terms with the nature of the assessor's office: whether he or she is elected or appointed. On inflation funding of higher production, the property rights model would lead us to posit the same relationship suggested by the public choice-excessive government model. The burden of action or nonaction on this strategy is solely on government. Government officials choose to raise, lower, or maintain the tax rate separately from the assessor's determination of property values. The property rights model posits that government will favor inflation funding. So like the public choice-excessive government model, the property rights model would lead us to posit a positive relationship between inflation funding and support for the tax revolt.

The property rights model also would lead us to expect significant interjurisdictional interaction or support for the tax revolt. Press and Adrian's interpretation of the 1959 tax crisis leads to an expectation that support for the tax revolt will be stronger in rural and low tax jurisdictions.

The property rights model would lead us to expect that:

$$TD_j = a + b_1(A_j \cdot N_j) + b_2(A_j \cdot D_j) + b_3I_j + b_4B_j + b_5U_j + b_6T_j + b_7R_j + e_j \quad (6)$$

where:

TD_j = the level of support for the tax revolt in a jurisdiction;

A_j = the professionalism of the assessor;

N_j = the level of assessment in a jurisdiction;

D_j = reduction in differential assessment in a jurisdiction;

I_j = inflation increases in housing prices over the general price level;

B_j = change in racial composition of a jurisdiction;

U_j = rate of urban decline in a jurisdiction;

T_j = the level of taxation in a jurisdiction;

R_j = ruralness of a jurisdiction; and

e_j = the error term.

This equation is specified in a linear additive form once again. Each of the independent variables is expected to have a constant and continuous impact on support for the tax revolt over their full range. Their effects are hypothesized to be additive except in so far as specified interaction terms are concerned. Negative coefficients are expected for $(A_j \cdot N_j)$ and T_j as high levels of taxation are expected to reduce support for the tax revolt as are high levels of assessment in professionalized jurisdictions. All other coefficients are expected to be positive. High rates of inflation in housing prices over the general price level, high rates of urban decline, high levels of racial change,

and a high degree of ruralness were hypothesized to be positively related to support for the tax revolt. The error term represents random influences or support for the tax revolt.

Conclusion

This chapter has criticized the two contemporary approaches to understanding the tax revolt and assessment performance and developed an alternative property rights explanation of each. An alternative set of hypotheses were developed on both. To illustrate the differences between this new approach and the two presented earlier, Tables 2.1 and 2.2 are reproduced below with the property rights hypotheses included. Table 3.3 contrasts the three sets of hypotheses on assessment level performance and Table 3.4 contrasts the three sets of hypotheses or support for the tax revolt.

There are obviously many differences between the three models and these differences can be used to assess the theoretical progressiveness of the property rights model. To be called theoretically progressive, the property rights model must account for the explained success of the public choice model and predict novel facts.

The first criteria raises the question of whether the property rights model can account for the successes of the public choice literature on assessment administration. The Geraci and Plourde, James and Bowman and Mikesell public

Table 3.3 Hypothesized Relationships of Three Models with Assessment Level Performance

Variable	Traditional Reform Model	Public Choice Model	Property Rights Model
Property Heterogeneity	0 ^a	-	0
Size of Attentive Public	0	0	-
Assessor Professionalism	+	-	+
Assessor Resources	+	0	0
Jurisdiction Size	+	-	0
County Average	0	0	+
Professionalism- Size of Attentive Public	0	0	+
Professionalism- Resources	0	0	+

^a0 = not statistically significant;

+ = positive and statistically significant;

- = negative and statistically significant.

Table 3.4 Hypothesized Relationships of Three Models with Support for the Tax Revolt

Variable	Traditional Reform Model	Public Choice Model	Property Rights Model
Level of Taxation	0 ^a	+	-
Level of Assessment	0	-	0
Reduction of Differential Assessment	0	+	0
Housing Inflation	0	+	+
Change in Racial Composition	0	+	+
Urban Decline	0	+	+
Ruralness	0	0	+
Professionalism- Level of Assessment	0	0	+
Professionalism- Reduction in Differential Assessment	0	0	-

^a0 = not statistically significant;

+ = positive and statistically significant;

- - negative and statistically significant.

choice interpretations of assessment performance demonstrated that property heterogeneity accounted for most of the variance in performance and that assessor resources and professionalism were unrelated to assessment performance. While these findings seem to contradict the property rights model explanation, closer examination will reveal that those findings can be accounted for by the alternative developed in Chapter Three. The property rights model accepts the public choice emphasis on heterogeneity in one dimension of performance: the dispersion of assessments. The public choice assumption that performance is unidimensional is not accepted however. Heterogeneity does not influence the level of assessments which is to a greater degree than the dispersion of assessments a function of deliberate political choice. The public choice finding that resources and professionalism are unrelated to performance is a function of that approach's failure to appreciate the complexity of that relationship. The public choice analysts examined only the grossest indicators of professionalism and resources where the property rights model points toward their interaction. That the public choice approach failed to investigate more complex relationships should not be surprising given its emphasis on global concepts of freedom and efficiency. Attention was systematically directed away from the complex role of professionalism and resources by the preconception that competition is always associated with quality public production performance. Both findings of the

public choice literature on assessment administration can be accounted for by the property rights model: both are a function of incomplete analysis of performance and professionalism.

Does the property rights model predict novel facts? I think that the answer is clearly yes. A number of new hypotheses were developed that have not been considered before in the property tax administration literature. First and most importantly, the property rights model suggests that performance is not unidimensional but that assessment level and assessment dispersion must be treated separately. Second, the model hypothesizes that professionalism and resources are positively related to performance through their interaction. Third, the model hypothesizes that political pressure systematically biases assessment dispersion and levels. This has been suggested before in an informal way (i.e., Paul, 1975) but the public choice approach could not consider such a relationship as long as it was constrained by the global concepts of freedom and efficiency; those criteria preclude consideration of a negative relationship between competition and performance. Fourth, hypotheses about interjurisdictional externalities were developed on both assessment performance and the tax revolt that are not found in the public choice literature. These and other hypotheses presented in Chapter Three are unique to the property rights model. Because it meets both criteria, the property rights model can be identified as a

theoretically progressive model within the public choice research program.

CHAPTER IV
TESTING THE PERFORMANCE AND TAX
REVOLT MODELS

In Chapter Two, the traditional reform and public choice analysis of assessment performance and the tax revolt were presented. In Chapter Three, an alternative property rights model was developed. This chapter will test the competing hypotheses of those alternatives. All of the models have a similar structure and hypothesized coefficients for all of the variables for all three models for both assessment performance and the tax revolt were presented in Tables 3.3 and 3.4. A tax revolt equation combining all of the variables presented in Table 3.4 and a performance equation combining all of the variables presented in Table 3.3 will be tested and the actual coefficients compared to those hypothesized by the three models. I hope to use this testing procedure to identify whether or not the property rights model represents an empirically progressive problem-shift in public choice theory. It will be considered such if some of the novel hypotheses developed in the last chapter are corroborated. This testing process will proceed in three steps. First, the sample used in the testing will be identified and its appropriateness analyzed. Second, the performance model

will be tested. Finally, attention will be turned to the tax revolt model.

The Sample

In Chapter Two, the empirical tests of the public choice literature on assessment performance were criticized for their failure to employ representative samples of assessing units in analyzing the determinants of assessment performance. Almy, Geraci and Plourde, and James used samples that were clearly nonrepresentative on several dimensions such as jurisdiction size. Bowman and Mikesell examined all of Virginia's assessing units; but, that state lacks sufficient institutional variation to clearly assess the impact of institutional structure on performance. Given these criticisms, it would seem necessary to demonstrate that the data analyzed here is both from a state with broad institutional variation and is representative of that variation.

On the first criteria, Michigan is one of only two states with a complete range of assessing institutions. Michigan has both elected and appointed assessors in both large and small jurisdictions. There is a type of county assessing in the form of contracting with the County Equalization Offices. Only in Wisconsin will one find a similar degree of variation in the structure of assessment administration. An analysis of Michigan jurisdictions offers clear advantages over those of any state analyzed up to now.

On the second criterion, however, the appropriateness of the data is less clear. Severe missing data problems were encountered so that complete data were gathered for only 696 of Michigan's 1,510 primary assessment jurisdictions. Data on many of the key variables were gathered by a mail survey of assessors and not all assessors responded.

To evaluate the representativeness of the sample, the sample and population values on five variables for which complete data were available and which are quite important to the hypotheses presented in the last chapter were compared. As seen in Table 4.1, those five variables were the nature of the assessor's office, median income, median value of owner-occupied homes, the ratio of assessed to full market value, and population. The first was broken down into elected and appointed, while the others were tricotomized into values of high, medium and low. As can be seen in comparing columns one and two of the table, the sample over-represents higher income units, better performing units, and higher population units. This weakens any inferences that can be made from any findings based on the sample to the extent that the empirical results are influenced by these variables.

