2008

Institutions, Political Market, and Local Land Use Policy Change

Dongsang Yoo

FLORIDA STATE UNIVERSITY

COLLEGE OF SOCIAL SCIENCE

INSTITUTIONS, POLITICAL MARKET, AND LOCAL LAND USE POLICY CHANGE

By

DONGSANG YOO

A Dissertation submitted to the
Reubin O'D Askew School of Public Administration and Policy
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Degree Awarded:
Summer Semester, 2008

The members of the Committee approve the Dissertation of Dongsang Yoo defended on June 9, 2008.

_____
Richard C. Feiock
Professor Directing Dissertation

_____
Timothy S. Chapin
Outside Committee Member

_____
Lance deHaven-Smith
Committee Member

_____
Kaifeng Yang
Committee Member

Approved:

_____
Frances S. Berry, Chair, Reubin O'D Askew School of Public Administration and Policy

The Office of Graduate Studies has verified and approved the above named committee members.

This dissertation is dedicated to my mother and father; my mother and father in law; my wife Jiyon; and my lovely daughter Yejin.

ACKNOWLEDGEMENTS

I would like to give special thanks to Dr. Richard Feiock, my major professor. Without his guidance and help, I could not have finished my dissertation. He has been not just an academic advisor, but also a friend and counselor for me to advance myself. I also appreciate my committee members. Dr. deHaven-Smith has always encouraged me to study. Dr. Chapin pushed me to understand more on my subject area. Dr. Yang's final comments made my dissertation more consistent.

I would also acknowledge the supports of the following friends: Hoseok Jang and his wife, Hyunsang Ha and his wife, In-ho Kang, Jeongho Lee, Jongsun Park and his wife, Jungah Bae, Myungjun Jang, Sangchul Park, Sejin Lee, Seonil Cho, and Yongwoon Kim and his wife.

Most of all, I am very grateful to my family's long patient support. I give great respects and special thanks to my mother and father, and my mother and father in-law. I have to express my special thanks to my daughter (Yejin), who has always made me happy and forget my stress from the study. Finally, I should give deep gratefulness to my wife (Jiyon), who has sacrificed herself for me to focus on my study. Her sacrifice and encouragement help me to put a period on the long journey for the degree.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This dissertation seeks to understand the prolong question, "why local communities adopt or change land use policies." The previous literature has provided partial and incomplete explanations about this issue. Property rights model does not explicitly consider the role of institutions and community interests while interest group models tend to put communities' physical characteristics as control variables. Because political economy view concentrates on the political variations, they consider social and economic variables lightly. More importantly, they all ignore the role of informal institutions on local land use policy change. They are not wrong; rather they just provide partial explanations. To integrate those partial explanations and understand fully the land use policy world, it is required to construct a more comprehensive framework. In this research, I used the political market framework built upon Institutional Analysis and Development (IAD) framework to establish a comprehensive framework for local land use policy.

Political market framework based on the IAD framework is a useful tool to integrate those partial aspects into a framework. Local land use policy decision, which creates distributional conflicts among community members, is a political process. In the process, various actors interact for articulating their preferences in a land use policy. Political market approach provides a useful tool to understand what values these actors have and how they are articulated in a land use policy. Political system of local governments works as formal institutions to provide incentives or constraints to a land use policy.

To test why local land use policies are changed pro-environmental, I identify the variations of local comprehensive amendments in Florida cities. Comprehensive plans are policies since they constrain "who gets what." Local governments change their plans in a certain direction (pro-environmental) because they have their own institutional arrangements, community characteristics, and physical characteristics. To test the influences of these variables, I tested two models: Panel Probit Model for conservation amendments; Heckman Selection Model for the ratio of large to small scale amendments of future land use map. The results show that institutions really matter in local land use

policy change. Strong mayor, district election type, turnovers of council members, and administrative capacity influence pro-environmental policy changes. The most important find is that informal institutions of social capital also constrain actors, or provide pro-environmental incentives to the local actors. In addition, community interests and physical characteristics are not ignorable. They have also significant influence on the policy change. From this research, I found that these community interests can be easily articulated in a land use policy when they go through particular institutions. Interaction terms provide that various pro-environmental interests are moderated by mayor form of government and election type as well as informal institutions.

Another important finding is that rule should be considered as a configurational form, not an additive form. I define strong mayor council form from the consideration of other relevant rules such as mayor elected directly, administrative power, appointment and budget power, and veto power, even though it is still limited configuration. Only the form of government that a city charter provides does not work well in a complex political system.

This study has academic and practical significance. First, by integrating four models and constructing a more comprehensive explanation, this study brings sharper theory and better understanding to local land use policy. Second, the influence of institutions has been limited to formal institutions. Adding informal institutions in the framework may provide more consistent impact of institutions on local land use policy change. Third, using dynamic interaction terms in the framework proves how institutions matter on community interests as well as additive influence of institutions on policy outcome. Finally and practically, this study may provide some clues about the solutions to environmental preservation and efficient growth management practices. Formal institutions matter since it shape incentives and constraints on policy actors. However, those institutions need much of transaction costs to be established and changed. Informal institutions, even though it is not constructed easily, play roles to reduce transaction costs of addressing problems and distributional conflicts, and provide and more efficient way to local administration of growth management.

CHAPTER 1

INTRODUCTION

Florida communities have experienced rapid growth of population by immigration because of its natural advantage of attractiveness to the residents of other states. Even though this experience creates opportunities for the state economic growth, development benefits are offset by negative externalities such as traffic congestions, urban sprawl, lack of adequate infrastructures, and, most importantly, damages to the natural environment. To address these problems, and better balance economic development and environmental benefits, Florida adopted its monumental Growth Management Act in 1985 to preserve environments while giving directions that state and local governments may take for building economically better communities.

Growth management is a regulatory mechanism that is most often employed by government planning agencies to control where and how land is developed and what resources are allocated for community services (deHaven-Smith 1984). Since Hawaii adopted a state land use law in 1961[1], many states[2] have adopted regulatory policies related to growth management (Kelly 1993; Anthony 2003). Florida adopted Growth Management Act (GMA) in 1985 after several growth management policies at the regional level had implemented such as "Areas of Critical State Concern[3]," and "Development of Regional Impacts[4]" (DeGrove 1992). This act requires that all local

[1] Hawaii is different because it is not within the mainland of USA. And the adoption of growth management policy preceded Vermont by 9 years. However, the purpose of the policy is very similar to those the ones in other contiguous states in terms of preserving environmentally critical areas and reducing externalities from new developments. This is why Hawaii is the first state to adopt a growth management act (Kelly 1993; also see Anthony 2003).
[2] According to Anthony (2003), thirteen states adopted growth management laws. Even though state level growth management policies vary in terms of their stringency and implementation mechanism, those policies are innovations to limit development externalities. 12 more states are now considering adoption of similar policies.
[3] Section 380.05 F. S.
[4] Section 380.06 F. S.

governments establish their own comprehensive plans to guide land development and the plans must be approved by the Florida Department of Community Affairs (Anthony 2003; DeGrove 1992). The local comprehensive plan should contain certain elements pertaining to future land use, conservation, housing, traffic circulation, parks and open space, infrastructure, intergovernmental coordination, and capital improvements, reflecting various concerns that local and regional governments should consider in their local land use policies[5]. To address problems from changing communities, cities and counties can amend the plan twice per year, offering some number of amendments in each cycle. For example, the land use designations in the Future Land Use, or Conservation amendments of comprehensive plans provide legally binding constraints on development decisions because local zoning codes, land development regulations, and permit decisions must conform to the provisions and designations of the plan (Lubell et. al. 2005). Therefore, these elements may reflect a mechanism to reflect the pro-environmental values for community development[6] to some extent.

Because the state comprehensive plan frames and sets the limits of the contents and levels of local comprehensive plans, comprehensive plans at the local level are not supposed to vary. However, there are variations at the local level in terms of providing the environmental goods. Even though state level growth management policy constrains local policy, still various local land use decisions belong to local government entities such as city councils and governing bodies (Gerber and Phillips 2004). How and why land use policy is decided in a certain way has been a dominant research question, but no existing literature explains land use decision making process by aggregating deterministic base, interest group model, property rights model, and political economy model except a recent work of Lubell et al (2005). These are partial explanations for why local governments make their land use decision in a certain way. This dissertation is an effort to construct a more comprehensive framework that explains local land use variations in a

[5] Section 163.3177 F. S.

[6] As the elements of conservation amendments implies, comprehensive plan is not just for the pro-environmental dimension. It requires local governments to balance their community development reflecting complex social problems in a community. For example, the element of affordable housing reflects the equity issue of a society. Thus, throughout the comprehensive plan, there are conflicting values, which affect the decision making process of actors.

more integrating manner. This dissertation will develop and test a comprehensive model to explain pro-environmental land use policy change, built upon Institutional Analysis and Development framework, which is modified by the Political Market Framework. The framework has been developed by Feiock (1999), Lubell et al. (2005), Gerber (1999), and Gerber and Phillips (2004) to understand local land use policy choice and change.

In addition, Political scientists have developed the frameworks for policy studies. One of critical issues that those frameworks try to address is to explain policy changes. Explaining policy changes is central to the social sciences (Schlager and Blomquist 1996). Kingdon (1984; 1995), Jenkins Smith and Sabatier (1993), Baumgartner and Jones (1993), etc. have contributed considerably on this issue. However, these works heavily focus on national and state level, not local level policies. Thus, the efforts to understand policy choice change is a demanding issue to develop a more general theoretical framework at the local level. Land use policy field at the local level provides a useful empirical setting for testing hypotheses and expanding theoretical generalizability at the different level (Lubell et al. 2005; Feiock 2004).

Existing Research and Problems

This section provides the strengths and weaknesses of various theoretical frameworks that have explained local land use policy change. Extant research on local land use policy can be classified into four categories. The first stream of research holds a deterministic view of policy change. This approach views local land use policy change as a function of various physical, social, and economic indicators (Fleischmann 1989; Fleischmann and Pierannuzi 1990). The embedded nature of those indicators determines a local land use policy. For example, Evenson and Wheaton (2005) examined land use variations in Massachusetts. Their research findings indicated that local land use variations are the results of combined impact of local land use patterns and community characteristics such as wealth. They found that patterns of current and future buildings combined with wealth indicators provided a greater incentive to impose stringent land use regulation. Even though their findings are consistent with their expectations, the

weakness is that they did not consider formal institutions of local governing bodies that actually make decisions and impact urban land use policy change.

The second stream of land use policy applies a traditional interest group model approach (Elkin 1985; Logan and Molotch 1987). This model argues that since voters pay attention to who is elected and what their regulatory policies might be, candidates spend a lot of time and effort in promoting policies that provide "pleasure" to voters' preferences. The interest group model suggests that land use regulations tend to be favorable to landowners, "who have a more concentrated stake in the value of their assets, than by environmentalists" (Fischel 2005, p.398). Benson (1981) argues that "land use regulations are the result of public sector responses to demands of politically powerful special interest groups." Both arguments imply that powerful local interest groups such as landowners influence land use policy decision making process.

From a slightly different angle, some scholars argue the change of land use policy is resulted from the power shift of the interest groups. Logan and Molotch (1987) argue that development and business interest groups affect local land use policy decisions. Their influences press local elected officials share incentives of promoting business and commercial developments, consequently pleasing locally based property owners, developers and businesses (See also Gerber and Phillips 2004). In a reverse logic, those who make their profit from land development rely on local governments to provide infrastructure and regulation, which influence their costs and benefits. Thus, they use to be active participants in local land use decision making (Lubell et al. 2005). This approach identifies how interest groups in the policy areas, which have distributional conflicts, influence on the local land use regulation. Even though this model sometimes identifies institutional arrangements, it ignores how the administrative structure and capacity might have an impact on land use regulation decision making process. For example, the planning literature argues that the planning commissions and planning departments of local governments influence the land use regulation decision (Fleischmann and Piernnuzi 1990). In addition, social and economic characteristics are treated usually as control variables (Lubell et al. 2005; Ostrom et.al 1994).

The third stream of the research is property rights model. This model starts with Demsetz (1967), who provided a naïve model of property rights. He argues that the development of property rights occur because the gains from the establishment of property rights exceed the costs. On the extension of that, Alchian and Demsetz (1973) argue that the potential gains of internalizing externalities generate the demand for property rights. For example, in case of the common pool resources, the lack of property rights leads to overexploitation and conflict (Ostrom 1990). When a community faces land scarcity because of development, property rights such as conservation rules to protect environments may provide economic gains to the community (Lubell et al. 2005). In other words, existing growth patterns reduce the available lands for new developments and infrastructures. Consequently, it is beneficial for local governments to provide environmental goods by setting a property right.

As Eggertson (1990) argues, this property rights model is appropriate when the transaction costs are zero. While the explanation of land use policy change as a function of economic demands for the property rights is a strong point of this model, it does not consider the distributional conflict that generates transaction costs to make a new property right. This produces a significant misunderstanding since land use regulation has a distributional consequence (Feiock 1999). In addition, it ignores governmental institutions that actually supply environmental goods. This model deals the role of governments as implicit and passive (Feiock 2004; Lubell et al 2005; Kang and Feiock 2006).

The fourth stream of land use policy is political economy view. The political economy view is a group of theories that frame a systematic relationship between economic, social, and political elements of policy decision (Alston et. al 1996). According to Denzau and Weingast (1982), land use control provides elected officials opportunities to seek their political ends rather than pursue the depicted rationale (solving problems) for controls. Feiock (1999) and Kang and Feiock (2006) also argue that land use regulation is a political mechanism. Their findings consistently confirm that political institutions really matter on the change of local land use regulations. Politicians use social and economic changes to pursue their political ends. The political economy view helps

for researchers to understand the land use policy processes in the local governance, because it views local land use policy as a function of political institutions and interest groups. However, as Ostrom (1986; 1990; 1999) argues, political economy view ignores the environment in which individuals or groups make choices. Preferences of community are not shaped in a vacuum, rather are shaped by physical spaces where actors play. In addition, those preferences are not articulated easily without any transaction costs. Institutions provide incentives and constraints on the articulation of community preferences by increasing or decreasing transaction costs. Political economy view has not paid much attention on these issues except recent several studies (Lubell et al. 2005; Gerber and Phillips 2004). For example, how interest group affects land use regulation decision may depend on the institutional arrangements, not just individual preferences (Lubell et al. 2005).

Informal rules have long been a central object of study in the political behavior research (Ostrom et al. 1994; North 1990; March et al. 2004). A common problem of the above research streams is the neglect of these informal institutions and their role in urban policy making process. Along with formal institutions, informal institutions also shape the structure of preferences in a community (Ostrom 1986). Even though formal institutions are the pre-conditions on policy making, informal institutions also play critical roles (North 1990). However, informal institutions have not been rigorously conceptualized and measured in policy change literature, especially in local land use regulation policy arena, and as a result, studies of policy change have been limited their analysis to the formal institution. This is unfortunate because if social and political actors respond to a mix of formal and informal constraints, institutional analysis requires examination of both set of rules. These problems and limitations of the above research programs bring the necessity of constructing and testing a more comprehensive framework in this research.

Comprehensive Planning Process in Florida

This section provides the general information of the research object, or the comprehensive plan amendments. Local comprehensive plans are land use policies that constrain and provide incentives on the strategic behaviors of local actors (Florida Senate 1999). Traditionally, local land use policy choice or change (in this case, amendments of local comprehensive plans) is considered in local legislative body. Understanding the backgrounds and processes help to identify various actors, their values, and their interactions in land use decision making process.