In order to restructure the data into a more representative sample of Michigan's primary assessment jurisdictions, a weighting procedure was undertaken. Three of the five variables presented above (for which complete

data on all 1,510 Michigan municipalities were available) were used to determine the sample weights. Office, assessment ratio, and population were cross-tabulated producing eighteen separate cells or combinations of values for the three variables using all 1,510 cases in the population. Expected sample values for the eighteen combinations were obtained by multiplying the number of cases in each cell by .46 to reduce the number of total cases to 696, the size of the actual sample. The actual sample values for the eighteen cells were determined by cross-tabulating the three variables using only the 696 cases for which complete data were available. The actual sample values for each of the eighteen cells were compared to the expected sample values and the actual were weighted to equal the expected. This procedure overcounts some cases in the sample and undercounts others. Due to rounding, however, the weighted sample is 690 rather than 696. The weighted sample values for the five variables are presented in column three of Table 4.1 where it can be seen that they correspond quite well to the distribution of population values (see Appendix 1).

The Performance Model

The three performance models were presented in the last two chapters (equations 1, 2, and 4) and their performance hypotheses presented in Table 3.3. We are interested in testing the hypothesized coefficients of those models. For that purpose, all of the variables presented in

Table 4.1 Population, Sample, and Weighted Sample Distributions on Community Characteristics

Community Characteristics	Sample N = 696	Population N = 1,510	Weighted Sample N = 690
Office:			
Elected	56.8	57.0	57.1
Appointed	43.2	43.0	42.9
Median Income:			
Low	17.2	18.5	18.3
Medium	70.5	71.6	71.3
High	12.2	10.0	10.4
Median House Value:			
Low	32.0	33.6	34.6
Medium	34.1	36.2	34.6
High	33.9	30.1	30.8
State Equalization Value:			
Low	22.0	27.0	27.0
Medium	26.6	25.2	25.2
High	51.4	47.8	47.9
Population:			
Low	68.2	74.0	74.1
Medium	15.8	14.6	14.6
High	15.9	11.5	11.4

Table 3.3 can be combined to form a model so that:

$$P_j^1 = a + b_1 H_j + b_2 L_j + b_3 A_j + b_4 R_j + b_5 S_j + b_6 C_j + b_7 (A_j \cdot R_j) + b_8 (A_j \cdot L_j) + e_j \quad (7)$$

where:

P_j^1 = the level of assessments;

H_j = property heterogeneity;

L_j = the size of the tax attentive public;

A_j = the professionalism of the assessor;

R_j = the resources of the assessor;

S_j = the size of the assessing jurisdiction;

C_j = the county average assessment;

$(A_j \cdot R_j)$ = the interaction of assessor professionalism and assessor resources;

$(A_j \cdot L_j)$ = the interaction of assessor professionalism and the size of the tax attentive public; and

e_j = the error term.¹

In this section, the results of a test of this model are presented. First, the several concepts presented in the model will be operationalized. Second, the model will be estimated and the resulting estimates presented. Finally, the results will be interpreted.

¹Combining the models in this way should not distort the results. All three models have a similar structural form so that combining them merely adds, from the perspective of any one of the models, extraneous variables. Model misspecification through the addition of extraneous variables is not a serious problem; "the usual tests of significance and confidence intervals for the regression parameters are valid" (Kmenta, 1971, p. 399). Such intentional but relatively harmless misspecification for testing purposes is justified in this case because we are interested in the signs and significance of the estimated coefficients for which the three models have generated precise hypotheses.

Operationalization

The dependent variable is assessment performance. As pointed out earlier, assessment performance has two components--the level of assessment and the dispersion of assessments. Our attention here is focused exclusively on the level of assessment as Michigan does not collect data on the dispersion of assessments. The level of assessment is operationalized as the 1978 ratio of assessed value to full market value of real property in a jurisdiction (EF) as determined by the State Tax Commission. Michigan law requires that property be assessed at 50% of full market value; the lower the ratio is below 50%, the level of performance. A full presentation of the definition, operationalization, and source of EF as well as the other variables can be found in Table 4.2.

The first set of independent variables are designed to tap property heterogeneity. Several variables with a long history of use in the empirical literature on assessment administration were examined: property market activity as measured by vacancy rates (VACANCY), intensity of housing use as measured by crowding (CROWD), median value of owner occupied houses (HVAL), the concentration of single family homes (DETACH), and the amount of substandard housing (PLUMB). As each has been used extensively in the existing literature, they will not be examined in detail here. In general, however, assessment accuracy is thought to be more difficult in jurisdictions with a slow property market, a

Table 4.2 Definitions, Operationalizations, and Data Sources: The Assessment Performance Model

Concept	Variable	Definition	Operationalization	Source
Assessment Performance	EF	Level of assessment	1978 ratio of assessed value to full market value of real property	"1978 Factors, Assessed Valuation and Units Portion of State Equalized Valuation" (Lansing, Mich.: State Tax Commission, 1978)
Property Heterogeneity	VACANCY	Housing market activity	Percentage of year-around housing units that are vacant for six months or more	1970 U.S. Census
	HVAL	Housing value	Median dollar value of owner-occupied housing units	1970 U.S. Census
	CROWD	Intensity of housing use	Percentage of persons in housing units with 1.51 or more persons per room	1970 U.S. Census
	PLUMB	Substandard	Percentage of homes without indoor plumbing or kitchen facilities	1970 U.S. Census

Table 4.2 (cont'd.)

Concept	Variable	Definition	Operationalization	Source
Size of Attentive Public	DETACH	Housing concentration	Percentage of year- around housing units that are single detached, excluding mobile homes	1970 U.S. Census
	MEDINC	Income	Median family income	1970 U.S. Census
	AGTIM	Ruralness	Percentage of property descriptions that are used for agricultural or timber-cutover use	"Michigan Survey of Assessors and Equali- zation Directors" (Lansing, Mich.: Michigan Department of Treasury, 1976)
Assessor	OFF	Nature of the assessor's office	0, if elected, 1 if appointed	"Directory of Assessors" (Lansing, Mich.: State Tax Commission, 1978)
	ASSCT	Assessor training level	Certification level of the assessor	"Directory of Assessors"

Table 4.2 (cont'd.)

Concept	Variable	Definition	Operationalization	Source
	COUNTY	County contracting for primary assessment	0, if no; 1, if yes	"Directory of Assessors"
Assessor Resources	COST	Budget support for assessing	Assessing budget divided by the number of property jurisdictions	"Michigan Survey of Assessors and Equalization Directors"
	PERS	Personnel support for assessing	Number of property descriptions divided by the number of assessing office staff	"Michigan Survey of Assessors and Equalization Directors"
	TOOLS	Tool support for assessing	An index summing four items: 1. Whether a jurisdiction has tax maps: 0, if no; 1, if yes 2. Whether a jurisdiction has property description cards: 0, if no; 1, if yes.	"Michigan Survey of Assessors and Equalization Directors" "Michigan Survey of Assessors and Equalization Directors"

Table 4.2 (cont'd.)

Concept	Variable	Definition	Operationalization	Source
			3. Whether a jurisdiction has computers: 0, if no; 1, if yes 4. Whether a jurisdiction has contracted for mass reappraisal in the last three years: 0, if no; 1, if yes	"Michigan Survey of Assessors and Equalization Directors" "Michigan Survey of Assessors and Equalization Directors"
Jurisdiction Size	POP	Jurisdiction size	Population	1970 U.S. Census
County Inter-action of Assessors	AVG76	County inter-action of assessors	1976 county ratio of assessed value to full market value of real property	"1976 Factors, Assessed Valuation and Units Portion of State Equalized Valuation" (Lansing, Mich.: State Tax Commission, 1976)

high proportion of substandard housing, cheaper housing, overcrowded housing, and fewer detached single family homes (Engle, 1975; Peterson, 1973; James, 1975).

The public choice theory of supply would lead us to expect that property heterogeneity would be negatively related to performance in assessment administration. The traditional reform theory has never considered heterogeneity as important in determining assessment performance. The property rights model posits a negative relation between heterogeneity and the dispersion of assessments but also suggests that heterogeneity will be unrelated to the level of assessment.

The second set of variables address the size of the tax attentive publics in a jurisdiction. The property rights model leads us to expect that the size of the attentive public will be negatively related to assessment level performance. Two such groups noted in the property tax literature are farmers and middle income homeowners. Political pressure to lower assessment levels will be greater in jurisdictions with heavy concentrations of farmers and middle income homeowners. The size of the farm population is measured by the percentage of property descriptions in a jurisdiction devoted to agricultural or timber cutover use (AGTIM). The size of the middle income homeowner population is measured by the median income of a jurisdiction (MEDINC). It is assumed that the number of median income homeowners is positively related to median

income. Neither the traditional reform nor public choice theory would lead us to expect either of these variables to be related to the level of assessments.

The third set of independent variables address assessor professionalism. In Chapter Two, the nature of the assessor's office was singled out as a major determinant of how the assessor conducts the assessment function. The variable OFF identifies whether an assessor is elected or appointed. The traditional reform theory would expect a positive coefficient while the public choice model would expect a negative coefficient. The property rights model suggests that the positive influence of office will be found in the interaction of office with the other determinants of performance. Two other variables are also used to tap the degree of assessor professionalism. The first is the assessor's level of certification (ASSCT) which ranges from the lowest level of one to the most professionally trained level of four. COUNTY is a dummy variable identifying whether a unit contracts with a County Equalization Office for the primary assessment function. The three approaches to assessment performance would expect these two variables to behave like OFF.

A fourth set of independent variables address the resource support provided the assessor. Three variables are used to measure different aspects of resource support. The first is budget support as measured by COST, the expenditure for assessing per property description in a jurisdiction.