Background of Florida Comprehensive Planning

Since early 20 century, because of rapid growth of population and economic development activities, Florida has suffered environmentally negative externalities such as decreases of quality of coastal water supply, destruction of beach and dune systems, and pollution of lakes and rivers (Degrove 1992). These growth pressures pushed Florida to get interested in managing growth with improving and preserving natural environments as well as balancing economic development.

Florida began to develop its growth management system in the early 1970's. In 1972, the Florida legislature adopted two landmark land use programs within the Environmental Land and Water Management Act[7] to protect Areas of Critical State Concern[8] and to regulate big development projects in Developments of Regional Impact (DRI)[9]. After Florida State Comprehensive Planning Act[10] of 1972, the Local Government Comprehensive Planning Act (LGCPA)[11] was adopted and required Florida's 467 cities and counties to establish comprehensive plans in 1975. However, at the time of the LGCPA passage, the law did not work well because there were lack of new funding to support local planning activities, and lack of enforcement mechanisms to guarantee local compliance (Rooy 2004; Feiock 2004).

[7] Chapter 380, F. S.
[8] Section 380.05, F. S.
[9] Section 380.06, F.S.
[10] Section 186. 001 F. S.
[11] Section 163.3177 F. S.

After State and Regional Planning Act of 1984 required Regional Planning Councils (RPC) prepare their Comprehensive Regional Policy Plans, Florida adopted revolutionary Growth Management Act, also called "Local Government Comprehensive Planning and Land Development Regulation Act[12]" in 1985. This act centralized comprehensive planning to the state level and set minimum criteria[13] for local and regional comprehensive plans by requiring local governments' comprehensive plans to be consistent with state and regional plans. This act structured Florida comprehensive planning process hierarchically. The state comprehensive plan is located at the top, providing broad goals and policies that contain subjects ranging from education to the environment. The authorized department regarding growth management and comprehensive planning is the Department of Community Affairs (DCA). The chief planning officer of the state is the Governor and the state comprehensive plan is found in Florida Statues, Chapter 186.

Under the state comprehensive plan, the eleven regional planning councils adopted Strategic Regional Policy Plans that should be required to be consistent with the state plan. The regional plan deals with the regional issues. Below the regional plans, around 470 local comprehensive plans are located. The local plan should be consistent with the state and regional plans. Florida Statue requires that citizens be given the opportunity to participate in the planning process.

The Growth Management Act requires a number of mandatory elements in each local plan, which includes Conservation, Future Land Use, Transportation, Capital Improvements, Intergovernmental Coordination, Housing, Public Facilities, Coastal Zone Management, and Recreation and Open Space[14]. These elements work for making local comprehensive plans more substantial and effective. It also requires appropriate and specific data and analysis to make local comprehensive plans substantive. For example, when a local governing body designates a future land use, the decision should be made based upon the estimation of the projected population of the community. In this way, the local comprehensive plans can provide a guideline for growth in a community. This

[12] Chapter 163, Part II, F.S.
[13] Chapter 163.3177(9), and 163.3177(10).
[14] Chapter 163.3177

objective guidance of growth provides a way of environmental protection, provision of appropriate infrastructure, and implementation of community future land use policy.

As a major actor, Department of Community Affairs provides various rules of minimum criteria with which local governments should comply in their plans[15]. All of local comprehensive plans should go through the process of DCA reviews and comments, and must get approval of the plans or any amendments to the plans before they are legally effective. Local governments cannot approve any development until their plans or plan amendments are finished to be reviewed and approved by DCA.

Another important aspect in local comprehensive planning process is the Evaluation and Appraisal Report (EAR). Once every seven years, each local government must adopt an EAR to update its comprehensive plan to remedy the problems of previous growth patterns and correct the inadequacies of past growth experience[16].

One of critical components of the Growth Management Act of 1985 is "concurrency" issue. When a new development occurs, it requires the development be concurrent with appropriate public services and infrastructure, such as roads, sewer, water, solid waste collection, and etc. Thus, the law suggests that every new development be occurred with those services available. To be consistent with the "concurrency" provision, local governments spend their resources in making data analysis based upon the future demands in a community (Carriker 2006).

To make local comprehensive plans instrumental, local governments should implement the plans via the adoption of appropriate land development regulations. The purpose of this is for local governments to make decisions of land developments and resource allocations more effective in this way (Rooy 2004). Thus, the local plans provide standards for resource allocations and new land developments. As state and regional level plans work as legally binding documents on local comprehensive plans,

[15] Section 9 J-5 F.A.C. entitled "Minimum Criteria for Review of Local Government Comprehensive Plans and Determination of Compliance."

[16] Section 163. 3191, F.S. says "each local government shall adopt an evaluation and appraisal report (E.A.R.) once every seven years assessing the process in implementing local government's comprehensive plan." The report evaluate how successful a community has been in addressing major land use planning issues through implementation of its comprehensive plan. Based on this evaluation, the report suggests how the plan should be revised to better address community objectives, changing conditions and trends affecting the community, and changes in state requirements.

local plans are also a legal document that makes every ordinance and land use decision is consistent with local plans. Any land use decision that is not consistent with the local plans is not effective.

The Department of Community Affairs supervises whether local government comprehensive plans meet the minimum criteria that the state comprehensive provides. However, the state comprehensive plan does not have any oversight mechanism that ensures local governments actually implement their plans with proper land development regulations. This lack of control is compensated by broadly allocated grants that make citizens challenge the amendments of comprehensive plans and land development regulations through administrative procedures. Moreover, citizens can use a legal system to challenge a local government decision that is inconsistent with the comprehensive plan (Carriker 2006).

To ensure some degree of steadiness in the implementation of local plans, the state only allows the adoption of large-scale plan amendments twice a year. The goal of this is to keep developers or local governments from taking advantage of frequent opportunities to accommodate successive development proposals (Rooy 2004), because successive changes can make huge development projects possible without substantial review process.

Amendment process of local comprehensive plan

Under Florida Statue Chapter 163, the processes of adoption of comprehensive plan and the amendments of plans are basically same. There are generally two types of amendments: 1) amendments to the future land use map that change the land use category designation of a particular parcel of property or area; and 2) text amendments that change the goals, objectives or policies of a particular element of the plan (The Florida Senate 1999). In addition, every seven years a local government must adopt an evaluation and appraisal report (EAR) assessing the progress of the local government in implementing its comprehensive plans.

Local governments can amend their comprehensive plans two times a year except certain cases such as an emergency, development related to DRI (Development of

Regional Impact), and small scale development activities[17]. Based on large scale amendments, a local government or property owner starts the process by proposing amendment to the local planning agency (LPA). Local planning agency, then, holds one or more public hearings and transmits the initiative to the governing body for the voting. Then, the proposed amendment should be transmitted to the Department of Community Affairs (DCA), review agencies[18], and relevant local governments that request a copy. Even though local governments do not request the review, DCA has to decide whether it is going to review the propose amendment or not within 21 days. If the review is requested, the DCA has to send copies to the relevant review agencies[19]. After receiving copies, review agencies have 30 days to give comments. Then DCA issues ORC (Objections, Recommendations, and comments) reports within 30 days after receiving comments[20].

After DCA decision is made, local government adopts plan amendments with effective date within 60 days after receipt of ORC or within 120 days for an EAR based amendment. Local governments send the copies of amendments to the state and relevant reviewing agencies within 10 days. Next, after receiving the adopted amendments, DCA issues Notice of Intent (NOI) within 45 days to determine whether the plan amendment is in compliance with the Local Government Comprehensive Planning and Land Development Regulation Act. NOI must be sent to the local government and should be published in a newspaper. In case of the amendment plan in compliance, there are 21 days for the affected party to file a petition for administrative hearing[21] conducted by the Division of Administrative Hearing. If it finds the amendment is in compliance, then the Department issues a final order. If not, it submits the recommended order to the

[17] Chapter 163.3187, (1) (a)(b)(c) Basically, small scale amendment involves 10 acres or less while large scale involves 10 acres or more.
[18] Chapter 163.3184. Review agencies include Regional Planning Council, Water Management District, Department of Transportation, Department of Environmental Protection, Department of State, relevant counties, the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, the Department of Education, etc.
[19] Rule 9J-1.009, F.A.C.
[20] This review is for checking whether the amendment is in compliance with the requirements of Rule 9J-5, F.A.C., and state and regional comprehensive plan.
[21] ss. 120.569 and 120.57, F. S.

Administration Commission[22] for the final agency decision. In case of the amendment plan not in compliance, the NOI is delivered to the Division of Administrative Hearing for the administrative proceedings[23]. The final decision, if it is not in compliance, belongs to the Administration Commission.

The Role of Regional Planning Council

This section describes generally about the role of Regional Planning Council since it plays a critical role on local comprehensive plan amendments and various development projects such as Development of Regional Impacts. In 1972, Florida Environmental Land and Water Management Act emphasized the necessity of sub-state planning regions. Regional Planning Councils were created as a response to this effort. Starting with Tampa Bay RPC in 1961, currently there are 11 regional councils in Florida (Rooy 2004).

Membership in the RPC includes county and city representatives[24], exofficio non-voting members appointed by the Governor, which represent three state agencies (Department of Commerce, Department of Environmental Protection, and Department of Transportation), and one of Florida Water Management District[25]. RPCs usually use a variety of committees and programs such as economic development, transportation, affordable housing, and etc. These members construct an executive board, which meet monthly.

Regional planning council is primarily an advisory body that does not have much regulatory power. Thus, even though state law provides their authorities[26], the primary strategy to reflect the regional issues into local comprehensive plans is persuasion through a review or comment. The important aspect of RPCs is that they were created by

[22] Administration Commission consists of the Governor and Cabinet.
[23] The parties to the proceedings are DCA, local governments, and any other relevant persons.
[24] F. S. 186. 504 clearly describes that cities are not required to be a member unlike county governments. And also, not less than 2/3 of governing board members should not be appointed by Florida State government.
[25] F. S. 186. 504 Creation and Membership of Regional Planning Council
[26] F. S. 186. 505 describes that the RPC has responsibilities of reviewing Development of Regional Impact (DRI) and local comprehensive plan amendments. In addition, it must adopt strategic regional policy plans; try to coordinate development decisions affecting municipal governments; administer grant funds for local communities; provide a forum for citizens to comment on growth issues and decisions; and provide technical assistance to local governments on planning matters.

an inter-local agreement among local governments, and their work is not limited to a specific area, rather comprehensive. Their functions have been expanded to cover a wide range of activities and interests from the project reviews to regional studies dealing with regional issues such as housing, environment, and hurricane. The board meeting usually reviews local comprehensive plans and Development of Regional Impacts as well as various programs of its own. In this meeting, a number of technical and regional information are interacting among members. Thus, RPC plays like an information hub to provide various information regarding local comprehensive amendment plans, even though regulating power rest on Department of Community Affairs. In addition, the coordinating nature of RPC among local issues may make regional interests stick together.

Research Questions and Significance of the Study

Research Questions

Addressing the current research problems, this dissertation attempts to answer several research questions regarding local land use policy and policy change. As I discussed earlier, the extant research on local land use policy change has been limited to partial and incomplete explanations. This dissertation constructs a more comprehensive model built on the Institutional Analysis and Development framework to understand fully the old question of why communities change their land use policy differently. In addition, through the comprehensive model, several important questions will be addressed:

- How does political institutions with configuration of other rules influence on local land use policy change?
- How do administrative capacity influence land use policy?
- How does political turmoil at the leadership influence on local land use policy change?
- How do informal institutions matter in local land use policy?
- Are the influences of social and economic forces on land use policy moderated by institutions as well as additive?

- Is Institutional Analysis and Development framework useful for other policy areas and at different levels?

Significance of the Research

This study has academic and practical significance. First, the Deterministic view, Property Rights Model, Interest Group Model, and Political Economist View have only partially explained phenomena of the local land use policy change. By integrating these models and constructing a more comprehensive explanation, this study brings sharper theory and better understanding to the study of local land use policy. Second, the influence of institutions has been limited to formal institutions. Adding informal institutions in the framework may provide more consistent impact of institutions on local land use policy change. Third, using dynamic interaction terms in the framework proves how institutions matter on community interests as well as additive influence of institutions on policy outcome. Finally and practically, this study may provide some clues about the solutions to environmental preservation and efficient growth management practices. Formal institutions matter since it shape incentives and constraints on policy actors. However, those institutions need much of transaction costs to be established and changed. Informal institutions, even though it is not constructed easily, play roles to reduce transaction costs of addressing problems and distributional conflicts, and provide and more efficient way to local administration of growth management.

Organization of the Dissertation

The dissertation consists of Five Chapters. In the First Chapter, I already explained existing research problems, research questions, and significance of the research. With this, Chapter One explains the information about Florida growth management, the structure of comprehensive plans, the process of comprehensive planning process, and the role of Regional Planning Councils. Chapter Two starts with the definition and scope of institutions, which should be discussed in advance to further conduct policy analysis. Then, it describes the Institutional Analysis and Development

Framework generally followed by political market framework of local land use policy change. This section provides the action situations and actors in land use political market. Then, I provide various theoretical underpinnings on four contextual variable set: institutions, community characteristics, physical characteristics of community, and institutional moderating influence.

Local land use policy changes are applied for the political market framework generating hypotheses driven by four variable sets in the Chapter Three. This is followed in Chapter Four by a discussion of the data, procedure of data collections, and summary tables of indicators. This Chapter also introduces the two separated models for conservation amendments (Panel Probit Model) and ratio of large to small scale amendments of future land use (Heckman Selection Model). Chapter Five provides the parameter estimates of both models implemented in this research. Implications and further studies of this research are followed ending with conclusion.

CHAPTER 2

THEORETICAL FRAMEWORK

What is Institution?: Definition and Scope

Grafstein (1988) argues that scholars must not ignore the existence of institutions. Because institutions are created by humans, they imply norms, values, beliefs, and purposes of the humans who devised them. Thus, they shape what and how humans do when they face a social problem and provide allowable actions that humans can do. So, institutions really matter for a policy making process (Riker 1982). However, "institutions matter" differently in policy analysis depending on how institution is defined and what scope of institution is applied (Ostrom et al. 1994). Therefore, definition and scope of institution should be discussed in advance for further conducting policy analysis.

There have been little agreements on what the institution is. The definition of institution varies for the purposes of the researches. Riker (1982 p. 4) defines institutions as "rules about behavior, especially about making decision." North (1990 p.3) define institutions as "….the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentives in human exchange, whether political, social, or economic." As the definition implies, institutions define and limit the set of behaviors and choices of individuals (North 1990 p.4). Institutions provide incentives for individuals to do something or prohibit for them from doing something. Therefore, institutions are frameworks "within which human interaction takes place" (North 1990 p.4; see also Ostrom 1999).

Rather than using North's definition, I follow Ostrom's definition of institutions[27]. Ostrom (1986 p.5) initially defines institutions as rules "that refer to prescriptions commonly known and used by a set of participants to order repetitive, interdependent relationships." In this study, I use institution as "the set of rules actually used (working rules or rules-in-use) by individuals or a set of individuals to organize repetitive activities that produce outcomes affecting those individuals and potentially affecting others" (Ostrom 1999 p.51). Therefore, institution in local land use regulations is the set of working rules for actors in local land use decision making process to refer when they choose and change land use policies in a community. The rules in decision making process determines who is eligible to make decisions, what actions are allowed or constrained, what procedures must be followed, what information must or must not be provided, and what costs and payoffs will be assigned to individuals as a result of their actions[28] (Ostrom 1999).