The second is personnel support as measured by PERS, the number of property descriptions per assessing officer in a jurisdiction. Despite the stress given to personnel support by the traditional reform theory, neither has been included in the existing research on the determinants of assessment performance. One limitation must be noted, however. For the smallest jurisdictions, PERS may be somewhat invalid as once the assessment staff drops to one, there is no clear way to distinguish between different workload requirements. A third type of support concerns the assessment tools made available to the assessor. Usually included in the list of important tools are the following: property description cards (CARDS), tax maps (MAPS), access to computers (COMP), and the ability to contract for reappraisal (CONTRACT). A simple index was created including each of these items as all are positively intercorrelated and were designed to tap a single dimension of resource support. Furthermore, the collapsing of these items into an index of tool support (TOOLS) provides a richer measure of the concept of support and is also analytically convenient. A score of one was assigned to a jurisdiction if it had complex tax maps, if it had a complete set of property description cards, if computers were used, and if the unit had recently contracted for reappraisal. The resulting index ranges in score from zero for low support to four for high support.

The traditional reform theory placed great emphasis on resource support, leading to an expectation of positive

coefficients for COST and TOOLS and a negative coefficient for PERS. The property rights model concurs, yet emphasizes that the assessor must be motivated to seek a high level of performance before resource support can influence performance. The public choice model would argue that extensive resource support is not needed and is indeed harmful as it may prevent the assessor from gaining direct personal knowledge about his community and its pattern of housing use. Consequently, the public choice model would expect the coefficients for PERS to be positive and those for COST and TOOLS to be negative.

The fifth independent variable is jurisdiction size as measured by the population of the jurisdiction (POP). As argued in the last chapter, the public choice model would expect a negative coefficient; the traditional reform theory would expect a positive coefficient; and the property rights model would expect a coefficient of zero.

The sixth set of variables concerns the cross jurisdictional pressures on assessors. In the last chapter it was hypothesized that assessors use past county averages as guidelines in skewing uniform assessment requirements. This cross jurisdiction pressure is measured by the county average assessment from two years prior to the level of assessment used as the dependent variable (AVG76). Both the traditional reform and public choice approaches assume that there are no interjurisdictional externalities.

The last two variables are the interaction terms of professionalism and assessor resources and size of tax attentive public. They are measured by the products of the variables presented above.

Estimation Procedure

The model parameters are estimated with ordinary least squares regression analysis where the general multiple regression linear model is:

$$Y_i = a + b_1X_{i1} + b_2X_{i2} + \dots + b_kX_{ik} + e_i$$

where Y is the dependent variable, a is the intercept, the X 's refer to independent variables, and e is the error term, i refers to the i th case, and the subscripts 1 through k identify the separate independent variables. This general model and a series of seven assumptions make up the "classical normal linear regression model" (Kmenta, 1971, p. 348). Those assumptions include the following. First, it is assumed that the error term is normally distributed. Second, it is assumed the mean of the error term is zero. The third assumption is that the error term is homoskedastic; that is that every error or disturbance has the same variance. The fourth assumption is that of nonautocorrelation; the error at time one is not expected to influence the error term at time two. Fifth, the general linear regression model assumes that the independent variables are nonstochastic. Sixth, the model assumes that the number of observations exceed the number of coefficients

to be estimated. Finally, it is assumed that there is no exact linear relation between the independent variables, that there is no serious multicollinearity problems. I will not test all of these assumptions as several are unlikely to effect the model examined here. For instance, the assumption of nonautocorrelation is primarily a problem associated with time series rather than cross-sectional analysis and, in regard to the sixth assumption, that the number of observations exceeds the number of coefficients to be estimated, there are clearly more observations than independent variables in the models to be estimated. Also, the first, second, and fifth assumptions on the nature of the error term and the independent variables are not tested directly but are maintained in the following analysis. Given the model presented above and the use of cross-sectional data, however, we can expect that serious problems might be encountered on the homoskedasticity and multicollinearity assumptions. Therefore, it is essential that we examine the problems of multicollinearity and heteroskedasticity in more detail.

Since cross-sectional data is being used, heteroskedasticity could be a problem. Given the vast differences in size among Michigan assessing jurisdictions, we should expect that the error variance of larger units would be larger than for smaller units. As we saw in Chapter Two, a substantial body of research has indicated that high quality assessment performance is much more difficult to achieve in

heterogeneous districts because the assessment task is complicated by multiple and changing property markets (James, 1973; Geraci and Plourde, 1976; Bowman and Mikesell, 1978a). Large jurisdictions (which tend to be more heterogeneous), therefore, might be expected to exhibit more volatile performance levels. Contrary to expectations, the results of a Goldfield-Quandt test indicated that the error variance of smaller units is greater than that for smaller units (Pindyck and Rubinfeld, 1976, pp. 104-106). The test, calculated by dividing the error sum of squares of the 300 largest units in the sample (9643.54) by the error sum of squares of the smallest 300 assessing units in the sample (11635.12) produces an F of .83 where the critical value of F is 1.00 at the .05 level. (For the calculation of the F statistic, see Pindyck and Rubinfeld, 1976, p. 104). Thus, heteroskedasticity does not seem to be a problem. But the F value of .83 suggests that the regression assumption of constant variance is not strictly satisfied. If this is not a function of the data, how are we to account for this violation? Specification error would seem to be indicated; there would seem to be some determinant of assessor behavior that is particularly important to assessors in smaller jurisdictions that the model is not tapping.

In reexamining the model in the previous chapter, one possible source of specification error lies in the assumption regarding the ambition of elected assessors. It

was assumed that elected assessors desire to maintain office and undertake assessing strategies (systematic underassessment and differential assessment) designed to meet that goal. More realistically, elected assessors could have varying levels of ambition. David Rhode, for example, has distinguished between three levels of ambition in his study of the career patterns of Congressmen:

"discrete" ambition where officials seek office for only a single term with no ambition to continue in the office or pursue another; "static" ambition where the office holder desires to continue in his or her present office; and "progressive" ambition where the official desires a higher level office (Rhode, 1979, p. 2). The model presented here assumes that all elected assessors have static ambition. Progressive ambition is not really a problem because it would likely lead to the same assessing strategies which characterize assessors with static ambition. Discrete ambition, however, is a problem. Many local elected assessors could very well seek office for only a single term if their real interest is to expand their professional contacts or information about the local real estate, insurance, or construction trades. These assessors would have little incentive to differentially or systematically underassess. And, to get back to the problem of violating the regression assumption of constant error variance, we might expect a greater number of assessors in smaller jurisdictions to be characterized by discrete ambition

because those jurisdictions rely to a greater degree on elected assessors. But the very tiny size of the jurisdiction would make the office much less intrinsically desirable and a less obvious political stepping stone than the elected assessor's office in a larger neighboring jurisdiction. The model's assumption of a single level of ambition, therefore, could seriously misrepresent the interests and incentives of some elected assessors and this distortion would likely be demonstrated to a much greater degree in smaller jurisdictions.

Unfortunately, the available data does not allow me to sort out nor correct this likely source of specification error. Ideally, I would need to survey the assessors themselves on their career objectives or use time series analysis to directly relate career patterns to the use of particular assessing strategies. The lack of either type of data necessitates that I continue with the current model realizing, however that some degree of specification error is likely to be present. The effect of this specification error could be severe as the resulting estimators are likely to be biased and inconsistent, undermining the validity of the usual tests of significance (Kmenta, 1971, pp. 392-395). Given the lack of data, however, little can be done to resolve this problem at this time.

A second potential problem is multicollinearity. A Farrar-Glauber test (Kmenta, 1971, p. 390) was conducted for each of the independent variables producing no R^2

greater than .65. Most were considerably lower (see Appendix 2). But given the relatively low R^2 of the final substantive model (.39), multicollinearity is a problem. As seen in Appendix 2, two variables produce R^2 's substantially in excess of the R^2 reported for the final substantive model, ASSCT, and POP. In both cases, however, the apparent multicollinearity is substantively interpretable. ASSCT, the certification level of the assessor, is one of three indicators of assessor professionalism. It should not be surprising that multiple indicators of a single concept are closely related. One or the other might be dropped to resolve this problem. However, both are substantively interesting as the Governor's Advisory Task Force on Property Tax Revision (Michigan, 1976b) has proposed separate recommendations on each of the three professionalism measures. The substantive interest in each leads me to retain them in the model. On the size of jurisdictions as measured by population (POP), the property rights model in fact argues that size should be collinear with professionalism and resources; I earlier suggested that once those variables were included in the model that size should drop out as an independent determinant of assessor performance. None of the other variables produced R^2 's in substantial excess of the R^2 of the substantive model. The problem of multicollinearity might be avoided in the future by increasing the size of the sample (Kmenta, 1971, pp. 390-391). The use of all Michigan jurisdictions,

rather than the sample of 690, might have solved this problem. Unfortunately, the data on all jurisdictions were not available.

Findings

The most striking findings was the failure of the heterogeneity variables which were so important to the public choice explanation of performance. None of the five heterogeneity variables were related to the level of assessment as expected by the property rights model. The full model results, including all five heterogeneity variables are presented in Appendix 3. The results for all five are not presented here. All five variables were designed to measure the single concept of heterogeneity. Since they all relate to level performance in the same way and because that relationship is so weak, only one heterogeneity variable (VACANCY) is included in the results to be presented here.² Dropping the multiple measures for a single measure will make data manipulation somewhat easier and should not alter the findings as none seem to be

²The public choice assessment literature presents these five heterogeneity variables as highly intercorrelated and strongly related to performance. As seen in the following correlation matrix, however, neither assumption may be accurate especially when performance is measured by assessment level (EF).

VACANCY	.02				
CROWD	-.009	-.55			
HVAL	.05	-.31	-.28		
DETACH	-.03	.23	.14	-.09	
PLUMB	.07	-.55	-.18	.60	-.13
EF	EF	VACANCY	CROWD	HVAL	DETACH

strongly related to the level of performance. Attention should therefore be directed to Table 4.3 where the results of the reduced set of variables are presented.

The size of the attentive public variables perform as expected by the property rights model. Level performance was less uniform in jurisdictions with high median income (MEDINC) and a high percentage of agricultural property (AGTIM). Both coefficients were significant at at least the .05 level.

The assessor professionalism variables produced results that seem somewhat ambiguous. The sign of OFF (elected or appointed assessor) is positive as expected by the traditional reform theory but the coefficient is not significantly different from zero at the usual criterion levels with a significance level of .17. The coefficient of ASSCT (certification level of the assessor) is also positive as expected by the traditional reform theory but not significant with a significance level of .66. And the coefficient for COUNTY (county assessing) is negative and significant at the .01 level indicating that county contracting for the primary assessment function leads to rather dramatic declines in performance. On first face, this would seem to support the public choice view on the effects of district size. That first face impression may be misleading as we shall see a bit later. At this point it is not clear what effect professionalism has on performance.

Table 4.3 Performance Model Estimates

Variable		
MEDINC	b ₁ (standard error) (t-ratio)	-.00023 (.0001) (2.32)**
VACANCY	b ₂ (standard error) (t-ratio)	.024 (.02) (1.14)
AGTIM	b ₃ (standard error) (t-ratio)	-.05 (.01) (3.78)***
OFF	b ₄ (standard error) (t-ratio)	.94 (.68) (1.37)
ASSCT	b ₅ (standard error) (t-ratio)	.19 (.43) (.44)
COUNTY	b ₆ (standard error) (t-ratio)	-4.85 1.28 (3.78)***
AVG	b ₇ (standard error) (t-ratio)	.81 (.04) (17.88)***
PERS	b ₈ (standard error) (t-ratio)	-.0006 (.0002) (2.25)**
COST	b ₉ (standard error) (t-ratio)	.28 (.10) (2.81)***
TOOLS	b ₁₀ (standard error) (t-ratio)	.50 (.25) (2.02)*
POP	b ₁₁ (standard error) (t-ratio)	.000003 (.000005) (.62)

Table 4.3 (cont'd.)

CONSTANT	8.19
R^2	.39
\overline{R}^2	.38
F	38.85***
N	690.00

*Significantly different from 0.0 at the .1 level.

**Significantly different from 0.0 at the .05 level.

***Significantly different from 0.0 at the .01 level.

AVG76, designed to pick up the interaction between jurisdictions within each county, is in the direction predicted by the property rights model and significant at the .01 level. It seems that past county averages define a baseline of level performance for assessors.

The assessor resource variables met the expectations of the traditional reform theory quite well. The coefficients for PERS, COST, and TOOLS were all in the predicted direction and all were significant at at least the .1 level. Greater expenditures per property parcel, personal support, and tool support are positively related to level performance.

Finally, jurisdiction size as measured by population (POP) has little or no impact on level performance as predicted by the property rights model. The estimated coefficient is positive but has a significance level of greater than .5.

In the last chapter, it was suggested in the course of developing the property rights model that two interaction terms should be included to fully tap the impact of assessor professionalism on performance. Specifically, it was hypothesized that in professionalized assessor jurisdictions and assessor resources would be expected to be positively related to performance in only professionalized jurisdictions. One way to assess this is to compare the results of separate regressions for the two types of assessor office jurisdictions. The results of this procedure, with the two

office-related variables of OFF and COUNTY removed, can be seen in Table 4.4.

The results are generally similar to those presented in column two of Table 4.3 with some exceptions. Sign changes are observed for the level of assessor certification (ASSCT) in the two types of jurisdictions. This is very likely a function of the exclusion of OFF and COUNTY; certification level is picking up at least some of the effect of COUNTY for the appointed assessors. But the more interesting results are on the two suggested interaction terms. There is a clear interaction between professionalism and assessor resources as hypothesized by the property rights model. That model suggests that only the appointed assessor is motivated to use resources to improve performance. The estimated coefficients for the personnel support variable (PERS) and the tool support variable (TOOLS) are in the predicted direction and significant at the .01 level in only the appointed jurisdictions. Personnel support and access to the tools of assessing account for little of the variance of performance in elected jurisdictions. The interactive role of office developed in the last chapter is supported by these results.³ But the

³Four interactions were examined: OFF with PERS, TOOLS, MEDINC, and AGTIM. The hypothesis that the coefficient values for the appointed run was equal to the coefficient values for the elected run was tested for each of the four variables where the critical value of t for N-K was 1.96 at the .05 level. The following results were obtained where the coefficients refer to those used in Table

Table 4.4 Performance Model Estimates by Type of Assessor Office

Variable		Elected	Appointed
MEDINC	b ₁	-.00032	-.0002
	(standard error)	(.0002)	(.0001)
	(t-ratio)	(1.50)	(1.81)*
VACANCY	b ₂	.008	.03
	(standard error)	(.03)	(.03)
	(t-ratio)	(.75)	(1.01)
AGTIM	b ₃	-.006	-.06
	(standard error)	(.02)	(.02)
	(t-ratio)	(2.72)***	(3.01)***
ASSCT	b ₄	1.31	-.88
	(standard error)	(1.0)	(.41)
	(t-ratio)	(1.33)	(2.15)**
AVG76	b ₅	.819	.77
	(standard error)	(.59)	(.07)
	(t-ratio)	(13.76)***	(10.43)***
PERS	b ₆	-.0001	-.0007
	(standard error)	(.0006)	(.0003)
	(t-ratio)	(.20)	(2.81)***
COST	b ₇	.48	.30
	(standard error)	(.19)	(.11)
	(t-ratio)	(2.47)**	(2.70)***
TOOLS	b ₈	-.006	1.46
	(standard error)	(.34)	(.37)
	(t-ratio)	(.017)	(3.97)***
POP	b ₉	-.00008	.000005
	(standard error)	(.0003)	(.000005)
	(t-ratio)	(.28)	(1.07)
CONSTANT		7.59	10.69
R ²		.35	.42
\bar{R}^2		.34	.40
F		23.47***	22.82***
N		394	296

*Significantly different from 0.0 at the .1 level.

**Significantly different from 0.0 at the .05 level.

***Significantly different from 0.0 at the .01 level.

second interaction term suggested by the property rights model is not supported by the results. The coefficients for AGTIM (% of agricultural property) and MEDINC (median income) in appointed jurisdictions are not appreciably different from those for the elected jurisdictions. The size of the tax attentive population seems to influence appointed assessors no differently than it does elected assessors.

Given these findings, the professionalism-resources interaction terms hypothesized by the property rights model were included in the final model presented in Table 4.5.

4.4 and the subscripts a and e refer to appointed or elected respectively.

$$\frac{b_{6a} - b_{6e}}{Sb_{6a}} = \frac{-.0007 - (-.0001)}{.0003} = -2.0$$

$$\frac{b_{1a} - b_{1e}}{Sb_{1a}} = \frac{-.0002 - (-.00032)}{.0001} = 1.2$$

$$\frac{b_{8a} - b_{8e}}{Sb_{8a}} = \frac{1.46 - (-.0006)}{.37} = 3.96$$

$$\frac{b_{2a} - b_{2e}}{Sb_{2a}} = \frac{.03 - .008}{.03} = .73$$

The appointed coefficients were significantly different from the elected coefficients at the .05 level for b_6 (PERS) and b_8 (TOOLS). There was no statistically discernable difference between the attentive public coefficients for the two types of districts. These tests are not definitive, however, as the heteroskedasticity problem biases the standard errors to an unknown extent.

Two interaction terms, representing the interaction of professionalism and resources or OFF with PERS (OFFPERS) and TOOLS (OFFTL), are included.⁴ This final model produces an \bar{R}^2 of .38. All of the coefficients are significantly different from zero at the .005 level or better.

Interpretation

One way to present these results is to graphically display the empirical findings of this chapter with the hypothesized relationships presented in Table 3.3. Table 3.3 is reproduced in Table 4.6 with the addition of the empirical findings. In this section, the hypothesized coefficients of the three models are compared to the actual coefficients to determine whether the property rights model of assessment performance represents an empirically progressive problem-shift.

The final model results lend substantial support to the property rights model. The public choice model's hypotheses fail in almost every case. This failure is particularly evident on the heterogeneity, jurisdiction size and the resource and professionalism variables. The only clear cut success for the public choice model is on the COUNTY indicator of assessor professionalism. We will examine that result in more detail below. The traditional

⁴A Farrar-Glauber test was conducted on all of the variables in the final model including OFFPERS and OFFTL. The results indicated that multicollinearity is not a problem (see Appendix 4).