The scope of institution does matter also. Institutions can be formal and informal. As North (199) argues, even though formal institutions are pre-condition on development policy, informal institutions should be considered. In addition, using formal institutions only in the policy analysis may lead to omitted variable bias[29] statistically (Wooldridge 2002). Thus, the scope of institutions includes informal institutions as well as formal institutions. Formal institution is defined as the law sphere, with constitutions, regulations, and organizations. Informal institution is a set of norms, conventions, moral values, religious belief and traditions, and other behavioral norms that determine individual behavior in pursuit of their aim (North 1990; Ostrom 1986, 1990).

As discussed earlier, institutions matter on human behaviors. William Riker (1982, p.20) told that "we cannot study simply tastes and values, but must study institutions as well." However, institutions have been studied under the assumption that

[27] Ostrom (1986) argues that the definition of rules of game seems to include the physical and behavioral laws. These laws might not change even though the rules actors use change. Institutions as rules are important variables because rules are subject to change. From a communicating perspective, unclear definition may lead to misunderstanding the entire process of policy analysis. So, to avoid this problem, I follow Ostrom's definition.

[28] These are equivalent to the various incentives and constraints that types of rules in IAD framework can provide.

[29] If an analysis misses an important independent variable, that mean the parameter estimates are biased with incorrect standard errors as well as the model is poorly specified.

other relevant institutional variables are controlled and unchanging (Ostrom 1986; Ostrom et al. 1994). Ostrom (1986, p.16) argue that " instead of studying the effect of change of one rule on outcomes, regardless of the other rules in effect, we need to carefully state which other rules are in effect which condition the relationships produced by a change in any particular rule." This means that we must study institutions in a form of configuration, not one particular rule out of context of the other rules simultaneously in effect. Thus, we have to start to study institutions with identification of various rules and laws related to a policy area (Ostrom 1986, 1999).

The Institutional Analysis and Development Framework

Description of IAD framework

Scholars and students at the Workshop in Political Theory and Policy Analysis, Indiana University have developed the IAD framework (Ostrom, 1986, 1990; Oakerson, 1992; Tang 1992; Ostrom et at., 1994). They started to develop this framework because the policy research on public goods and common pool resources at the multiple levels needs various disciplinary theories and frameworks. This is why the framework is a multidisciplinary tool. The IAD framework bases its roots in classical political economy, neoclassic microeconomic theory, institutional economics, public choice theory, transaction cost economics and non-cooperative game theory (Ostrom et al 1994; see also Koontz 2005).

IAD framework tries to provide a categorization of the broad policy environment to allow for generalizability among differing policy situation. The most important concept in the framework is "action arena," which consists of "action situation," and "actors" (Ostrom 1999). This conceptual block (see the Figure 1) provides a place where scholars analyze, predict, and explain behaviors within a certain institutional settings. Ostrom (1999) refers action arena as:

> The social spaces where individuals interact, exchange goods and services, solve problems, dominate one another, or fight (among the many things that individuals do in action arena).

The action arena can be characterized by a set of variables. Ostrom (1986; 1999) provides seven variable sets that shape "action situation": (1) participants, (2) positions, (3) outcomes, (4) action-outcome linkage, (5) the control that participants exercise, (6) information, and (7) the costs and benefits, which serve as incentives or constraints, assigned to outcomes. With the above set of variables, scholars use action situation as an analytical concept, through which they can identify the regularities of human actions and results (Ostrom 1999; Koontz 2005).

The actor, in action arena, can be an individual or a group. In the traditional rational choice perspective, the assumption of human beings is that with complete and constant preferences, and perfect information, individuals pursue maximization of expected returns to themselves. However, this assumption works in perfect competitive markets with zero (or almost zero) transaction costs (Williamson 1985). Situations in common-pool resources, for example, are uncertain and complex, and suffer lack of information. Unlike Homo Economicus assumption of individual, common pool resources provides limited set of information, and the preference of individual is not constant. Hence, Ostrom (1986; 1990) uses bounded rationality (Simon 1947; Williamson 1985) for the assumption of individual. Local land use policy is a result of political decision making process (Feiock 2004). It is a very complex and uncertain process because various stakeholders are intermingled pursuing their interests. Hence, bounded rationality for the assumption of individual is appropriate for this study.

With this conceptual notion, the framework emphasizes the policy making decision environment. In other words, policy processes and outcomes are affected by three variable sets: (1) attributes of the physical world in which action arena is placed; (2) attributes of the community within which actors are embedded and action actually occurs; (3) rules-in-use (institutional arrangements) that, North (1990) calls as rules, permit and constrain certain behaviors within a particular policy arena (Ostrom 1999; Koontz 2005). Ostrom et al. (1994) argue that these three variable sets are combined in a configural manner and influence decision making process.

Ostrom (1986; 1999; 2005) categorizes the various working rules into seven types of rules. The combination and interaction of these rules can provide different incentives

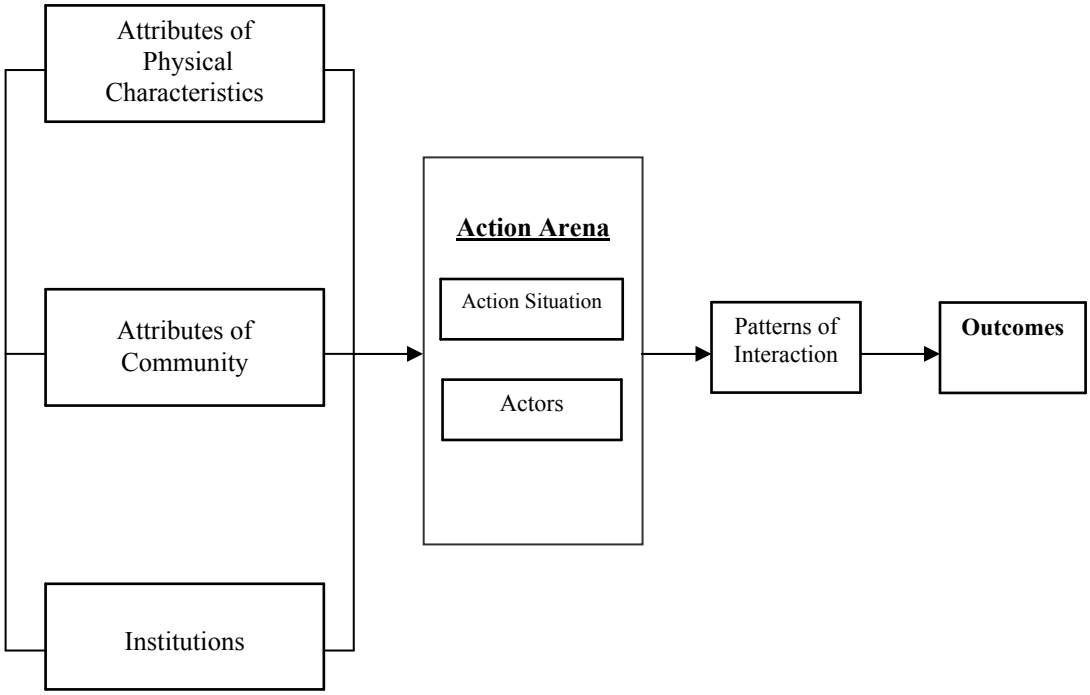
and constraints on individual behaviors rather than a unique influence of each rule (Ostrom 1986). Rules-in-use as working rules (Ostrom 1999 p. 52) include:

> 1) Entry and exit (boundary) rules, which affect the number of participants, their attributes and resources, and the conditions they face for leaving;
> 2) Position rules, which establish positions in the situation;
> 3) Scope rules, which delimit the potential outcomes that can be affected;
> 4) Authority rules that assign sets of actions available to participants;
> 5) Aggregation rules that affect the level of control that a participant in a position exercises;
> 6) Information rules that affect the knowledge-contingent information sets of participants: and
> 7) Payoffs rules that affect the benefits and cost that will be assigned to the outcomes.

The most critical aspect of the IAD framework is its distinctive attention on the rules and rule ordered relationships (Ostrom 1999; Koontz 2005). Even though the level of rule configuration is not necessary on this study since this study focus on one level with institutions as independent variable, how rules are nested and related is one of strength of the IAD framework. A rule has a pyramid nature of structure in which another rules are nested. To understand the whole mechanism of rules, it is necessary to understand the relationships among the pyramids of the rules. Ostrom (1999) divides the rules into four levels: (1) at the top exists the meta-constitutional rules; (2) the constitutional level rules are located at the second, which constrain who can participate in constituting the decision-making body; (3) collective action rules, which describe how individual preferences are to be aggregated into group decisions about operational rules; and (4) operational rules, those that describe what actions are required, prohibited, or allowed on the ground. So, it is required to identify this nested nature of rules in an institutional analysis.

Figure 1 introduces the original IAD framework. In summary, at the core of the IAD framework is the conceptual notion of action arena, which consists of action situation and actors. The contextual variables that frame and constrain the action arena need to be specified; these include variables relating to the physical and material world within which the actors interact, the attributes of community, and the formal rules and informal norms that define the 'rules-in-use.' Given a set of exogenous constraints, actors

within the action arena consider the costs and benefits of various behaviors, and act according to their personal preferences and perceived incentives. Their aggregate patterns of interaction lead to outcomes that can be evaluated according to socially relevant criteria. Outcomes dynamically feed back to both the action arena and to higher levels, potentially causing pressures that ultimately change the rules-in-use or contextual variables, hence feeding back to change perceived incentives within the action arena.



Source: Ostrom et al. (1994)

Figure 1. Institutional Analysis and Development Framework

Strength and Appropriateness of IAD framework

The IAD framework is one of highly recommended framework for students to analyze policy change aspects (Sabatier 1999; Schlager and Blomquist 1996). Individuals do strategic actions by calculating their costs and benefits based upon the information and environments. Policy change is driven by these individual actions in a certain action situation. IAD framework is useful to analyze these strategic behavior and their consequent choices as well as to address collective action problems. In addition, they

argue that it is a strong framework to apply at the state and local level policy change (Schlager and Blomquist 1996; see also Koontz 2005). Thus, in the land use political market, this framework is useful to analyze land use policy area at the local level.

This framework has been successful to examine various policy arenas such as metropolitan organizations, rural infrastructures, ocean and lake fisheries, groundwater provision, and forest management (Gibson et al. 2000; Imperial 1999; Ostrom et al. 1994). However, there have been no studies of local land use policy change based upon this framework with few exceptions such as Koontz (2005)[30], who used IAD framework directly for zoning issues. This is because land use policy is different from those policies that IAD have tested so far. Different types of policies produce different mechanisms and interactions on policy decision making processes (Wilson 1980). As Feiock (1999) and Lubell et al. (2005) argue, the land use policy provides distributional consequences when it is changed. There should be winners and losers because of a change of land use policy. Decision making of local land use is made up from the interactions in the local political market. As I mentioned earlier, this research is to construct a more comprehensive framework for local land use policy change using political market framework. The political market framework explains local land use policy change is the outcome from the interactions between aggregate political demands of community and aggregate supply of local governments (Lubell et al. 2005). Thus, it is useful to apply political market framework based upon the IAD framework to examine local land use policy change to preserve and provide environmental goods in local communities.

Local Land Use Political Market: Theoretical Underpinnings

Action Arena: Political Market, Demanders, and Suppliers

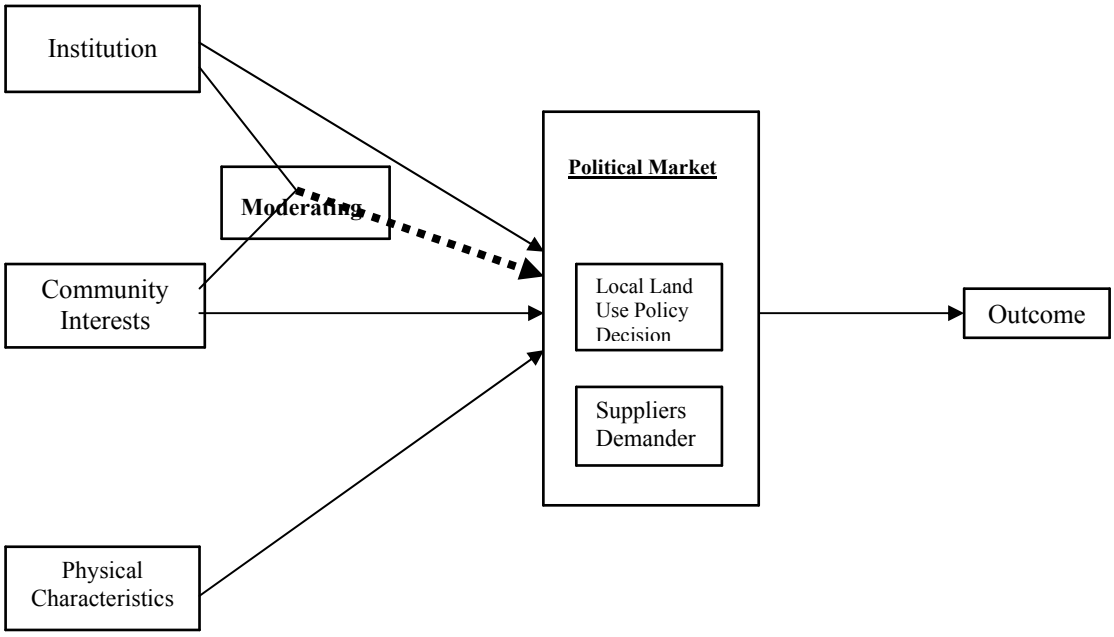
The framework needs to establish the action arena in advance. Applying political market framework based on the IAD framework needs the information of numerous

[30] There is a difference between Koontz's (2005) approach and mine. Koontz explicitly said he just use organizing concept of the IAD framework, not the logics of the framework. The fact that the framework provides three variable sets that easily help researchers to categorize the variables is the motivation of his using the framework. In addition, while he used qualitative analysis on the Ohio zoning issues, this research bases on a quantitative analysis on local comprehensive plan amendments.

aspects of action arena including actors and action situations. In the local land use policy, the information of these is well developed in the political market approach of Feiock (1994; 2004) and Lubell et al (2005). Thus, in this research, I conceptualize action arena as "political market," within which actors act in a certain way regarding land use policy decisions. Actors need to be identified within the action arena. Land use regulation at the local level depends on the behavior of several actors. Feiock (1999) argues that land use regulation policy is a political process. This is consistent with Alston's (1996) argument that the policy change is the result of political process or contract between demanders and suppliers. Hence, various political actors are the primary actors that affect the decision making process. Actors include suppliers such as council members, mayors, planners, and demanders such as members of social networks, interest groups, residents, and etc. In this action arena, action situation refers to the specific type of interaction that the actors engage in to arrive at a certain decision (say, conservation amendments). Thus, in this research, action situation is local land use policy making process. The action situation, for example, is the possible conflict situation that arises between development interest groups and council members. The behaviors of the actors in this action situation are explained by a set of contextual variables such as attributes of physical worlds, attributes of community, rules-in-use, and interaction of the three variable sets.

Building and testing political market framework based upon the IAD framework directly creates a problem that it cannot see the influence of each individual variable because the IAD framework sees the policy outcome as the function of combination of three variable sets. This nature of the IAD framework is a barrier to conduct a quantitative analysis. To address this problem and construct a comprehensive model, I revised the framework that can reflect moderating role of institutions (configuration in Ostrom's words) as well as the additive influence of each variable set. Figure 2 shows political market framework of local land use policy built upon the IAD framework. This model is consistent with Ostrom's (1999) assertion that scholars need to understand the value of other variables rather than simply asserting that they are held constant. Hence, the fourth (4) variable set is a moderating variable set of institutions. This indicates that preferences are not constant depending on the institutional arrangements. The political

market framework explains how these variable sets influence the value of variables characterizing action arenas. This section explains how these sets of variables in the model of local land use policy can be animated, emphasizing theoretical underpinnings on each variable set.