Table 4.5 Final Performance Model Estimates

Variable		
MEDINC	b ₁ (standard error) (t-ratio)	-.0003 (.00009) (2.84)***
AGTIM	b ₂ (standard error) (t-ratio)	-.05 (.01) (3.77)***
COUNTY	b ₃ (standard error) (t-ratio)	-4.43 (1.13) (3.89)***
AVG76	b ₄ (standard error) (t-ratio)	.81 (.04) (17.90)***
COST	b ₅ (standard error) (t-ratio)	.27 (.09) (3.03)***
OFFPERS	b ₆ (standard error) (t-ratio)	-.0007 (.0002) (3.01)***
OFFTL	b ₇ (standard error) (t-ratio)	1.10 (.26) (4.22)***
CONSTANT		9.19
R ²		.39
\bar{R}^2		.38
F		62.39***
N		690

*Significantly different from 0.0 at the .1 level.

**Significantly different from 0.0 at the .05 level.

***Significantly different from 0.0 at the .01 level.

reform theory does slightly better. The traditional reform theory was correct that professionalism and resources do count; they are positively related to performance. But that relationship is not nearly as clear cut or direct as thought by the traditional reform analysts. It is in the interaction of resources and professionalism that the positive relationship is observed. And it is through these variables that size has an effect on performance. Moreover, a variety of exogenous factors not considered by the traditional reform theorists also influence performance as seen in the county average and size of attentive public results. But it must be noted that these results are much closer in spirit to the traditional reform theory than to public choice theory and are supportive of many of the traditional reform policy recommendations. But not all of the novel hypotheses suggested by the property rights model are corroborated. The failure to find any interaction between professionalism and the size of the attentive public stands out. The independent professionalism variable does not seem to work as expected but the professionalism resource interaction is consistent with the property rights model's general views on professionalism. More importantly, the COUNTY results directly contradict the property rights view of professionalism. That anomaly needs to be examined in more detail. But despite these failures, most of the property rights hypotheses are supported by the empirical results. The property rights hypotheses on heterogeneity, the size of the

Table 4.6 Empirical Results and the Hypothesized Relationships of the Three Models with Assessment Level Performance

Variable	Traditional Reform Model	Public Choice Model	Property Rights Model	Empirical Results
Property Heterogeneity	0 ^a	-	0	0
Size of Attentive Public	0	0	-	-
Assessor Professionalism	+	-	+	?
1. OFF	+	-	+	0
2. ASSCT	+	-	+	0
3. COUNTY	+	-	+	-
Assessor Resources	+	0	0	?
1. PERS	+*	0	0	0
2. COST	+	0	0	+
3. TOOLS	+	0	0	0
Jurisdiction Size	+	-	0	0
County Average	0	0	+	+
Professionalism-Size of Attentive Public	0	0	+	0
Professionalism-Resources	0*	0	+	+

^a0 = not statistically significant;

+ = positive and statistically significant;

- = negative and statistically significant.

*The actual signs of PERS and OFFPERS were negative. But given the way they were measured, a negative relationship indicated that performance improved as personnel resources increased as hypothesized by the traditional reform and property rights models.

attentive public, assessor resources, jurisdiction size, county average and the interaction of professionalism and resources are supported. Because some of the novel hypotheses of the property rights model are supported, we can conclude that the property rights model represents an empirically progressive problem-shift in the public choice theory of assessment performance.

The uncorroborated property rights hypotheses suggest some useful directions to extending the positive heuristic. The COUNTY results are not consistent with the results for the other indicators of assessor professionalism suggesting that COUNTY may be measuring more than professionalism. The COUNTY failure may go back to the way the property rights model was developed fully for only local tax actors; other government actors were treated as exogenous factors or implicitly assumed to behave just like local actors. This was done to simplify the model. The model might have been oversimplified so that the structure of relationships presented in Tables 3.1 and 3.2 may not accurately describe the decision context for the county equalization director who is contracted to perform local assessing. More precisely, it was assumed that professionalized assessors have an incentive to perform more uniformly because they at least to some extent are insulated from pressure by groups favoring nonuniform assessing. That may not be the case for contracting county equalization directors. They must bargain for a contract with the

government officials who favor nonuniform assessing. And they are not protected once the contract is signed; if government dislikes how the county is assessing it can choose to simply not extend the contract. County equalization directors who contract for local assessing are professionals but they are not insulated. Rather they must act as entrepreneurs in a bargaining relationship and this leads to nonuniform assessing. In many ways, this reinterpretation suggests that the contracting county equalization directors are more similar to elected assessors than to appointed local assessors.

This reinterpretation suggests several points. First, the nonlocal government actors cannot necessarily be treated as exogenous to the property rights model. Future work must make the model more complex. Second, if that future work continues along the lines of the reinterpretation presented above, the COUNTY results can be viewed as supportive of the property rights model; the bargaining relationship of election is the key feature of the property rights interpretation of the role of professionalism and it can be extended to cover the bargaining relationship inherent in contracting. Third, if the reinterpretation is accepted, then the COUNTY results do not suggest that county assessing will lead to poorer performance. It is the bargaining relationship inherent in contracting rather than county assessing per se that leads to poor performance. These anomalies in the property rights model findings

suggest that another institutional model of assessment performance should be developed; they give some direction to the positive heuristic on the public choice model of assessment performance.

The Tax Revolt Models

The three tax revolt models were presented in the last two chapters (equations 3 and 6) and their tax revolt hypotheses presented in Table 3.4. Again, we are interested in testing the hypothesized coefficients of those models. For that purpose, all of the variables presented in Table 3.4 can be combined (see footnote 1 of this chapter) to form a model such that:

$$TD_j = a + b_1T_j + b_2I_j + b_3N_j + b_4D_j + b_5B_j + b_6U_j + b_7(A_j \cdot N_j) + b_8(A_j \cdot D_j) + e_j \quad (8)$$

where:

TD_j = the level of support for the tax revolt in a jurisdiction;

T_j = the level of taxation in a jurisdiction;

I_j = inflation increases in housing prices over the general price level;

N_j = the level of assessment in a jurisdiction;

D_j = reduction in differential assessment in a jurisdiction;

B_j = change in racial composition in a jurisdiction;

U_j = rate of urban decline in a jurisdiction;

$(A_j \cdot N_j)$ = the interaction of assessor professionalism and the level of assessment;

$(A_j \cdot D_j)$ = the interaction of assessor professionalism and reduction in differential assessment; and

e_j = the error term.

In this section, that model is tested. First, the several concepts are operationalized. The model will then be estimated and the results presented. Finally, the results will be interpreted.

Operationalization

The dependent variable is the level of support for the tax revolt. Michigan's 1978 election provides a unique opportunity to measure directly that support with the vote on the Tisch Amendment. The level of support is therefore measured by the percentage of votes in favor of the Tisch Amendment in each municipality (TD): a high value of TD represents a high level of support for the tax revolt.

The political/bureaucratic strain of the public choice model suggested three variables that would be related to the level of support for the tax revolt. Data were gathered on two.⁵ The level of assessment is measured by the 1978 ratio of assessed value to full market value of all real property in a municipality (RATIO). Michigan law requires that all property be assessed at 50% of full market value; the lower RATIO is below 50%, the greater the degree of underassessment. This approach also suggested that any reduction in differential assessment may start a tax revolt

⁵There was no data available on intra assessing jurisdiction housing inflation.

as the full costs of public production are learned.

Ideally, this should be measured by change in the dispersion of assessments. Unfortunately, the State of Michigan does not collect that information. Therefore, the difference between the 1978 and 1976 level of assessment (DIFF) is used as a proxy measure. Past research has indicated that the level and dispersion of assessments have a strong positive association (Maxwell, 1969, pp. 137-142; Aaron, 1969, p. 157; Bowman and Mikesell, 1978). A high value of DIFF indicates that there has been a reduction in differential assessment.

The technology strain of the public choice-excessive government interpretation calls attention to changes in the environment of public production. An increase in nonwhite population, for instance, may increase educational costs. This is measured by the percentage of population that is nonwhite (NWHITE). Unfortunately, this indicator is somewhat limited as it is static; it does not tap the rate of change. General urban decline was hypothesized to increase costs and therefore support for the tax revolt. Decline is measured by the percentage of year round housing that is vacant for six months or more (VACANCY). A high percentage of vacancies indicates that a community has a static, if not declining, tax base. Additionally, a high vacancy rate would depress housing prices and thus slow the growth of property tax yield.

The property rights model would lead us to expect high levels of support for the tax revolt in rural municipalities. Two measures are used to tap ruralness. The first is a dummy variable indicating whether a municipality is a city or township (CITY). The second is the percentage of property descriptions in the municipality used for agricultural or timber cutover purposes (AGTIM).

The level of taxation is measured by the average combined municipal, county, and school district tax rate of each municipality (TAX). A full presentation of the definition, operationalization, and source of each variable can be seen in Table 4.7.

The two interaction terms are products of variables introduced above.