Adapted from Ostrom (1999)

Figure 2. Political Market Framework of Local Land Use Policy Change

Contextual Variables Constraining Local Land Use Policy Change

Physical characteristics. The first thing in the institutional analysis is to define the nature of the good that is engaged in the action situation because types of goods are important consequential impact on policy outcomes. Ostrom et al. (1994) divide types of goods into four types, integrating Samuelson's attribute (jointness of consumption) and Musgrave's attribute (excludability)[31]. In this sense, common pool resources are the one

[31] Samuelson (1954) used the attribute of jointness of consumption to divide all goods into two classes: private consumption goods and public consumption goods. Meanwhile Musgrave (1959) suggested a different attribute of goods: excludability-whether or not someone can be excluded from benefiting once the good is produced. He then divided goods into public and private goods by using this principle. Using these two attributes, Ostrom et al. (1994) made four types of goods: 1) private goods; 2) toll goods; 3) common-pool resources; 4) public goods.

from which it is difficult to exclude individuals from benefiting, and the one in which benefits consumed by one individual can be subtracted from those available to others. Common-pool resources resemble pure public goods because it is difficult to exclude individuals from consumption (excludability), but they resemble pure private goods because the amount of good available to others diminishes after consumption (subtractability). In this perspective, land is a common pool resource because benefits of certain use of land is not limited to that area, and the use of land by a person means the decrease of land available to other persons.

Property rights literature[32] provides theoretical underpinnings on the physical characteristic variable set. Commons (1968) defines property right as an enforceable authority that provides and constrains incentives of a certain action, while Libecap (1989 p.144) defines "the sanctioned behavioral relations among economic agents in the use of valuable resources." The action in the property rights model is the one through which individuals can make a relation with other individuals in an action situation (Ostrom 2003). Property rights model explains that property rights develop to internalize externalities when the gains of internalization are greater than the costs of internalization of externalities (Demsetz 1967; Alchian and Demsetz 1973). In other words, this theory argues that the demand for property rights is created and increased when the gains of establishing property rights are higher than the costs.

This model also has been used in the common pool resources settings because the lack of property rights leads to overexploitation and conflict (Ostrom 1990). For example, Freeny (1993) argues that when a place is not dense extremely and land availability is high with lots of natural resources for plants and animals, the expected costs of establishing boundary rules for land parcels may be higher than the expected benefits of

[32] Eggertson (1990) criticized traditional property rights theory is "naïve" because it only consider the economic demand for property rights. In this variable set, however, I focused on the traditional property rights theory that Coase (1959, 1960) started because it is helpful to separate the influence of other variable sets and induce unique influence of attribute of physical characteristics. The argument is limited to the one that different specifications of property rights arise in response to the economic problem of allocating scarce resources (Coase 1960). Property rights theory has been developed, studying the interface of economics and political science (Kim and Mahoney 2005). This second generation of property rights theory (Anderson and Hill 1975; Barzel 1997; Cheung 1970; Eggertson 1990; Libecap 1989; North 1990; etc.) is illuminated in the institutions and interaction variable.

enclosure. In his book, "Contracting for Property Rights," Libecap (1989) studied the formation of rules in the mining camps from the institutional perspective, introducing how miners created property rights to protect their claims to gold deposits, which lead to Pareto efficiency. This model argues that actors prefer rules in which the benefits reach to Pareto-gains (Lubell et al. 2005). This model can be extended to local land use policy since the land for the local communities is a common pool resource. When land is scarce, conflict over who has the rights on a certain land increases. In that situation, "there are Pareto-benefits to establishing property rights with land-use restrictions and growth management." (Lubell et al. 2005, p. 710)

Community interests. The second variable set that constrains land use political market (action arena) is community interests. Communities have their own preferences based upon compositions of various characteristics of the people who live there. Ostrom (1999) argues that community interest provide and shape a structure of how actors play at a certain action situation in an action arena. She defines community interests:

> The norms of behavior generally accepted in the community, the level of common understanding that potential participants share about the structure of particular types of action arenas, the extent of homogeneity in the preferences of those living in a community, and the distribution of resources among those affected (p. 57).

As the definition of community interests indicates, it is an orientation (norm), common understandings, and homogeneity of preferences to a certain social issue that people in a jurisdiction want in common dominantly. From a policy standpoint, it can be interpreted as a shared interest of people for governments to provide or regulate a certain public good. In land use policy arena, therefore, it can be said as "community's dominant interests that the people want to be articulated in land use policies in the place where they live." In other words, a group of people may have a certain type of shared interest in a jurisdiction, which in turn may affect local land use policy changes. There have been various theoretical arguments about the relationship between this community interest and land use policies. Land use policies in urban areas reflect many aspects of community

and residents who live and work in that area (Gerber 2001). These aspects have been the causes of social mobilization of opposition to growth in many literatures (Schneider et al. 1993; Gerber and Phillips 2004). They argue that anti-growth interest might be dominant in the communities where social and economic status is higher (Protash and Baldassare 1982; Fainstein and Fainstein 1983; Bollens 1990; see also Schneider et al. 1993), and experience various externalities from growth such as traffic congestions, environmental degradation, and decline of quality of life (Feiock 2004; Lubell et al 2005; Feagin 1988). Even though their empirical findings are strong enough, how these interests are organized and are effective on land use policy changes is usually implicit (Scheider et al. 1995).

Different explanations come from the traditional urban politics literatures. Land is one of the hottest issues in American local politics since land use regulation has distributional consequences (Gerber 2001; Feiock 1999; Lubell et al. 2005). Peterson (1981) argues that urban politics is the politics of land use, while Gerber (2001) argues that political environments shape communities' land use policies. Local governments in the United States mostly have authority to regulate the land in their jurisdictions by various land use techniques such as zoning and rezoning, and recently developed growth management policies. Molotch (1976) argues that the local land use decision is dominated by "growth machine" coalitions, which consist of businesses, developers, and elected representatives. Because so much of economic development efforts involve local governing bodies' decision making process, local growth elites such as businesses and developers play a major role in electing and controlling legislative bodies (Logan and Molotch 1987).

Since the coalitions (interest groups) of businesses and developers have power to deliver their political pressures to local elected officials, they are easy to receive what they want, that is, economic development. Development interests have priority over other local politics because it generates concentrated benefits from local economic development policies (Lubell et al. 2005). In addition, as Fischel (2005) argues, while people with diffused interests such as environmental protection are difficult to be

organized and overcome collective action problems, development interests are organized much easier because they are embedded in communities[33].

Another theoretical underpinning on community interest is Mancur Olson's collective action theory (1965). Mancur Olson (1965) argues that collective action occurs when people overcome obstacles to collective action to organize their interest in a coherent group. Olson insists that the groups that are more homogeneous in social attributes are easy to address collective action problems and organize their interest in one way because transaction costs and information costs could be minimized (see also Schneider et al. 1993; Taylor 1982). This logic increases the possibility of articulating "Growth Machines'" interests into the local policy making process because they are already well organized, have homogeneous interest for economic benefits, and developers and businesses are relatively smaller than general residents in a community. However, this dynamics can be extended reversely to the diffused and unorganized community interests such as environmental protection. Even though environmental interests usually called "diffused" in many studies (Gerber 2001; Fischel 2005; Lubell et al. 2005) and face difficulties to address collective action problems, they can be articulated easily into the policy making processes if a community is in a certain environment (Scheider et al. 1993). If a community shares certain social and economic status that reflects homogeneity of interests, the situation may reduce transaction costs for collective action. With traditional interest group model, this dynamic is utilized for an explanatory vehicle to move community interest into the local policy making processes.

Formal institutions. As Ostrom (1986) argues, the study of institutions is a useful approach to understand individual actions and behaviors in an institutional context. The third and most important variable set in this framework is working rules, or institutional arrangements. These rules are the most important variables in the

[33] Embedded means here that land owners or businesses are locally based usually. This situation provides and shapes their strategic behaviors on land use policy. Fischel (2005) explains why development interests could be dominant. He argues that land owners have a concentrated stake in their lands. This stake can be seriously affected by a small change of local land use policy. For example, land owners of rural zones may get a lot of profits from changing the zoning to commercial or industrial zoning. However, if those lands are designated by growth cap or other types of land use regulations, then they probably lose their potential benefits from future development projects.

institutional analysis because these rules provide the guidelines for actors to determine what they can do (Gibson et al. 2005; Ostrom 2005). The rules to which actors refer may vary depending on what action situation that an actor faces. Hence, it is the most important step to identify which rules are critical to an action situation. In the local land use policy arena, land use decision making is a political process (Benson 1981; Feiock 1999; Lubell et al. 2005; Gerber 1999, 2001). Political demands of land use policy change can be realized through the local political system institutions because they work as the supplier of land use policy. Hence the structure of political system institutions plays a central role in land use policy arena, and act as critical rules to which actors in action situation may refer.

The central theme of political market approach is that institutions provide strategic context in which political actors make policy choices. It suggests that institutional contexts frame actors' policy choices. Maser (1985) argues that the local charter is a "constitutional contract," which provides constraints and opportunities for people to do a certain action. The contract works as an institution that articulates preferences into a social choice, or a policy decision. He argues that the local charter is a description of "the relationship between the citizens and their government" (p. 129). Local charter provides the governing body systems, so called form of government. As I discussed earlier, the land use policy is a political process, which through a land use decision is made. Thus, the characteristics of governing body could define the relationship. In other words, the types or characteristics of governing body systems of local governments influence the possibility for citizen's preferences to be easily articulated into a local policy. Urban political system such as form of government and election system is contractual rules that reduce the transaction costs for citizens to influence policy choices toward their preferences (Maser 1985; Miller 1985; Feiock and Kim 2000). Therefore, different types of government system may prefer a certain type of interest, which is reflected in policy making processes. In addition, a constitutional contract could reduce transaction costs for citizens to speak out their preferences. Lubell et al (2005) argue that the political institutions may enhance or reduce mobilization of a certain interest to local land use policy.

Along with the characteristics of political institutions, unelected bureaucrats may influence local policy decision making since they may constrain executive's political opportunism and may allow officials to promote their own policy preferences (Feiock and Kim 2000). Teske and Schneider (1993) argue that bureaucrats in local executive body may play critical role in decision making process because they can determine the access of information and have upper hands in terms of information and other resource advantages. Land use policy requires a lot of technical issues and information regarding state and regional requirements from growth management policies. The information and technical issues of land use policy is what local planners have to deal with. Hence, the characteristics of administrative institutions (planning administration) also affect the local policy making process.

Informal institutions. As North (1990) and Ostrom (1986; 1990) argue that because informal institutions also constrain and facilitate certain individual or a group of individuals behaviors, identifying institutional attributes should not be limited to formal institutions. Like formal rules, informal rules may provide guidelines of behaviors, making actors choose what they can do in allowable actions embedded in informal rules (Ostrom 1990). As I discussed earlier, informal institutions are a set of norms and conventions that constrain or facilitate certain behaviors. These norms and conventions could be constructed as social capital embedded in the relationships of individuals in a social network (Coleman 1990; Burt 2000; Lin 2005). Therefore, the embedded norms and conventions can be seen through the social networks in which actors are involved. Thus, individuals who participate in a social network have more chance to get certain norms and conventions that the network members may share. These norms and conventions provide incentives and constraints for the network members to determine what they do. Because the network has its potential capacity to form norms and conventions that structure the behavior of the participating individuals, I define social capital as informal institution. Within the network, certain norms and rules are shaped along the policy issues through the interactions of the participating individuals.

Social capital has been defined in various terms. Bourdieu (1986) defines social capital is:

> The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition-or in other words, to membership in a group which provides each of its members with the backing of the collectivity-owned capital, a "credential" which entitles them to credit, in the various senses of the word (p. 248-249).

In other words, the relationships of individuals in a social network provide social capital (Burt 2000; Lin 2005), because it is a resource embedded in a social network. Putnam (1995, p. 2) argues that "social capital refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit." Fukuyama (2000) argues that social capital is a norm that generates cooperation among people, which is instantiated through human relationships. This norm arises through iterated Prisoner's Dilemma games. One shot Prisoner's Dilemma game does not produce the social capital because defection problems generate Nash equilibrium for both players. However, if iterated, both players may produce a better outcome by using tit-for-tat types of strategies. In other words, if people interact repeatedly, then they can be honesty and reliable to the other persons. This overcomes the problems of Hobbian self-interest. In "Governing the Commons," Ostrom (1990) provides many cases of cooperative norms generated through repeated community interaction.

Even though social capital has many faces depending on the definitions, the core element in social capital argument is Burt's (2000) perception of social capital as "a metaphor about advantage." As Burt (2000) argues that better connected people can do better, this advantage comes out from the socially relational structure. The central implication of capital is that an investment should yield some kind of return for the investor. Therefore, social capital is a return, or resource that is yielded from their investment in a social network (Coleman 1990). However, unlike physical and human

capital, social capital is embedded in, and asset of, the relations themselves (Coleman 1990).

The repeated interactions might form institutions that generate rules, norms, and values providing advantages to address a certain issue. The network creates the institutional norms, which affect the individuals within the structure. The policy network regarding environmental conservation plays a role as informal rules and norms. First, environmental concerns in local land use regulation need collective actions of various local actors because environmental issues are usually cross-jurisdictional. A development in a jurisdiction might have spillover effects on surrounding jurisdictions. Therefore, efforts to preserve environment confirm the need to address collective action problems. In addition, land use policy making requires much of information regarding technical issues and requirements of state and regional laws. Local governments' interactions regarding these planning issues and other local service activities provide local governments, who participate in the networks, upper hands of information power as well as make them stick together a certain policy issue such as environmental policy. Based upon Burt (2000) argument, this interaction means connectedness among local governances, which provides better instruments to give cooperative incentives to local governments and, thus increase higher possibility to provide more environmental goods. Actors do benefits and transaction costs analysis in the context of informal institutions as well as formal institutions. Therefore, the network of local governance reduces information costs and opportunistic behaviors. Social capital for environmental concerns is to address collective action problems and to help providing socially accepted policy outcomes, which are embedded in informal institutional rules and norms.

Configuration of institutions. The other important part of this study is that institutions are not always additive; rather it has "configural nature of rules" (Ostrom et al. 1994). Mostly used analysis for land use policy is to separate the whole into several component parts and analyze the influence of one component ceteris paribus. As Ostrom (1999) argues, incentives and constraints of one rule are not independent of the configuration of other rules. In the land use policy settings, local political institutions

provide the rules and procedures of collective choices, which are embodied in the structure of local legislative and executive institutions. However, these political institutions have been studied based upon their additive influence on the policy outcomes (Feiock and Kim 2002; Feiock 1999; Clingermeyer and Feiock 2001). Various rules in these political institutions are interconnected in terms of their consequences. For example, veto power that mayor has provides different impact on the policy outcome rather than non veto power. So, even though a city has mayor form of government and the mayor does not have veto power, the policy consequence may be different from the one of mayor form of government with veto power.

Moderating role of institutions. The motivation of establishing the IAD framework is that political economist view has limitation to the extent that institutional impacts have been seen as too additive. The same set of rules may yield entirely different types of action situations depending upon the types of events in the world being acted upon by participants (Ostrom 1999). In a reverse logic, participants' and community interests always go through the decision making process to be articulated. This means that influence of the community interests depends on various institutional characteristics that a community has. Political market framework, which Feiock and Lubell (Feiock 1999; Kang and Feiock 2006; Lubell et al. 2005) have developed, support this idea, arguing the political institutions may have mediating role of interest group influence.