Estimation Procedure

Like the performance model, the tax revolt model is estimated with ordinary least squares regression analysis which relies on the seven assumptions of the classical normal linear regression model (as discussed earlier in this chapter). Once again, we might expect, given the nature of the model and the use of cross-sectional data, that the homoskedasticity and multicollinearity assumptions could be violated. A Goldfiend-Quandt test once again demonstrated , contrary to expectations, the error variance of larger units was smaller than that for smaller units

Table 4.7 Definitions, Operationalizations, and Data
Sources: The Tax Revolt Model

Variable	Definition	Operationalization	Source
TD	Support for the Tax Revolt	% of affirmative votes for the Tisch Amendment, Nov. 1978	Bureau of Elections Michigan Secretary of State
RATIO	Level of Assessment	1978 ratio of assessed value to full market value of real property	"1978 Factors, Assessed Valuation and Units Portion of State Equalized Valuation (Lansing, Michigan: State Tax Commission, 1978)
DIFF	Change in Differential Assessment	1978 ratio of assessed value to full market value minus 1976 ratio of assessed value to full market value	"1978 Factors" and "1976 Factors, Assessed Valuation and Units. Portion of State Equalized Valuation" (Lansing, Michigan: State Tax Commission, 1976 & 1978)
NWHITE	Change in Racial Composition	% of population that is Nonwhite	1970 U.S. Census
VACANCY	Urban Decline	% of year round housing that is vacant for 6 months or more	1970 U.S. Census
CITY	Ruralness #1	0, if township; 1, if city	"Directory of Assessors" (Lansing, Michigan: State Tax Commission, 1978)

Table 4.7 (cont'd.)

Variable	Definition	Operationalization	Source
AGTIM	Ruralness #2	% of property descriptions committed to agricultural or timber-cutover use	"Michigan Survey of Assessors and Equalization Directors" (Lansing, Michigan: Dept. of Treasury, 1976)
TAX	Level of Taxation	1977 average combined tax rate	"1977 State Equalized Valuations and Average Tax Data" (Lansing, Michigan: State Tax Commission, 1976)

(Pindyck and Rubinfeld, 1976, pp. 104-106).⁶ And, once again, specification error centering on the ambition of the elected assessor could account for this violation of the regression assumption of constant error variance as assessor electoral strategies play a similar role in the tax revolt and assessor performance models. As a result, some degree of specification error is likely to be present. The effect of this specification error could be severe as the resulting estimators are likely to be biased and inconsistent, undermining the validity of the usual tests of significance (Kmenta, 1971, pp. 392-395). Given the lack of data, however, little can be done to resolve the problem at this time. A Farrar-Glauber test (Kmenta, 1971, p. 39) was used to assess the degree of multicollinearity in the model. The test indicated that two of the independent variables, CITY and TAX, had Farrar-Glauber R^2 's that were quite high relative to the R^2 of the substantive model, .58, .58, and .18 respectively (see Appendix 5). This could indicate a multicollinearity problem. However, the substantive importance of these two variables to this analysis as well as the high level of statistical significance found for each (both were significant at the .001 level) encouraged me to leave both in the model. The problem of multicollinearity might be avoided in the future by increasing the size of

⁶The Goldfield-Quandt test produced an F of 1.66 where the critical value of F is 1.00 at the .05 level. A residual plot is presented in Appendix 7.

the sample (Kmenta, 1971, pp. 390-391). The use of all Michigan jurisdictions, rather than the sample of 690, might have solved this problem. Unfortunately, the data on all jurisdictions were not available.

Findings

The regression results for the tax revolt equation without the interaction terms are presented in Table 4.8. Contrary to the expectations of the traditional reform theory-median voter interpretation, three variables are strongly related to the level of support for the tax revolt: VACANCY, CITY, and TAX. (In light of the necessity to interpret the results conservatively because of the heteroskedasticity problem, it should be noted that all three have significance levels of less than .001.)

The public choice-excessive government interpretation fairs marginally better. The results provide only the slightest support for the first strain of that explanation. While the signs of the coefficients for DIFF and RATIO are in the predicted direction they are not significantly different from zero at the .05 level. The technological strain does somewhat better. The coefficient for NWHITE is neither in the predicted direction nor statistically significant. But VACANCY performs as predicted. The level of support for the tax revolt was higher in municipalities with high vacancy rates.

Table 4.8 Tax Revolt Model Estimates

Variable		
RATIO	b ₁ (standard error) (t-ratio)	-.05 (.04) (1.26)
DIFF	b ₂ (standard error) (t-ratio)	.007 (.05) (1.26)
NWHITE	b ₃ (standard error) (t-ratio)	-.033 (.044) (.75)
VACANCY	b ₄ (standard error) (t-ratio)	.096 (.024) (4.03)***
CITY	b ₅ (standard error) (t-ratio)	-5.20 (1.10) (4.71)***
AGTIM	b ₆ (standard error) (t-ratio)	-.02 (.016) (1.28)
TAX	b ₇ (standard error) (t-ratio)	-.13 (.047) (2.74)***
CONSTANT		52.17
R ²		.18
\bar{R}^2		.17
F		21.94
N		690

*Significantly different from 0.0 at the .1 level.

**Significantly different from 0.0 at the .05 level.

***Significantly different from 0.0 at the .01 level.

The results lend the greatest support to the interjurisdictional conflict model. Support for the tax revolt was much stronger in townships than in cities as indicated by the negative coefficient for CITY. The coefficient for AGTIM, however, was neither in the predicted direction nor statistically significant. More importantly, the strong negative relation between the level of taxation and support for the tax revolt is consistent with only the property rights interpretation.

In the last chapter, it was suggested in the course of developing the property rights model that two interaction terms should be included in the tax revolt model. It was hypothesized that DIFF (change in differential assessment) and RATIO (the level of assessment) would influence support for the tax revolt to a greater degree in elected assessor jurisdictions than in professionalized, appointed assessor jurisdictions. One way to assess this is to compare the results of separate regressions for the two types of assessor office jurisdictions. This was not done however. Since all cities must have appointed assessors, the elected assessor run would exclude CITY as it would have a constant value of zero. The importance of CITY to the tax model suggests that excluding it for even the limited purpose of testing the interactions would base the interpretation of those interactions on a seriously misspecified equation. Therefore, an alternative but somewhat weaker test was employed. The appointed assessor run was compared to the

run for all cases presented in Table 4.8. If the role of RATIO and DIFF is different in appointed jurisdictions then we should see different coefficients for DIFF and RATIO in the run for those units than those for all cases. The results of both runs are presented in Table 4.9.

The results are generally similar to those presented in Table 4.8. There is no obvious difference between the DIFF and RATIO results in the two runs. The appointed coefficients are not significantly different from those for all of the cases at the .05 level.⁷ The property rights hypotheses in the interaction of OFF with DIFF and RATIO are not supported. But an examination of the results indicates that other interactions may be occurring. Specifically, VACANCY was found to be positively related to support for the tax revolt in the run for all jurisdictions. The

⁷Two interactions were examined: OFF with DIFF and RATIO. The hypothesis that coefficient values for the appointed run were equal to those for all cases was tested for both variables where the critical value of t for N-K was 1.96 at the .05 level. The following results were obtained where the coefficients refer to those used in Table 4.9 and the subscripts a and f refer to the appointed or full number of cases respectively.

$$\frac{b_{2a} - b_{2f}}{s_{b2a}} = \frac{.001 - .007}{.097} = -.06$$

$$\frac{b_{1a} - b_{2f}}{s_{b1a}} = \frac{-.08 - (-.05)}{.07} = -.43$$

The null hypothesis that the appointed coefficients are identical to those for all cases cannot be rejected. These tests are not definitive, however, due to the heteroskedasticity bias of the standard errors.

Table 4.9 Tax Revolt Model Estimates for Appointed Assessor Jurisdictions and All Jurisdictions

Variable		Appointed	All Cases
RATIO	b ₁	-.08	-.05
	(standard error)	(.07)	(.04)
	(t-ratio)	(1.19)	(1.26)
DIFF	b ₂	.001	.007
	(standard error)	(.097)	(.05)
	(t-ratio)	(.01)	(.12)
NWHITE	b ₃	-.095	-.033
	(standard error)	(.05)	(.044)
	(t-ratio)	(1.87)*	(.75)
VACANCY	b ₄	.044	.096
	(standard error)	(.038)	(.024)
	(t-ratio)	(1.14)	(4.03)***
CITY	b ₅	-4.77	-5.20
	(standard error)	(1.36)	(1.10)
	(t-ratio)	(3.50)***	(4.71)***
AGTIM	b ₆	.044	-.02
	(standard error)	(.029)	(.016)
	(t-ratio)	(1.52)	(1.28)
TAX	b ₇	-.15	-.13
	(standard error)	(.06)	(.047)
	(t-ratio)	(2.38)**	(2.74)***
CONSTANT		54.73	52.17
R ²		.28	.15
\bar{R}^2		.26	.17
F		16.21	21.94
N		296	690

*Significantly different from 0.0 at the .1 level.

**Significantly different from 0.0 at the .05 level.

***Significantly different from 0.0 at the .01 level.

coefficient for VACANCY in the appointed run, however, is no longer statistically discernable from zero at even the .1 level with a prob value of .25. The opposite is true for NWHITE variable. The NWHITE coefficient had a prob value of .45 in the run for all cases but it is significantly different from zero at the .01 level in the appointed assessor run with a significance level of .061. Therefore, the hypotheses that the appointed run coefficients for NWHITE and VACANCY were the same as those for all cases were tested.⁸ In both cases, the null hypotheses that they were identical could not be rejected at the .05 level.