Political institution is an agreement or consensus, which affect the distribution of costs and benefits in local policy arena (Gerber and Phillips 2004). The structure or arrangement of local governing body provides information of costs and benefits that citizens and other actors may consider to articulate their preferences in a policy. Some preferences may face higher transaction costs and lower benefits when they go through these political institutions (Lubell et al. 2005; Ostrom 1986, 2005). Thus, when it is hard for people to give a life to their preferences as a policy in terms of transaction costs, they may choose a strategic behavior of doing nothing. Or, in a reverse logic, the political institutions, in a way of increasing transaction costs, do not allow some preferences into being a policy and being reflected in a policy.

Like this, even though a city has a certain community characteristic, the influence of community interests may depend on the political institutions. Furthermore, this institutional influence is not limited to the formal (political) institutions. Informal institutions also affect the impact of other variables. In this framework, this institutional moderating impact on community characteristics is conceptualized for accurate explanation of local land use policy change.

CHAPTER 3

POLITICAL MARKET OF LOCAL LAND USE POLICY

The Influence of Physical Characteristics

Property rights develop to internalize externalities when the gains of internalization exceed the costs of internalization of externalities (Demsetz 1967; Alchian and Demsetz 1973). In the common pool resources, the scarcity of resources increases the necessity of property rights because of its nature of externality and subtractability. The potential efficiency gains by internalizing these externalities increase the demand of property rights (Lubell at al. 2005). Until a community's physical condition reaches to the extent to which there is a need for governments to intervene, communities experience economic development and growth because those physical characteristics demand for growth. However, as growth intensifies, the demand for growth loses its influence and start to switch to the demand for growth management. This is the point where the gains or benefits of anti-growth policy become greater than the costs of providing anti-growth land use policies. Therefore, the benefits of pro-environmental land use regulation would be greatest when growth rates is high enough to increase the scarcity of local land and infrastructure resources, and decrease the open space (Kang and Feiock 2006; Lubell at al. 2005).

While some local jurisdictions experience slow growth, others experience rapid growth, which results in various negative externalities such as transportation, housing, environments, etc. Moreover, the increasing demand of housing for the population growth gears up the pressure of additional infrastructure provision (Jeong 2006). In addition, rapid urbanization of a city decreases the available open spaces, and consequent environmental and quality of life concerns follow. Cities have limited boundary of their

lands. As growth and urbanization pressures intensify, the cost of internalizing negative externalities is less than gains of internalization. Hence, many citizens will begin to demand growth control in order to internalize various negative externalities. In other words, the gains of pro-environmental policy that constrains development would be greater than costs of making that policy.

The natural resources also matter for the demand of pro-environmental property rights. Florida is a state that has one of longest coastal lines and lots of water resources such as wetlands and lakes. This water related resources are very sensitive to new development (Lubell et al. 2005). Thus, the length of coastal lines and the size of water resources may increase the value of pro-environmental land use policy change.

H 1: Population, population growth, density, shorelines, and the size of water area will increase the likelihood of the pro-environmental amendments to local comprehensive plans.

The Influence of Community Interests

In land use regulation arena, community interests can be said as "shared interest" of people for governments to supply a certain land use policy in their jurisdiction. Types of shared interest in a jurisdiction may affect local land use policy changes. However, even though most literature in land use policy area emphasizes that these community characteristics determine how land is used in urban areas, how these interests are organized and are effective on land use policy changes is implicit. As Gerber (1999) argues, the land use policy is political process, in which only some interests can be successful. Therefore, it is important to identify what interests regarding land use issues can be articulated and successful through political process. By using Mancur Olson's (1965) collective action logics, many recent literatures explain that some interests can be easily organized for collective action and articulate policy preferences through policy making process (Lubell et al. 2005). In other words, the groups that are better able to deliver to political resources to local elected officials are more likely to receive their preferred policies.

Extant literature regarding land use and economic development emphasizes that private interests shape land use and development decision making, concluding development interests dominate local government policies (Peterson 1981; Feiock and Kim 2000: Fleischmann 1990), and can make coalitions to overcome opposition to development (Molotch 1976; Stone 1989; Feiock and Kim 2000; Fleischman 1989; Lewis and Neiman 2002). Growth machine theory (Molotch 1976) explains well how the coalitions between governments and development interest groups influence urban policy making process. Development interests have the upper hand in local politics because they receive concentrated benefits for pro-development policies and are better organized than diffuse public interests (Lubell et al. 2005).

As I defined earlier, community interest is "shared interest" in a community. Various characteristics of community represent certain types of "shared interests," which influence the policy making processes. These characteristics play proxies for interest group influence in the policy making process (Lubell et al. 2005). Many literature justifies using the characteristics of community as proxies for interest group. For example, population ecology of interest group argues that the contextual factors drive size and diversity of interest group communities (Gray and Lowery 1996; Lowery and Gray 2001). Using lists of groups in state lobbying registration, Gray and Lowery (1996) tested the contextual factors that drive the number of interest group organizations to lobby in state policy making. One of the contextual factors is "area," which means the size of the latent constituency. They argue that the density of interest is related to the size of the latent constituency. In addition, Lubell et al. (2002; 2005) support this idea using characteristics of community as proxies for interest group constituencies.

Shared Environmental Interest

According to Donovan and Neiman (1992), people with high socioeconomic status such as wealth and education are more stringent to growth to isolate themselves from lower income individuals and therefore increase their property values and lower the cost of supplying local public goods. Clingermeyer and Feiock (1994) also argue that a city with higher median income has exclusionary zoning policies to keep lower incomers

away. Schneider and Logan (1982) argue that people with higher income favor strict exclusionary zoning or similar land use policies. While the environmental protection is a secondary concern for the poor people, rich people may direct their concern to the extra such as environmental protection (Whittaker et al. 2005). Therefore, they may try to avoid industrial development, which contains noxious externalities as well as traffic congestion and other negative externalities.

Homeownership is another indicator of community wealth. Whittaker et al. (2005) argue that homeownership could be another indicator that influences anti-growth land use policy because homeownership status provides residential and income stability, and concerns a quality of life. In addition, homeowners are very sensitive to the housing values. Empirical findings showed that stringent land use or environmental protection policy have the increasing impact of housing values (Ihlanfeldt 2007). According to Brueckner (1995), homeowners behave like brokers hoping to increase their house values. Fischel (2005) also argues that homeowners tend to maintain and increase their assets' value, which could become more valuable by a local land use policy. He also argues that housing values are higher in the place where more open spaces exist, not in densely populated area. Moreover, because development of high density residential houses and commercial areas increase the necessity of more infra-structures, consequently increasing the tax burden for the various public services, homeowners may have attitudes for anti-growth preferences.

Highly educated people may also prefer the pro-environmental land use policy. Education could be a source of information to the residents about the cost of environmental degradation. Thus, higher education may provide more information about the risks of environmental degradation, and consequently they know the long term benefits of preserving environment (Becker and Mulligan 1997). Quigley et al. (2004) also found similar impact arguing that educated people prefer to preserve community environment and quality of life rather than further development. Dunlap and Mertig (1992) found that people with higher education may put higher value on preserving environment and more participate in environmental interest groups. In a little bit different perspective, highly educated people are more patient of environmental protection. The

benefits of preserving environment do not come immediately; rather those will belong to the next generation. The educated people may take risk of high payment for the better environment that will only be enjoyed in the future (Kahn and Matsusaka 1997).

This high socio/economic status may be interpreted in a reverse logic. Local governments with low socioeconomic status may tend to pursue employment-producing development (Feiock and Kim 2000; Fleischman et al. 1992). In addition, local governments with lower tax bases and revenues face fiscal pressures, which make local governments incline to seek more industries and commercials to generate more money (Sharpe 1992).

Race could be the other important predictor for pro-environmental land use policy. There have been a lot of literatures regarding the relationship between races and the pro-environmental policies (especially in environmental policy literature). Generally, African-American and Latino population are believed to be less embracing of "post-materialist" values, thus making them more tend to support economic development policies and less likely to support pro-environmental policies (Lewis and Neiman 2002). While white has more shared interests about preserving environment, minorities do not have quite concerns about environmental harms[34]. However, even though these explanations provide the orientation of a certain race, they don't explain how they could be interest groups influencing the policy making process. Mancur Olson's (1965) collective action theory gives a useful perspective of this. He argues that some groups, especially ones that are more homogeneous in social attributes, are easier to organize because transaction and information costs are minimized and because they can better monitor the conformity of individual group members to group activities. When a community is white dominated, the homogeneous nature of community reduce the transaction costs to organize and do collective action toward pro-environmental land use policy change.

[34] Environmental justice literature criticizes the cause of different preferences among races. They argue that minorities could be more supportive because they have been already exposed to greater environmental harms, not because of the difference of preference (Dowie 1995; Donovan and Neiman 2002). Meanwhile, political economists agree with that argument. However, they usually find the cause of difference from minorities' lack of political resources that help their preference be articulated in a policy (Feiock 2002; Lubell et al 2002).

Another explanation comes from voting behavior scholars (Huckfeldt 1979; Kenny 1992). They argue that social contexts are closely related to people's attention on the political issues. They argue that residents in a community may be more active to participate in political decision making process when their preferences are homogenous, which reflects a class identification. So, homogeneity of a community increases the possibility for citizens to participate in decision making process (Clingermayer and Feiock 1994). In addition, whites have relative advantage of political resources to articulate their political demand.

H2-1: Shared environmental interests such as homogenous population, higher per capita personal income, homeownership, and educational attainment levels will increase the likelihood of the pro-environmental amendments to local comprehensive plan

Shared Development Interest

Many economic development and land use policy literatures hold that business and developers' interest influence greatly over local land use policy (Elkin 1985; Feiock 2002, 2004; Logan and Molotch 1987; Fleischmann and Pierannunzi 1990; Stone 1989; Lubell et al. 2005). While pro-environmental interests are diffused and unorganized, development interests such as construction and real estate industries are well and easily organized to become a strong pro-developmental interest group. Lubell et al. (2002) argue that because the development interests are well organized and better financed, their voices are dominant in the policy decision making process.

Another cause of development interest' influence is that they share a large portion of perceived importance to local economies. Local communities already have perceived dominant interests in economic development (Schneider 1989; Schneider et al. 1995; Peterson 1981). Local governments are predisposed to support development of land because of fiscal well-beings (Elkins 1985; Logan and Molotch 1987; Peterson 1981; Tibout 1956). Especially when a local community suffers from economic hardships, their influence to the local economy and governments should not be negligible. Because of

these reasons, local officials tend to be cooperative to local economies' demands for new development (Stone 1989; Lubell et al. 2005).

Finally, to make a profit from land development, developers and realtors rely on local government's pro-developmental decisions on land use because they are traditionally specific location seekers. Any land use policy change not amenable to them could lead their lost of benefits. Therefore, stringent land use regulation on development is negatively related to the development interests (Kang and Feiock 2006). Hence, they are the most active participants in local land use decision making processes (Elkin 1985; Logan and Molotch 1987). Since land use policy has consequences for the private risk and return on their investments and production activities, economic and development interests are active participants in local land use decisions. Thus, developers and real estates may influence significantly on land use policies because pro-environmental land use regulation reduce available development space and increase the costs of development (Lubell et al. 2005).

H2-2: Shared developmental interests such as construction and real estate industries will decrease the likelihood of pro-environmental amendments to local comprehensive plans.

The Influence of Institutional Characteristics

Formal Institutions: Local Political Institutions

Policy change is directed by societal forces. Land use regulation is considered as objectives of conservation, economic efficiency and social well-being. Thus, human values, incentives and behaviors need to be broadly considered in local land use regulation because rules and norms structure social order and provide incentives and constraints on human behaviors (Ostrom, 1990). From a policy perspective, institutional arrangements are the most important among the three contextual variable sets because "in a rule-structured situation, individuals select specific actions from a large set of allowable actions in light of existing incentives" (Tang, 1991 p.43). From a political economy perspective, the government institutions play a critical role in land use regulation

decisions because those institutions are the arenas through which community values and motives are carried out. Maser (1985; 1998) also argues that the political institutions at the local level are relational contracts that provide incentives and constraints for individual behaviors. In the land use regulation, political institutions, which consist of executive and legislative branches, affect the political market of land use policy in terms of incentives and constraints, and benefits and transaction costs. Clingermeyer and Feiock (2001) argue that local political institutions play roles as determinants of rules and procedures of policy making process and provide incentives and constraints on the actors in land use political market. Different institutional arrangements are expected to produce different policy outcome. Hence it is important to understand the characteristics and consequences of different structural arrangements.

Executive institutional structure. Local political institutions started to vary since the Progressive reform movement. Progressive reform movement at the local level focused on the corruption and inefficiency of strong mayor systems (unreformed form) replacing the strong mayor form with manager council form (Lineberry and Fawler 1967; DeSantis and Renner 1994; 2002; Lubell et al. 2005, forthcoming). Currently, each city usually defines its form of government in a dichotomous way: Mayor-Council (usually called "unreformed") and Manager-Council (reformed)[35]. DeSantis and Renner (1994) argue that when the government authorities are fragmented, local governments are difficult to function appropriately for new demands from growth pressures. Thus, in terms of centralized authority, either mayor council or manager council form is able to deal with these pressures. However, because of the nature of manager council form, it is less likely to provide pro-environmental land use policy.

Frederickson and Johnson (2001) argue that the manager council form of cities is corporate and parliamentary because elected body makes a policy and a professional manager appointed by elected body take charge of the whole administrative processes. Hence, this type increases the efficiency (corporate) and gets easily the agreements

[35] This is a very basic and academic dichotomy. Practically, local charters provide various types of governmental forms such as mayor-manager-council form. However, these are not reflecting actual dimensions of government system.

among the members of elected body (parliamentary). Focusing this view on the manager, the reason why this form came up tells the managers are kept from the pressures and demands of communities. Lineberry and Fawler (1967), who are the pioneers of systematic investigation of the impact of this form, argue that the spending of manager type governments is lower than mayor type because of this reason. This efficiency driven nature systematically block the demands of community, especially demands from the growth pressures. In addition, manager's concern about the career promotion leads managers to promote administrative efficiency and economic development, which are easy to show their success on their career (Teske and Schneider 1994; Ruhil et al. 1999; Lubell et al. 2005; Kang and Feiock 2006). Therefore, managers may be less concerned about the environmental pressures and demands because environmental issues place higher transaction costs for organizing and implementing.

Prevailing literature provides theoretical and empirical supports for mayor council form's higher possibility of pro-environmental land use policy change. Feiock et al. (forthcoming) argues that unlike manager council form, mayor council form may reduce the costs of coordinating various interests of community such as developmental interests and environmental interests. Thus, the possibility that mayor plays as an entrepreneur for pro-environmental land use policy is much higher in the mayor form of government (Schneider et al. 1995; Feiock 2004; Jeong 2006). Mayor council form provides incentives for mayors to play as a growth management entrepreneur, because the benefits of being pro-environmental entrepreneur are linked to the electoral incentives (reelection) when the growth pressures are high in a community. Because mayors in unreformed government usually maximize political support to seek reelection, they have to be responsive to the political demands. Therefore, they are more interested in pursuing demands and pressures of community by pleasing electoral constituencies (Kang and Feiock 2006). Maser (1998) argues that elected mayors provide stability and keep harmonious with the preferences of the median voter. Hence, this type of government is not easy to avoid the political pressures of environmental preservation.