Interpretation

Once again, the results are presented by reproducing the hypothesized relationships presented in Table 3.4 with the empirical results added. This is presented in Table 4.10. Very mixed results can be observed. The finding that

⁸The interaction of OFF with VACANCY and NWHITE were also examined. The procedure identified in footnote 9 was repeated for these two variables and the following results were obtained.

$$\frac{b_{3a} - b_{3f}}{s_{b3a}} = \frac{-.095 - (-.033)}{.05} = -1.24$$

$$\frac{b_{4a} - b_{4f}}{s_{b4a}} = \frac{.044 - .096}{.038} = -1.37$$

The null hypothesis that the appointed coefficients are identical to those for all cases cannot be rejected at the .05 level when the critical value of t for N-K is 1.96. These tests are not definitive, however, due to the heteroskedasticity bias of the standard errors.

Table 4.10 Empirical Results and the Hypothesized Relationships of the Three Models with Support for the Tax Revolt

Variable	Traditional Reform Model	Public Choice Model	Property Rights Model	Empirical Results
Level of Taxation	0 ^a	+	-	-
Level of Assessment	0	-	0	0
Reduction in Differential Assessment	0	+	0	0
Change in Racial Composition	0	+	+	0
Urban Decline	0	+	+	+
Ruralness	0	0	+	?
CITY	0	0	+	+
AGTIM	0	0	+	0
Professionalism-Level of Assessment	0	0	+	0
Professionalism-Reduction in Differential Assessment	0	0	-	0

^a0 = not statistically significant;

+ = positive and statistically significant;

- = negative and statistically significant.

TAX, CITY, and VACANCY are related to support for the tax revolt challenges the median voter interpretation of the traditional reform theory. The property rights hypotheses on TAX, RATIO, DIFF, and CITY are supported in contrast to the expectations of the public choice model. But the property rights hypotheses on the interaction of professionalism with RATIO and DIFF are not supported. Once again, we can conclude that the property rights model represents an empirically progressive problem-shift in the public choice tax revolt research program. The novel hypotheses on TAX, RATIO, DIFF, and CITY were corroborated. But not all of the property rights hypotheses were supported. That failure combined with the low amount of variance in support for the tax revolt accounted for by the model suggest that there is substantial room for progress in the research program. Other institutional models need to be developed and tested against the property rights model to generate further empirically progressive problem-shifts.

Conclusion

In the last chapter, it was concluded that the property rights model represents a theoretically progressive problem-shift in the public choice research program on property taxation. The property rights model accounted for the success of the conventional public choice model and predicted a number of novel facts. The hypotheses of the three models on those novel hypotheses were examined in this

chapter. A comparison of the hypothesized coefficients with the actual coefficients indicated that some of those hypotheses were corroborated. The property rights hypotheses on interjurisdictional externalities, the interaction of professionalism and resources, political pressure, and heterogeneity were supported. These results, when combined with those in Chapter Three, support the conclusion that the property rights model represents a progressive problem-shift in the public choice property taxation research program.

CHAPTER V

CONCLUSION

Having examined the determinants of assessment performance and the consequences of performance, we can now return to the five issues raised in the first chapter. Each issue is examined below followed by a consideration of how best the study of the interaction of politics and administration in property taxation can proceed in the future.

Summary of Findings

The first and most important objective of this dissertation was to illustrate on an issue of central importance to public administration, the scale of public goods provision, that progressive theory development is possible. From the Lakatos perspective, such development can be said to obtain when competition between theories demonstrates that one theory can account for the past success of the other theories, predicts novel facts, and where at least some of those novel facts are corroborated. Chapter One demonstrated that the conventional interpretation of public choice theory could not generate progress because of its normatively loaded protective belt. The conventional market based protective belt was considered

superior to all others precisely because it was market oriented. An institutional interpretation of public choice theory was suggested as a solution out of the "paradigmatic" straightjacket of conventional public choice theory. Conventional public choice models of the tax revolt and assessment performance were developed in Chapter Two. An institutional or property rights model of each of those processes was developed in Chapter Three where it was concluded that the property rights models accounted for the success of the conventional public choice models and predicted novel facts, that the property rights models were theoretically progressive. A comparison of actual and hypothesized coefficients in Chapter Four corroborated some of those novel facts and that, therefore, the property rights models were empirically progressive as well. The property rights models, using the same model of man and model of the structure of events as conventional public choice theory, constitute a progressive problem-shift in public choice theory. Aside from the substantive findings, this approach offers one way to escape both the morass of the eclectic approach and the straightjacket of the Kuhnian paradigmatic approach to theoretical progress. The institutional approach to public choice theory is consistent with the Lakatosian concept of a research program.

The second issue addressed by this dissertation concerned the competing reform proposals of the public choice model and the traditional reform theory on

jurisdiction size and professionalization. Past research by public choice analysts has shown that size and professionalization are both negatively related to performance. That research has been challenged on conceptual and methodological issues. The results presented here add to that criticism in that they are supportive of a modified version of the traditional reform proposals. The failure of the core element of the public choice model, heterogeneity, and the positive relationship between appointive office and assessor resources lends the revised traditional reform proposals confirmatory support in at least one policy area. The findings on jurisdiction size add to this support though the results on COUNTY are still somewhat ambiguous and may require the development of a more complex model before a more definitive conclusion can be supported.

The third issue addressed is the performance model developed in the recent empirical literature on assessment performance. Two major conclusions can be drawn, both of which call for a progressive respecification of the model used in that literature. The model presented in Chapter Three suggests that the role of institutional structure in determining assessment performance needs to be respecified as a series of interaction terms, if the full impact of structure is to be captured. Additionally, the empirical findings and theoretical reinterpretation presented in Chapters Three and Four suggest that performance is not unidimensional as commonly assumed and that the model should

be respecified as a simultaneous equation model to tap the different determinants of assessment level and assessment dispersion. The results are not conclusive as data on assessment dispersion was not available. However, the theoretical arguments developed in the last two chapters should increase the prior probability of these two conclusions in future research. Taken together, these two conclusions lend support to the argument that political and administrative factors count to a greater degree than has been previously appreciated.

Fourth, this dissertation attempted to develop a model of the tax revolt as manifested in Michigan by the Tisch Proposal. Since this topic is so new it is more difficult to interpret the meaning of "success" in theory development. There is no clear research tradition on this topic. But the tax revolt analysis did raise several issues that may be useful in further work on the tax revolt. First, the findings failed to support the political/bureaucratic strain of the public choice excessive government interpretation of the tax revolt. This calls into question the political rhetoric commonly used to support the tax revolt. Additionally, the finding of significant interjurisdiction externalities raises the possibility that the tax revolt is not a revolt at all but a crusade by low tax jurisdictions to impose their preferences on high tax jurisdictions. At this time these can be accepted only tentatively given the weakness of the tax

revolt findings. But they should provide some clues for future work.

Fifth, this dissertation was designed to address a number of issues of great substantive importance to the State of Michigan. Originally, I had hoped to simulate what assessment performance would have been if county assessing had been adopted in 1976. This proved to be impossible. The inclusion of AVG76 and its importance to assessment performance would make simulation difficult as inter-county interaction has no counterpart in the county plan. The alternative is to simulate performance with the model minus this interaction variable. Unfortunately, the model would then be seriously misspecified making it difficult to interpret the resulting estimates. However, the results presented in the last chapter do bear on the policy reforms being considered by the Michigan Legislature. First, to this date, Michigan has concentrated on assessor certification in its efforts to improve assessment administration. The empirical findings indicate, however, that certification has at best a negligible impact on assessment performance. Second, the results point to a strong relationship between office and assessor resources and performance. This suggests that the recommendations of the Governor's Advisory Task Force to insulate assessors from public pressure will lead to more uniform assessment level performance. The recommendation that all assessors be appointed is supported. And the Task Force analysis of the relationship between

resources and professionalism is accorded particular support by these findings. The Task Force concluded that, "Well trained assessors organized into efficient working units will not be effective unless sufficient resources are provided" (Michigan Governor's Advisory Task Force on Property Tax Revision, 1976a, p. 5). The interaction effect between professionalism and resources found here supports that conclusion. But reform efforts need not be limited to the Task Force recommendations. Other alternatives include the joint hiring of a professional assessor by several small jurisdictions as is currently done in a handful of townships. But regardless of the method used, the findings indicate the professionalization is positively related to performance. The recommendations of the Governor's Advisory Task Force on Property Tax Revision are thus broadly supported by the results presented here.