Elaine Sharp (2002) argues that when mayor's position is very political and has a centralized authority, mayors provides incentives for interest group and mass political

activisms. The strong mayor may reduce the transaction costs for diffused and unorganized interests to be articulated as a political demand. An empirical finding says that strong mayors tend to adopt "progressive" development policies that constrain traditional industrial development (Elkins 1985). Another theoretical argument comes from James Svara (1999) that the pro-environmental land use policy change might have higher possibility. He divided types of mayors' leadership into four types by effectiveness of initiating policies and getting policy implemented. He argues that when a mayor has concentrated authority and political dimension, then he could be an "innovator[36]." In his perspective, they may provide more innovative local policies such as environmental protection.

However, as Frederickson and Johnson (2001) and Desantis and Renner (2002)[37] argue, it is better not assuming that different rules and institutions directly produce particular policy outcomes, rather it is better considering some combinations of rules may facilitate the articulation of certain interests more. This argument is consistent with Ostrom et al. (1994) saying that constraints and incentives of one rule are not independent of other rules. Therefore, even though mayor council form of cities may be more responsive to the growth pressure, the degree of authority and political power of a mayor may differently influence on mayors' behavior facing growth pressures.

Even though city charters of many cities say their form of government is mayor form of government, there are many deviations and modifications from the traditional dichotomous categories such as mayor-council and manager-council. American cities and counties have changed their form of government since early 20th century of progressive

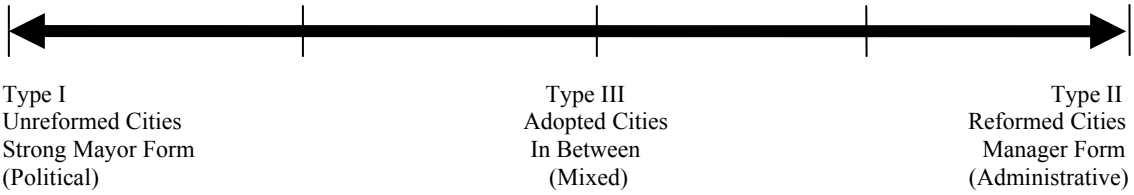
[36]

Effectiveness at Policy Innovation	Effectiveness at achieving implementation: **Low**	**High**
Low	Caretaker	Broker
High	Reformer	Innovator

Source: Svara (1999)

[37] Frederickson and Johnson (2001) categorized the forms of government into five categories (three types): political city (traditional mayor-council form of government-type I); adapted political city, fully adapted city, and adapted administrative city (type III); and administrative city (traditional manager-council form of government-type II). Expanding Hansell's (1999) typology of government forms, Desantis and Renner (2002) developed three subcategories of manager-council form of government and four subcategories of mayor-council form of government. Manager-council form includes classic manager-council form, manager-council with at-large mayor, and manager-council with empowered mayor, while mayor-council form includes strong mayor with CAO, strong mayor without CAO, weak mayor with CAO, and weak mayor without CAO.

reform period[38]. Many scholars have tried to categorize the changing form of government by considering various relevant political institutions. Among them, Frederickson and Johnson (2001), Hansell (1999), and DeSantis and Renner (1994; 2002) are the most dominant scholars in this area. This study is based upon their categories of mayor form of government, especially using the Frederickson and Johnson's (2001).



Adapted from Frederickson and Johnson (2001)

Figure 3. Frederickson's Political Dimension of Form of Government

Frederickson and Johnson (2001) divide the form of government into three types: political city (type I); administrative city (type II); and adopted city (type III). Figure 3 summarizes the political and administrative dimension of reformed and unreformed cities. Type I city has mayoral characteristics of: administrative authority; appointment authority of department head; preparation and submission of budget; elected directly by voters; full time; usually not a member of council; no Chief Administrative Officer (CAO); most importantly veto power. Type II city usually has CAO; mayor not elected directly; usually part time; mayor serves on council; most importantly the administrative and appointment power belong to managers with council's agreement. Type III city is a type of in-between form of government. The indicators of type I provide two important characteristics to mayor: a centralized authority and highly political status of mayor.

Maser (1998) argues that the direct election of mayor, budget authority and department appointment power provide centralized authority and are the rules that can ensure the mayor's political responsiveness to the citizens. With these rules, veto power is a rule that can address coordination problems with councils. Thus, if a mayor is

[38] Stauton, Virginia, is the first local government that institutionalized the position, authority, and responsibility of professional manager. However, the first city that adopts a charter of council manager form of government is Sumter, California in 1912.

characterized by all of the indicators (strong mayor), she/he has a better position to organize and drive diffused and broader community interests like pro-environmental policies, politically should be responsive to the growth pressures.

One exception of type I city in this study is whether a city has a CAO or not. As Frederickson and Johnson (2001) said, there is less than 20 % of pure type I cities in USA. In Florida, the number is far less than the nationwide statistics (about 6%). Another argument regarding CAO is that even though a city has a CAO, the mayor could political enough. Hansell (1998) argues that when the mayor has all of indicators of type I city, mayor is still strong enough to control executive branch and CAO. So, this is controlled when I categorize the strong mayor type of government.

H3-1: Strong mayor form of government will increase the likelihood of pro-environmental amendments to local comprehensive plan.

Administrative capacity of land use planning. Increasing demands and requirements of growth management have made the planning capacity of local governments significant (Jeong 2006). Local land use policy change requires complex and technical information to consider various impacts on communities when it is changed. These various impacts create distributional consequences of land use policy making, which increases transaction costs to change a policy (Feiock 1999). These transaction costs can be reduced and overcome by greater administrative capacity. Forester (1993) emphasizes the power of planners by arguing that they choose strategies to conduct what they have to do through informing, negotiating, and mediating conflicts during the planning process. Because they have much information regarding planning issues and they provide information in the decision making process, the information is a source of their powers. Their negotiating and mediating roles provide them the persuasive power, which enables them to induce and guide citizen participation in a way of what they want for the future communities. Using these planning powers, information asymmetries in Miller's term (1977), planners may reduce the transaction costs in the distributional land use policy making process. While planners have technical information, citizens, planning commissions and other elected official have limited technical

information and legal knowledge of planning. Fleischmann (1989) also supports this argument with the findings that less than 15% of their recommendations to the governing bodies were rejected. Thus, more capacity of planning can more easily overcome the costs of bargaining (Jeong 2006).

In addition, the planners' orientation tends to affect the direction of land use policy change. Rudel (1989) indicates that planners usually learn their knowledge focusing on land use law and visionary planning goals. Thus, planners may be idealistic and have environmental goals, which may not reflect the community interests. In this reason, professional planners may have different preferences unlike economic development department employees, and the elected officials. Even though they interact with citizens and politicians at public hearings and planning commission meetings, their preferences are mostly reflected in various planning tools such as zoning. Therefore, with this planner's orientation, the planning capacity could be related positively to the pro-environmental land use policy change.

H3-2: If a city has more planning capacity, it will increase the likelihood of pro-environmental amendments to local comprehensive plan.

Legislative institutional structure. Legislative structure at the local level also gives incentives and constraints for the local land use policy making because land use policy decision making is processed in the city legislative body. Denzau and Weingast (1982) argue that land use policy tends to be geographically targeted policy that affects particular constituencies. Thus, land use policy change may be an opportunity of economic benefits to the developers while it could be a barrier to the further development. City charters provide rules of election; district, at-large, or some combination of both. These legislative institutions may provide different incentives to community interests. According to Lubell et al. (2005), at-large election system force council members to respond to broader set of political interests such as economic development that makes them easily do credit claiming for winning city wide election. On the opposite side, at-large election system may become a barrier to articulating pro-environmental interests. Because environmental interests tend to be diffused and

unorganized, it needs more resources to overcome that barrier for environmental interests to be articulated as a policy. Thus, at-large election system may advantage development interests that can easily avoid transaction costs.

District election system may prefer different community interests. In collective action perspective, district election system increases the possibility to aggregate shared interests on a policy by reducing transaction costs and addressing collective action problems. Even though it is hard to overcome collective action problems in the environmental policy arena since the concerns are diffused and unorganized, relatively small number of residents and small size of area decrease transaction costs to make a pro-environmental policy choice. Politically, district election system may increase the possibility of articulating pro-environmental community interests. District election increases the participation of citizens in decision making process because geographically concentrated group could become more politically powerful (Gerber and Phillips 2004). Because council members elected from districts are supposed to be responsive to their geographic constituencies, they are more likely to be sensitive to pro-environmental interests. Feiock et al. (2008) argue that under the political institution such as unreformed, or district-based election system, local governments are tend to be amenable to pro-environmental policies and prefer community-based interests for political credit claiming. Gerber and Philips (2004) argue that council members elected by district may prefer the policies that benefit specific geographic areas rather than the policies that need cooperation among actors in other areas. Svara (1999) also confirms this argument arguing that while council members elected by at-large election system concerns a citywide matter, those elected by district are more tend to provide a narrow, neighborhood, and group perspectives to matters.

In addition, district-based elections mean the council is more fragmented. This fragmented nature results in more complex and long process of development permission process because council members may calculate costs and benefits of a development project based upon their constituencies (Feiock et al 2008). Geographically concentrated development interests could be negative to the other districts and consequently bring a barrier to smooth agreement on permitting a development project. By increasing

transaction and bargaining costs, this long and complex review process may decrease the developers' desire for economic development. Therefore, the district based election may be more subjected to pro-environmental land use policy change.

H3-3: If a city has more district-base elected council members, it will increase the likelihood of pro-environmental amendments to local comprehensive plans.

Turnovers of council members. The above argument is about the embedded mechanisms that affect the local policy choice. However, the actors in those systems are not static. The power relationship between executive and legislative bodies depends on the political situations that they face because the position of council and mayor can be stable or changed rapidly, which results in the political instability. Turnover among elected or appointed officials could offer opportunities for other officials to make policy choices that would not be approved. For example, a developmental policy choice might be decisions that could be made by decisive mayors while turnover was prevalent on the city council (Clingermayer and Feiock 2001). According to the principle agency theory, the opportunistic behavior occurs when the monitoring cost is high because of information asymmetries. In urban policy making process, councils act as multiple principal agents, while appointed managers, chief administrators, mayors, and executive bodies act as agents. Hence, when the council faces risks of frequent turnover, the monitoring costs and information asymmetries will be higher than when council is stable. Therefore, the new policy initiations may occur easily within executive bodies when the membership of councils is in turmoil.

According to Fiorina (1982) and McCubbins (1985), reelection seeking legislators, under the conditions of great political conflict, may make vague delegations of policy-making authority to bureaucracies so that they can avoid the blame for controversial decisions. This supports that city governments may not choose pro-environmental policy choices in land use policy since land policy has a highly distributional. Rather, they choose pro-developmental policy to easily do credit claiming

for their reelection. This political instability and its resulting uncertainty might lead governments to give up providing direct environmental public goods.

In addition, the benefits of pro-environmental policies do not come immediately. Economic development policies enjoy the short term benefits and outcomes such as job creation and increased tax bases. Unlike those policies, the benefits of pro-environmental policies are usually realized in the future. Thus, these long term benefits could be captured by the council members who have been seated in a long time. Hence, if legislators try to change land use policy pro-environmentally, they have to face the risk of reelection failure.

H3-4: Political turmoil and consequential uncertainty will decrease the likelihood of the pro-environmental amendments to local comprehensive plans.

Informal Institutions: Social Capital from Network Linkage

Network bonding communities. Burt (1992; 2000) has focused on the network aspect, arguing that network structure is the key element when identifying social capital, in which certain network configurations provide better resources, and hence perceived as indicators of social capital. There are mainly two theories about the relation between network structure and social capital; network closure and structural holes. The network closure perspective can be captured in Coleman's assumption about "network closure" as the mechanism that generates social capital,[39] which is strong tie networks in Granovetter's term (1973). Closure network is characterized by a high level of interconnectedness, a network in which the actors are linked directly to each other by many and strong relations (Burt 2000). Closure network tends to facilitate efficiency because of enhanced communication. Because of the high interconnectedness, rich and accurate information is available to the actors. A strongly tied network, in which information flows freely, facilitates common norms and values, so vital for collective actions to be achieved. It can also help for network members to collaborate easily because opportunistic behaviors can be sanctioned (Coleman 1990; Burt 1992, 2000; Lin 2005). The basic idea of the closure argument is that a person in a network containing

[39] According to Lin (2005) Bourdieu regarded "closed networks" as rich in social capital.

many, and strong, relations is rich in social capital, which provides certain incentives and constraints to a person.

Based upon this argument, local governments with closure network or strong tie relationships with other local, regional, and state governments are rich in social capital, which provides cooperative norms to pro-environmental land use policy change. For several decades, Florida has experience growth pressures, which in turn increase a lot of planning activities and issues at the state and local level (Lubell et al. 2005). Even though the state formally requires local governments to take actions regarding land use policy, local communities have different characteristics, and consequently different policy priorities. This situation may not allow them act together in a certain way, or pro-environmental. However, existing strong tie network as social capital may work as a memory that provides a guiding light for the future cooperation and a barrier to the opportunistic behavior. Their shared identity provided by the closure network can be expressed in a similar value and those communities with the network are likely to understand what they have to do regarding land use policy issues.

In addition, environmental concerns in local land use regulation need collective actions of various local actors because environmental issues are usually cross-jurisdictional. A development in a jurisdiction might have spillover effects on surrounding jurisdictions. Therefore, efforts to preserve environment confirm the need to address collective action problems. Local governments within a closure network may share same interests and understanding regarding land use policy. Without cooperation, the local land use policy may be ruined by other actors' opportunistic behavior. Therefore, cooperative norms and conventions within closure network provide better incentives for pro-environmental policy change. This closure network as social capital is a potential source for pro-environmental land use policy change because local entities within the closure network have shared interests and similar values in land use policy making, and consequently pro-environmental policy change might be easier and quicker without much transaction costs.

H3-5: Participation in strong tie network with other local, regional, and state governments will increase the likelihood of pro-environmental amendments to the local comprehensive plans.

Network flowing information. The other theoretical perspective is the importance of information diffusion between actors. Burt (1992; 2000) emphasizes the advantages of "structural holes," in which actors hold the strategic positions and control over the information flows. This argument is based upon the Granovetter's (1973) theory about the strength of weak ties.[40] The access to new, unique information and the control of its spread is considered as the key mechanism generating social capital. This argument is contradicted to the concept of social capital as a function of network closure discussed above. According to Burt (2000, p. 353), "holes are buffers, like an insulator in an electric circuit. People on either side of a structural hole circulate in different flows of information." Therefore, actors who are in a position to bridge these holes have a strategic advantage because "structural hole is opportunity to broker the flow of information between people, and control the projects that bring together people from opposite sides of the hole" (Burt 2000, p. 353). The argument of structural hole is different from the closure argument since information is non-redundant. Structural hole provides new, additional resources that could be used in the networking activities. In social capital perspective, the people who are in a position as a bridge are those rich in social capital (Burt 1992; 2000).

Based upon the above argument, a structural hole provides a wide and loose association. This social capital plays like a network that helps communication flows and bind different actors together. Florida Regional Planning Council (RPC) is a place that fills the holes of communications about the regional and local planning issues. There are 11 RPCs in Florida since Tampa Bay RPC was established in 1961. Regional Planning Councils were created by inter-local agreements of local governments within the relevant jurisdictions. Their primary responsibilities are to provide information and

[40] "The strength of weak ties," written by Granovetter (1973), is the most heavily cited literature in network analysis and focuses attention on the importance of weak ties as bridges between different groups. He argues that the advantages of weak ties provide, for example, more job opportunities.

recommendation regarding local comprehensive plan amendments and Development of Regional Impacts (DRIs) permit process. RPC does not have formal regulatory power. The authority of local land use regulation belongs to local governing bodies and state agencies. However, RPCs plays like an information clearing house of local, regional, and state planning issues. Especially, RPC provides technical and organizational means to help for the local governments to address their issues that go beyond political and administrative boundaries. In addition, RPC plays a leadership role capable of addressing regional issues.

In addition, RPC actively interact with state level organizations such as Department of Transportation, Department of Environmental Protection, and Water Management District as well as Department of Community Affairs. These series of activities work as key factors of reserving pro-environmental values in RPCs. For example, DRI permit process is just like environmental impact analysis (Rooy 2004), which may provide pro-environmental values to the organization. The RPC board meeting consists of local government representatives (council member) and relevant state and regional organizations. From the meeting, local government council member receives information of other cities' planning issues and state and regional planning issues. This may provide norms and conventions of pro-environmental concerns as well as new and unique information regarding local land use policy. This could increase the possibility for them to be pro-environmental entrepreneurs (Scheider et al. 1995), which in turn reflect their values in the land use policy making process. Thus, the linkage of local governments to RPC could provide higher possibility to have pro-environmental land use policy change. So, local governments that have a linkage with RPC, either by sitting on the council meeting or having membership, have better position to get pro-environmental values, which, in turn, increase possibility of pro-environmental local land use policy change.

H3-6: Cities' linkages to RPC will increase the likelihood of the pro-environmental amendments to the local comprehensive plans.

Moderating Roles of Institutions

Institutions matter for policy decision making process. However, the concern is that the impact has been analyzed independently and additively. As Ostrom (1999) argues, the political economist's view deemphasizes the community and physical characteristics' impact. Moreover, I believe that community and physical characteristics' impact are too emphasized as deterministic view research trends (Fleischmann and Pierannunzi 1990). Therefore, it is necessary to understand impact of institutions with other variables' value rather than to insist other variables are constant. Even though a community faces lots of growth problems, the existent institutions moderate those impacts on the policy outcomes. Recently, many scholars have worked regarding this institutional moderating role. For example, Gerber and Phillips (2004) argue that anti-growth interests are upper hand when the urban growth boundary policies are decided through direct democracy institutions. Lubell et al. (2005) also tested the political institutions' moderating roles in conservation amendments in Florida counties, suggesting that the influence of development interests is different depending on local political institutions. The IAD framework suggests that three variable sets are combined in a configural rather than an additive manner. Therefore, to remedy the above partial explanations about the local land use policy decision making, and to be consistent with the IAD framework, it is necessary to add another variable set, institutional moderating variable set, into the current model. However, in this quantitative analysis, it is too difficult to conceptualize all of possible configurations of variable sets. Hence, in this study, configuration is limited to only theoretically coherent combinations of variables. In this section, I provide how formal (executive and legislative institutions) and informal institution (network structure) moderate the influence of environmental interest variable in this model.

Executive institution and environmental interest. The strong mayor-council form of government has been argued that it provides responsiveness while the manager-council form was developed to increase efficiency and reduce corruptions at the expense of responsiveness (Maser 1998). In mayor-council form cities, mayors usually focus on

the re-election and, hence keep responsive to the political demands from communities. However, manager-council form structure keeps managers from the powerful political demands (Lineberry and Fawler 1967; Feiock 1999). In land use policy, political demands are divided into two categories: environmental and developmental. These demands can be easily articulated through a certain institutional structure. For example, if a city is with high environmental conservation demands, and that city has an institutional structure that may not effectively respond to those demands, it is difficult for those demands to be articulated through the policy making processes. Extant research suggests that mayor-council governments are more responsive to pressures for change in policy than cities with council-manager systems, particularly in the area of economic development (Fleischmann et al. 1992; Lubell et al. 2005).

This can be explained in a different logic. In the growth management policy arena, then, we could expect city governments with the mayor-council form are more responsive to local growth management pressures than the governments with the reformed form. Environmental interests are diffused and hard to be organized to be a powerful political demand, because it needs too much transaction costs to overcome collective action problems (Lubell et al. 2005). However, if an institution is responsive to the political demand, then it needs less transaction costs to articulate the political demand through the policy decision making process. Clingermayer and Feiock (1994) argue that citizen's preferences may not matter because the reformed government may reduce the citizen participation in government decision making process, and consequently elected officials are not sensitive to the political goals[41].

Different but another supporting theoretical explanation comes from Maser (1998). He argues that direct election and mayor's appointment power (some of components of strong mayor-council form of government) can limit the deviation from the preferences of the median voter and keep mayors in commitments to the median voters' preferences. Therefore, the environmental interests could be articulated easily through the strong mayor council government structure. If anti-growth interests are dominant in a community, mayor should be supportive to pro-environmental land use

[41] They argue that elected officials in reformed governments are usually part-time and volunteer style. Those natures of elected officials influence their behaviors.

policy because the political incentives of mayor could be higher. As I discussed earlier, wealthy, and homogeneous communities tend to prefer pro-environmental policies. Thus, I expect those pro-environmental interests could be easily articulated through strong mayor council institutions.

H4-1: The influence of the environmental interests on the pro-environmental amendments to the local comprehensive plans will be increased in the cities which have mayor-council form of government.

Legislative institution and environmental interests. As I discussed earlier, how council member represents in the election has its own incentives and constraints that articulate pro- or anti-environmental interests. District election increases the likelihood of shared policy preferences and reduces transaction costs for representation, while at-large election forces local legislators to a much broader set of political interests and represents a citywide constituency, in which they are more likely to prefer aggregate welfare. Council members elected by district election may contact more with residents within their jurisdiction than those elected by at-large because at-large election may not have a "clear cut link to any identifiable portion of the community" (Clingermayer and Feiock 1994 p.454).

Many land use policies are geographically specific in the sense that they designate particular uses for specific parcels of land (Gerber 2001). Therefore, the benefits of land use policy are heavily geographic while the costs are diffused through the whole community. In terms of aggregate welfare, development might be more preferred in at-large election system. Meanwhile, because collective action problems are easier to overcome in smaller constituencies than in larger ones, I believe that cities using district elections rather than at-large elections will be more likely to provide opportunities for articulation of pro-environmental interests. Maser (1998) also argues that the district election system can increase the responsiveness to the community demands and decrease the risk of division problems in the community. Therefore, the pro-environmental interests such as homogeneity and wealth could be more easily articulated in case that the local governments have a district election system.

H4-2: The influence of environmental interests on the pro-environmental amendments to the local comprehensive plans will be increased in the cities which have district-election system.

Informal institution and environmental interests. The linkage of cities to RPC provides technical concerns regarding environmental issues and a barrier to deviate from the common interests in that region. As I discussed earlier, RPC provides technical and organizational means to the local governments. In addition, their knowledge reservoir is filled with addressing environmental issues when they review DRIs and local comprehensive plan amendments. Thus, the linkage with RPC, at least, limits local governments planning issues to the state and regional baseline. PRC board meeting participants at the local level are local council members. This provides norms and conventions of pro-environmental concerns to the participants. Thus, as I discussed, they could become pro-environmental policy entrepreneurs. As Schneider et al. (1995) argue, high socio-economic status provides incentives for elected officials to be environmental entrepreneurs. Thus, as a member of governing body at the local level, they may have higher possibility of initiating or agreeing with pro-environmental land use policy change. As an elected official, he/she should be responsive to the political demands. Consequently, the transaction costs to change land use policy pro-environmental may be reduced with the existence of RPC member in a city. Thus, when a community is dominated by pro-environmental interests such as wealth and homogeneity and a council member participates in RPC meeting, then those interests may be easily initiated or articulated in the decision making process.

H4-3: The influence of the environmental interests on the pro-environmental amendments to the local comprehensive plans will be increased in the cities which have RPC linkage.

CHAPTER 4

DATA AND DESIGN

Dependent Variables: Local Comprehensive Plan Amendments

Conservation Amendment of Local Comprehensive Plans

The local comprehensive plan should contain certain elements such as future land use map, conservation, housing, traffic circulation, parks and open space, infrastructure, intergovernmental coordination, and capital improvements. The first dependent variable is the amendments in conservation elements of local comprehensive plans because conservation elements represent the pro-environmental policies (Lubell et al. 2005). Most of these amendments added directives to comprehensive plans to promote conservation such as comprehensive plan directives to provide public access to water, create enhanced greenways or recreational trails, preserve natural communities or habitat, or restore or enhance degraded natural areas[42]. The dependent variable is a binary data about whether a city offered conservation amendments between 1997 and 2005.

As I described, Florida cities can offer changes to their comprehensive plans two times a year. In most amendment cycles no amendments are offered resulting in most observations being a zero, which limit the efficiency of the model estimation. In addition, most cities use one amendment cycle[43]. Thus, the unit of analysis is amendment year, which encompasses two amendment cycles for conservation amendments. This data come from an NSF supported study by Feiock and Lubell of local land use politics. They collected all of Florida local comprehensive plan amendments at both city and county

[42] Section 163.3177 (5)(a) describes the conservation element.
[43] When cities offer amendments during one cycle, they mostly not offer amendments during the second cycle.

level since 1994. For city conservation amendment, data is available from 1997 through 2005.

Table 1. Frequencies of Conservation Amendments Offered from 1997 to 2005

Conservation	Frequency	Percent	Number of Amendments
0	3526	97.5	0
1	39	1.07	39
2	15	0.41	30
3	3	0.08	9
4	2	0.05	8
5	4	0.11	20
6	8	0.22	48
7	3	0.08	21
8	2	0.05	16
9	1	0.03	9
11	1	0.03	22
12	2	0.05	24
15	1	0.03	15
17	1	0.03	17
20	1	0.03	20
22	1	0.03	22
23	1	0.03	23
33	3	0.08	99
34	1	0.03	34
59	1	0.03	59
63	2	0.05	126
	3618[1]	100	661

[1] two cities were missing. So, total amendment year units are 3636.

The most critical nature of the conservation amendments is that the amendments were not offered in every year. Table 1 provides the frequencies of local conservation amendments during 1997 through 2005. When cities amend their conservation element, one or two times of amendments occurred mostly in a year. As Table 1 indicates, 661 amendments were offered in total in this period, while most years provide zero amendment years. Previous study by Lubell et al. (2005) used ZIP (Zero Inflated Poisson) model to deal with this problem at the county level. However, 92 non-zero observations is inadequate for that model. With too many zeros in the data, OLS with panel correction also does not provide robust results (Wooldridge 2002). Therefore, I recoded the data into a dummy variable. I recoded 1 if a city offered one or more

conservation amendments in a certain year and 0 if it did not. Table 2 shows that conservation amendments were only submitted in 92 (2.53%) of the 3618 city year units that I observe from 1997 through 2005.

Table 2. Frequencies of Local Conservation Amendments coded by Dummy

Conservation Amendment	Frequencies	Percent
0	3,526	97.47
1	92	2.53
Total	3,618	100.00

Ratio of Large/Small Scale Amendments of Future Land Use Element

The second dependent variable is the ratio of large scale to small scale amendments of future land use map in cities' comprehensive plans. There are various ways to measure how pro-environmental a local plan amendment is[44]. One of measure for this is the ratio of large to small scale amendments of future land use map. Future land use map proposes the intended land use and type, and density and intensity of the use within local boundary[45].

Table 3. Large Scale Amendments for Future Land Use Map

Large Scale	Frequency	Percent	Number of Amendments
0	2516	69.2	0
1	725	19.9	725
2	284	7.8	586
3	79	2.2	237
4	10	0.3	40
5	3	0.08	15
	3618	100.0	1603

[44] For example, Lubell et al. (2008) measure pro-environmental dimension of amendments by using an index of general plan amendments that reflect the balance of pro- vs. anti environmental dimension in an amendment cycle and also using a yearly single family housing permits indicator.

[45] Section 163.3177 (6)(a): "a future land sue plan element designating proposed future general distribution, location, and extent of the uses of land for residential uses, commercial uses, industry, agriculture, recreation, conservation, education, public buildings and grounds, other public facilities, and other categories of the public and private uses of land."

Large scale amendments include the land use greater than 10 acres[46] while small scale amendments involve less than 10 acres of land use change. Large scale amendments are subject to review by DCA. Through the review process, various agencies are interacting. Especially, Department of Environmental Protection and Water Management District focus on environmental impacts when they review an amendment. Also, as Rooy (2004) argues, the review process is an environmental impact analysis, which make developers and landowners be serious regarding environmental issues. However, small scale amendments are exempt from review and require only one public hearing. Thus, small scale amendments could be what developers and landowners use strategically to increase their benefits. In addition, planning staff at DCA maintain that while large scale amendments are initiated by both developers and local officials, small scale amendments are mostly developer driven. In interviews for the NSF study of land use decision making, DCA administrators were asked what the best single indicator was of whether a communities land use decision were "developer driven." The response was the ratio of large to small scale amendments.[47]

I operationalized this measure so that larger values of the ratio reflect the pro-environmental dimension. As the table 3 shows, among the total amendment years for large scale, 2516 (69.2%) amendment year did not provide amendment. One or more large scale amendments were submitted in 1102 (30.8%) of the 3618 amendment years that I observed from 1997 through 2005. About 27% of the large scale amendments observed one or two amendments in a year. The total number of large amendments in this period is 1603. For the small scale amendments, the maximum number of amendments was 55. 2628 (72.6%) out of 3618 amendment years did not provide any amendments in this period while 990 (27.4) amendment years provide one or more small scale amendments. As the table 4 shows, the total number of small scale amendments offered in this period is 3053.

[46] Section 163.3187 F.S. However, many local governments add another rule that says land use amendments to residential area that has 10 acres or less with a density of more than 10 dwelling units per acre.

[47] Interview with Charles Gautier at Florida DCA, September 2004 conducted by Lubell and Feiock.

Table 4. Small Scale Amendments for Future Land Use Map

Small Scale	Frequency	Percent	Number of Amendments
0	2628	72.6	0
1	417	11.5	417
2	178	4.9	356
3	133	3.6	399
4	74	2.0	296
5	45	1.2	225
6	44	1.2	264
7	25	0.7	175
8	20	0.5	160
9	16	0.4	144
10	7	0.2	70
11	2	0.05	22
12	8	0.2	96
14	3	0.08	42
16	1	0.03	16
17	3	0.08	51
18	1	0.03	18
19	2	0.05	38
20	1	0.03	20
21	2	0.05	42
23	1	0.03	23
27	1	0.03	27
29	1	0.03	29
32	1	0.03	32
36	1	0.03	36
55	1	0.03	55
	3618	100.0	3053

I calculated this by dividing the number of large scale amendments by the number of small scale amendments. There are cases of numerator (small scale amendments) being zero. Thus, when small scale amendment was not offered while large scale amendment was offered, the ratio is estimated by 100% and vice versa. As the descriptive statistics table (table 6) shows, the minimum value of the ratio is 0, which means that no large scale amendments offered while one or more small scale amendments were offered. This reflects the maximum of pro-developmental (or minimum of pro-environmental) dimension. The maximum value is 100.00, which reflects the maximum of pro-environmental dimension.