In sum, this dissertation has made several contributions to the public administration/political science literature. First, the review of the critique of public choice theory found that critique to be very confusing and the Lakatosian understanding of progress was used to restructure it so that it is theoretically interpretable. Second, this dissertation found that the conventional interpretation of public choice theory does not meet the requirements of a research program; the current interpretation discourages the positive heuristic. Third, this dissertation has presented an alternative interpretation of

public choice theory used by a few institutional economists that is consistent with the positive heuristic as demonstrated by the development of an institutional model of property taxation. At the broadest level, these three contributions restructure the public choice critique, identify the most fundamental criticism in that critique, and present a solution. But aside from the theoretical contributions, this dissertation has contributed to several sets of substantive literature including the public choice literature on the scale of public goods provision, the assessment performance literature, and the tax revolt literature. In each of those cases, the findings presented here challenge major themes in the existing literature. These findings challenge the public choice emphasis on small jurisdictions and minimum bureaucratization as a means to improve performance. They also challenge the very weak role accorded to professionalism in the assessment literature. The tax revolt literature, what little there is at this time, is also challenged by the finding, both theoretical and empirical, of a negative relation between support for the tax revolt and the level of taxation. The substantive findings run counter to major themes in three sets of literature. In addition to the theoretical and substantive contributions, this dissertation also makes a contribution to the public policy process by testing many of the proposals of Michigan's Governor's Advisory Task Force on Property Tax Revision. Thus, this dissertation has made

several theoretical, substantive, and applied contributions. But one final contribution needs to be noted. The traditional reform literature and public choice theory are usually presented as opposites in the existing literature (Bish and Ostrom, 1973; Bish, 1971; Ostrom, 1973). This dissertation demonstrated that public choice analysis can, but not necessarily will, generate findings compatible with the propositions of the traditional reform theory. They are not opposites. Indeed, the institutionalist approach to public choice theory may prove useful in developing the theoretical underpinnings that the propositions of the traditional reform theory have been so conspicuously lacking. If this is done, the traditional reform theory could be incorporated into the mainstream of public administration theory once again.

Future Directions

The summary of results presented above should not be interpreted as claiming that the models presented in this dissertation were totally successful. Obvious problems remain. Several directions for future research are suggested in this section.

The first set of suggestions address the data and data analytic techniques used in the study of property tax politics. First, work on assessment performance should be reexamined using a simultaneous equation model separating the two dimensions of assessment performance. The Bowman and Mikesell data in particular would be a useful starting

point to initiate that reexamination of past results. But there are problems with their Virginia data noted in Chapter Two that may necessitate an entirely new study. Ideally, assessment performance in a state with a broad range of institutional variation and which collects data on both assessment level and dispersion should be studied. A second useful direction for further work is to shift to time series analysis of assessment performance. Time series analysis of assessment performance could be used in two different ways. Regression discontinuity analysis could be used to intensively study the effects of institutional change in assessing. For instance, the adoption of an appointed assessor system could be treated as an intervention and performance trends studied before and after the intervention. Time analysis is also suggested because there appears to be some regularities in performance over time. The AVG76 results indicated that assessors use past county averages as guidelines in determining assessment level. Other decision rules may operate over time as well. The assessors own past performance, for example, may constrain his current performance level decisions. There time related decision rules require time series analysis for more complete analysis. A third possible direction for research is comparative analysis. The assessing literature is a series of single state studies. Comparisons are difficult given the different models used in the several studies. This is particularly true for the tax revolt analysis. I

have tried to explain the tax revolt when in fact there may be many tax revolts. The interjurisdictional conflict model fits Michigan's public finance history but may not be applicable elsewhere. Certainly, the rapid rise of housing prices in California coupled with reductions in differential assessment following the 1967 assessment reforms (Paul, 1975) suggests that the excessive government explanation may be more important in that State. No single explanation will do if there are many different kinds of tax revolts. Whether there is one tax or many is a research question that is as yet unanswered. Despite these suggestions, further research on the tax revolt will remain difficult. Tax revolts have been very sudden and dispersed in their occurrence across the United States. Much better institutional and especially individual level data is needed and this will be difficult to collect given the irregularity of the phenomena's occurrences.

The second set of recommendations address the uses of the institutional interpretation of public choice theory in public administration. The success of the property rights models of assessment performance and the tax revolt suggest that the institutional interpretation might be useful in examining a wider range of public production processes. The traditional reform theory is really pretheoretical and has been discredited. The eclectic approach to theory building found in most of public administration lacks any notion of progress. The

conventional public choice approach has many advantages as suggested before but is normatively biased given its global concepts of freedom and efficiency in the analysis of production alternatives. The institutional approach, by altering those criteria, retains most of the advantages of public choice analysis of supply and avoids that excessive normative content. It may therefore prove useful to reexamine the findings of the public choice approach on police, fire, and refuse services using a property rights framework. More broadly still, the property rights framework may be useful in revitalizing research on metropolitanization which has become dormant in recent years.

The major issue addressed by this dissertation was progress in the development of public choice theory. The conventional understanding of public choice theory was criticized because it has no positive heuristic. An alternative interpretation of public choice theory was presented and demonstrated by the property rights models of assessment administration and the tax revolt. While those models do constitute a progressive problem-shift in the public choice property tax research program, not all of the property rights hypotheses were corroborated. This failure coupled with this dissertation's emphasis on progress strongly suggest that the final set of recommendations be directed at continuing the positive heuristic. Two recommendations can be suggested. First, an alternative institutionalist model of assessment performance should be

developed which would include most of the property rights model protective belt except in regard to the limiting of the model to local tax actors. In Chapter Four, we saw that the COUNTY results failed rather spectacularly. An alternative interpretation based on the bargaining relationship between local and nonlocal tax officials was suggested. This interpretation should be developed through a more detailed analysis of the incentives of nonlocal property tax actors. The resulting institutional model should then be tested against the property rights model to determine if it constitutes a progressive problem-shift from the property rights model. Second, the interjurisdictional conflict model should be developed in much more detail. Press and Adrian were concerned with broad historical interpretation rather than working out a detailed model of the processes of interjurisdictional interaction in production decisions. But the findings presented here do suggest that greater attention be directed to social-psychological characteristics and decision externalities in developing an explanation of the tax revolt. Efforts should be directed at refining the interjurisdictional conflict model and that refined model should be tested against the property rights model presented here as required by the positive heuristic.

APPENDICES

APPENDIX 1

SAMPLE WEIGHTING PROCEDURE

The sample weights were determined in the following manner. The value of OFF was dichotomized as elected or appointed. Assessment ratio (EF) and population (POP) were trichotomized into values of high, medium, and low as seen in Table 4.1. EF was crosstabulated with POP controlling for OFF for both the full population of 1,510 and the sample of 696. There were 18 cells in each of the rows representing the 18 possible combinations of values on the three variables. Each cell of the sample run was compared to the corresponding cell of the population run. The number of cases in each sample run cell were multiplied by a factor so that the distribution of cases across the 18 sample cells was equal to the distribution of cases across the 18 cells of the population run. The weights applied to the 18 different types of cases ranged from .6 to 1.79 as seen below.

Sample Weights for 18 Types of CasesOFF = Elected

EF

		Low	Medium	High
POP	Low	1.18	.98	.98
	Medium	.85	.81	.86
	High	.66	.6	.6

OFF = Appointed

EF

		Low	Medium	High
Low		1.79	.97	1.09
Medium		.83	1.07	.97
High		1.33	.77	.62

All the tables presented in the text of the dissertation are based on use of the weighted sample. But the results obtained when analyzing the unweighted sample are similar to those presented for the weighted sample. For instance, the weighted sample findings on the tax revolt (Table 4.8) are not appreciably different from those for the unweighted sample as seen below.

Tax Revolt Estimates Using Weighted and Unweighted Samples

Variable	Weighted Sample	Unweighted Sample
RATIO	-.05	-.058
DIFF	.007	.048
NWHITE	-.003	-.021
VACANCY	.096*	-.107*
CITY	-5.20*	-4.376*
AGTIM	-.02	.014
TAX	-.13*	-.160*
CONSTANT	52.17	53.13
\bar{R}^2	.17	.19
N	690	696

*Significantly different from 0.0 at the .01 level.

APPENDIX 2

FARRAR-GLAUBER TEST RESULTS FOR THE
PERFORMANCE MODEL (TABLE 4.3)

Independent Variable	R^2
VACANCY	.14
MEDINC	.32
ACTIM	.37
OFF	.32
COUNTY	.30
ASSCT	.64
COST	.34
PERS	.40
TOOLS	.19
AVG76	.02
POP	.64

APPENDIX 3

REGRESSION RESULTS FOR PERFORMANCE MODEL WITH
5 HETEROGENEITY VARIABLES INCLUDED

Variable	b	Standard Error	t Ratio
MEDINC	-.00025	.00013	1.97**
AGTIM	-.05	.015	3.41***
VACANCY	.037	.025	1.48
HVAL	-.0005	.0007	.70
DETACH	.027	.025	1.06
CROWD	.073	.09	.82
PLUMB	.055	.028	1.97**
OFF	1.099	.698	1.57
COUNTY	-4.98	1.29	3.87***
ASSCT	.296	.435	.68
COST	.287	.099	2.88***
PERS	-.0006	.0002	2.45**
TOOLS	.48	.25	1.88*
AVG76	.81	.04	17.89***
POP	.000004	.000005	.72
CONSTANT	1.21	3.75	.324
R ²	.39		
\bar{R}^2	.37		
F	28.95		
N	690		

*Significantly different from 0.0 at the .1 level.
 **Significantly different from 0.0 at the .05 level.
 ***Significantly different from 0.0 at the .01 level.

APPENDIX 4

FARRAR-GLAUBER TEST RESULTS FOR THE FINAL
PERFORMANCE MODEL (TABLE 4.5)

Independent Variable	R ²
MEDINC	.24
AGTIM	.25
COUNTY	.12
AVG76	.02
COST	.23
OFFPERS	.50
OFFTL	.52

APPENDIX 5

FARRAR-GLAUBER TEST RESULTS FOR THE TAX
REVOLT MODEL (TABLE 4.8)

Independent Variable	R^2
NWHITE	.02
VACANCY	.14
DIFF	.24
RATIO	.24
CITY	.58
AGTIM	.32
TAX	.58

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