Independent Variables

Physical Characteristics

The measurements of physical characteristics of cities are available from 2000 U.S. Census and Florida Statistical Abstract. These variables include the size of population (natural log), population change, population density, water vs. land ratio, and the shoreline that a city boundary has. Specifically, population change is measured by the percentage of population change between 1990 and 2000, and population density is measured by the number of people per square miles. The water area variable is divided by total land area where a city is placed to control the possibility that a bigger size city may have wider water area. Shoreline variable is the number of shoreline miles within city boundaries[48]. This data is available at Florida Department of Environmental Protection. The city's physical characteristics are not changing rapidly. Rather these variables are stable for a long time[49]. So, the variables are assumed as time invariant in this research. There is a higher possibility of multicollinearity problems when we use various physical characteristics. The diagnostic test of this problem shows that there is no multicollinearity problem among these variables[50]. Table 8 and 10 show the descriptive statistics and the various measurements of these physical attributes.

Community Interests

As I discussed earlier, the community interest variables are divided into two parts: shared pro-environmental interests and shared pro-developmental interests. For the measurement of pro-environmental interests, the homogeneity, education, and wealth of a community are included. Specifically, homogeneity is measured by the percent of white population of total population providing a dominant status of white population. The community wealth indicators divided into two measurements: income and

[48] Unlike water area, it is not necessary to control the size of city because shoreline miles are affected by the location of a city.
[49] In addition to this reason, the data at the city level does not provide yearly changes of most physical characteristic variables.
[50] The multicollinearity tests show that there are no variables that exceed 2.5 VIF scores. Rule of thumb for mulicollinearity is 10.0 of VIF score. See covariance matrix on Appendix.

homeownership. Income is measured by median per capita income while homeownership is measured by the percentage of household occupied by owners. Education is measured by the percent of population that has the bachelor degree or higher. These data are available from the 2000 U.S. Census.

For the pro-developmental interests, I use proportion of city establishments in construction and real-estate industries. These measure the strength of developmental interests of a city. The data are available from the US Census Zip Code Business Patterns with GIS matching zip codes to city boundaries. The pro-environmental variables are assumed as time invariant in this research because of the unavailability of yearly data and the values are relatively stable during the research time period.

Formal and Informal Institutions

Formal institution. Formal institution variables are available from the Devoe Moore Center Survey on Florida cities and counties' political institutions in 2002. These institution variables are also time invariant because local political institutions are stable for the research period (Lubell et al. 2005), except several cities such as Bonita Springs[51]. First of all, executive institution variable is coded by 1 if a city's executive institution reflects highly political dimension and centralized authority of mayor, which is defined as strong mayor form of government in the previous chapter. This institution is coded 1 if mayor is elected directly, has veto power, have authority to prepare budget and appoint department heads, and have CAO appointed by mayor or does not have CAO. CAO position belongs to the administrative dimension of political institution in terms of Frederickson definition. However, when CAO is appointed by the mayor, they usually serve the mayor's "pleasure" (Weber and Brace 1999). So, for the cities where the other characteristics are met and CAO is appointed by mayors, then it is also coded 1 as a strong mayor form of government. This may increase the variation of local political institutions[52]. In case of the authority of budget recommendation and submission, only 33 cities provide the authority to the mayor for the budget submission. However, 28 cities

[51] The city of Bonita Springs was incorporated in 1999, so the data for the city is available since 1999.
[52] If the absent of CAO is considered as political cities, then only 23 cities (6.1%) are categorized in the political cities.

also provide the authority to both mayor and CAO. So, this category is included into code 1 since still mayor is the last person who finally submits the budget recommendation to the city council. So the total number of budget authority to the mayor is 61.

Table 5. Executive Political Institutions*

	FOG[1]	CAO[2]	BUDGET[3]	MDIR[4]	MVET[5]
1	120	285	61	265	54
0	278	110	319	118	321
Total	398	395	380	383	375

* This data is cross sectional since it is time-invariant
[1] Form of government: Strong Mayor 1, others 0
[2] Chief Administrative Officer: Exist 1, others 0
[3] Budget recommendation authority: Mayor or mayor combined 1, others 0
[4] Mayor directly elected by voters 1, others 0
[5] Mayor have veto power 1, others 0

Election types are measured by the proportion of the council members elected by district among the total council members. Much of previous literature (Weber and Brace 1999) used election type variables as dummy variables. Many Florida cities (57 cities) adopted district or district and at-large mixed forms of election systems. So, the dummy coding does not reflect the actual dimension of consequences of election types. As the table 6 indicates, 24 (6.4%) Florida cities elect their council members only based on district. These cities will be designated by 100% of proportion. 33 (8.8%) other cities also use partially district election. However, most cities use at-large election for selecting their council members (318 cities).

Table 6. Legislative Political Institutions*

	Frequencies	percent
At large	318	84.8
District	24	6.4
Mixed of Both	33	8.8
Total	375	100.0

* This data is cross sectional since it is time-invariant

It is difficult to gather information of actual expenditures of planning activities at city level. Florida Statistical Abstract only provides county level information of planning activities. In addition, much variations of structure of planning activities do not allow ideal measurement on this. So, to measure administrative capacity influence on the local land use policy change, I collected the budget expenditures of comprehensive planning activities[53]. The data is available from the local government yearly report of their financial activities in the Florida Department of Financial Services website. To control the frequent burst of local comprehensive planning expenditure, I used three year moving averages for the measurement of local government expenditure. Moving average is useful because it can control the short-term fluctuation of financial trends especially in the time series or panel data set (Wooldridge 2002). Turnover variable is measured by percentage of new council members to the previous year. The data is available in the Feiock and his colleagues' NSF project of local land use politics. Data was gathered from the membership directories issued annually by the Florida League of Cities. The directory provides the names of executives and council members as well as various department heads. The change of the name between directories indicates the member turnover. The data is available from 1989 to 2005. In this research, I used the turnover percentage from 1996 through 2004[54].

Table 7. City's RPC Membership or Participation in Executive Board Meeting

RPC	Freq.	Percent
0	2,552	70.71
1	1,057	29.29
Total	3,609	100

Informal institution. Informal institutions are measured by the two network characteristics: network bonding communities and network flowing information. Many network scholars argue that the measure of the networks involve counting contacts and

[53] Comprehensive planning expenditures are limited because they do not show exactly cities' planning capacity. The expenditure does not show up when a city does not do anything regarding comprehensive planning issues.
[54] Cities that changed their number of council members were controlled.

interactions with the network. Bonding and flowing networks are equivalent to Granovetter's (1973) strong and weak tie networks and Burt's (2000) closure network and structural holes. Strong tie networks exchange information through direct relationships with other local governments, thus provide cooperative norms and conventions regarding local land use policy issues. Rather than direct measurement of counts and interactions, the strong tie networks are measured by the expenditure of local governments on the inter-local service agreements (ILAs). I assume that inter-local service agreements provide cities with those networks more understanding of regional issues and other cities concerns. This data is available from the Inter-local Service Delivery Reports filed at the Florida Department of Community Affairs[55]. The amount of ILA expenditure reflects the cooperative norms of local governments to the provision of local environmental goods.

The weak tie network helps diffuse information and innovation through professional networks (Mintrom 1997). Cities' connections with the professional network may reduce transaction cost in inter-local cooperation regarding the environmental issues. Regular RPC board meetings usually deal with the issues of local comprehensive plan amendments and Development of Regional Impacts. So, the RPC meetings are the useful place where local governments get a variety of information regarding their comprehensive plan amendments. The weak tie network will be measured primarily by the membership status on Regional Planning Council Boards. Thus, if a city has a membership in a RPC, then it is coded 1. However, there have been a lot of cities that participated in the boards meetings without membership status. So, if a city participated in a board meeting in a certain year, then it is coded 1 also. I collected this data from the published meeting monuments and the Annual Reports of Regional Planning Councils.

Control variable. Every seven years, local governments should adopt an evaluation and appraisal report (EAR) to assess the implementation of their

[55] Florida Department of Community requires 33 county governments with a population greater than 100,000 populations to prepare their inter-local service delivery reports by 2002. I reused the data that Simon Andrew filed for his dissertation in 2006.

comprehensive plans based upon local governments' community characteristics change[56]. Once it is adopted, then it guides how local comprehensive plan should be revised for addressing community objectives and changes. The adoption of EAR should be controlled since EAR adoption stage started, then various research and writing for the project start and may increase the expenditure of the comprehensive planning activities. In addition, when EAR adopted, local governments may have chance to change their comprehensive plans based upon the adoption of EAR[57]. This data is available at Florida Department of Community Affairs.

Table 8. Descriptive Statistics of Variables

Variables	Mean	Std. Dev.	Min.	Max.
Dependent Variables				
Conservation Amendments	.03	.157	0	1
Ratio of Large/Small Scale (FLUM)	50.7037	40.7566	.00	100.00
Independent Variables				
Mayor	.14	.344	0	1
District	13.6545	31.9019	.00	100.00
Turnover	17.7309	20.7158	.00	100.00
Expenditure	262769.66	825845.07	.00	19774667.00
RPC	.27	.446	0	1
ILA	912.39	3425.29	.00	41791.00
Construction	.0993	.05515	.00	.43
Real Estate	.0503	.0269	.00	.18
Income	40042.98	22671.62	14923	200000
White	78.43	19.98	.00	100.00
Homeownership	71.05	13.12	.00	96.94
Degree	22.16	15.33	.00	100.00
Log Population	3.66	.8120	.78	5.87
Pop Change	24.53	75.57	-99.10	1300.00
Density	2290.37	2587.60	.00	20267.10
Water/Land	13.87	19.95	.00	90.28
Shoreline	14.99	61.46	.00	1067.25
Control Variable				
EAR	.06	.236	0	1

[56] Section 163.3191 Florida Statue

[57] Section 163.3191 (10): "Amendments to update a comprehensive plan based on the EAR shall be adopted during a single amendment cycle within 18 months after the report is determined to be sufficient by the state land planning agency."

Table 9. Variables and the Data Sources

Variables	Data Sources
Dependent Variables	
- Conservation Amendment	NSF supported study by Feiock and Lubell of Local Land Use Politics
- Ratio of Large to small scale Amendments of Future Land Use Map	NSF supported study by Feiock and Lubell of Local Land Use Politics
Independent Variables	
Institutions	
- Formal Institutions	
Form of Government	Devoe Moore Center Survey of political institutions in 2002
Types of Election	Devoe Moore Center Survey of political institutions in 2002
Leadership Turnover	The Membership directory of Florida Municipal League
Administrative Capacity	Florida Department of Financial Services
- Informal Institutions	
Network Bonding Communities	Interlocal Service Delivery Reports of DCA
Network Flowing Information	RPC Board meeting minutes / RPC annual reports
Community Characteristics	
- Environmental Interests	
Education	U.S. Census 2000
Median Income	U.S. Census 2000
Homogeneity	U.S. Census 2000
Homeownership	U.S. Census 2000
- Development Interests	
Construction	U.S. Census 2000 Zip Code Business Patterns
Real Estate	U.S. Census 2000 Zip Code Business Patterns
Physical Characteristics	
Population	U.S. Census 2000
Population change	U.S. Census 2000
Population density	U.S. Census 2000
Water Area	Florida Department of Environmental Protection
Shoreline	Florida Department of Environmental Protection
Control Variable	
Evaluation Appraisal Report	DCA Archival file of EAR reports

Research Design

Panel Probit Model for Conservation Amendments of Florida Cities

For this model, I used panel probit model for the binary nature of the dependent variable. This model explains the dependent variable as a function of various institutions, community, and physical attributes. I estimate random effects probit models for whether or not a city offered conservation amendments in a certain year. General rule of thumb to use random effect model is that if the key explanatory variable is constant over time, we cannot use fixed effect to estimate its effect on the dependent variable (Wooldridge 2002).

The specification is:

$$y_{it} = \boldsymbol{x}_{it}\,\beta + \varepsilon_{it,}\;\; i = 1,\ldots..N\,;\, t = 1,\ldots.9$$

$$y_{it} = \{1\; if\, y^*_{\;it} > 0,\, 0 \text{ else}\}$$

where y_{it} is a dichotomous variable that indicates whether a city offered conservation amendments while $\boldsymbol{x}_{it}$ is the set of independent variables, and $\varepsilon_i = \gamma i + \mu_{it}$. Since I use Random Effect model, I have:

$$E(\gamma i \mid Xi) = E(\mu_{it} \mid Xi) = 0$$
$$Var(\varepsilon_{it} \mid Xi) = \sigma_\gamma^{\,2} + \sigma_\mu^{\,2}$$

This model assumes that error terms are random and therefore uncorrelated to the regressors, and thereby yield unbiased and consistent estimates. I estimates this model with robust standard errors clustered at the city level to provide correct standard errors. My econometric model specification is:

Whether or not amendment offered = β_0 + β_{1t}Mayor + β_{2t}District + β_{3t}Turnover + β_{4t}Expenditure + β_{5t}RPC + β_{6t}ILA + β_{7t}Construction + β_{8t}Real Estate + β_{9t}Income + β_{10t}White + β_{11t}Homeownership + β_{12t}Degree + β

$$_{13}\text{Population} + \beta_{14}\text{Population change} + \beta_{15}\text{Population Density} + \beta_{17}\text{Water/Land} + \beta_{18}\text{Shoreline} + \beta_{19t}\text{EAR} + \beta_{20t}\text{Interaction} + \varepsilon_{it}$$

Heckman Selection Model for the Ratio of Large/Small Scale Amendment for Future Land Use Map

The data for this model is the ratio of large to small scale amendments of future land use map in local comprehensive plans. The important characteristics of the data are that amendments were not offered in every year; amendments were only submitted in 1327 of 3618 amendment years that were observed from 1997-2005. Because the decision to submit an amendment package is probably non-random, I estimate Heckman Selection Bias Model where the selection equation uses the physical characteristics to predict which years are observed and the outcome equation uses the institutions and community attribute variables to predict the ratio of large to small scale amendments.

Again, in this model, I am trying to explain the ratio of large to small scale amendments as a function of community attributes and institution indicators. In this case, I only observed the ratio for those cities that offered future land use map change amendments whether they are small or large scale. The theoretical reason why some cities did not offer future land use map amendments is that the benefits of preserving environments are closely related to the exiting patterns of physical characteristics. So, if a city faced a certain threshold of their physical characteristics, then it seemed to start to consider their land use policy change (Lubell et al 2005).

Thus, in the framework of the sample selection model, I could specify an equation for whether or not a city is at or below the certain thresholds indicated by various physical attribute variables (probit estimation process). Then I could specify the different equation for how many times a city offered amendments of future land use map in terms of large vs. small scale amendments ratio (regression estimation process). In fact, as Heckman (1978) demonstrated, if the processes are related, estimating a model of amendment ratio without first estimating an equation of whether or not a city was on or below the certain threshold of physical attributes, would lead to biased results. The specification follows:

$\mathbf{z}_{it}\gamma + \varepsilon_{1it} > 0$ Selection Equation

$y\text{it} = \mathbf{x}_{it}\,\beta + \varepsilon_{2it}$ Outcome Equation

where

$$\varepsilon_t \sim N(0, \sigma)$$
$$\varepsilon_t \sim N(0, 1)$$

$$\text{corr}(\varepsilon_{1t}, \varepsilon_{2t})$$

When $\rho \neq 0$, OLS techniques may yield biased results. Using Heckman selection model provides consistent and efficient estimates for all parameters in this model (Wooldridge, 2002).

The basic idea of the sample selection model is that the outcome variable, y, is only observed if some criterion, defined with respect to a variable, z, is met. The common form of the model has two stages. In the first stage, a dichotomous variable, z, determines whether or not y is observed, y being observed only if z=1; in the second stage, I model the expected value of y, conditional on its being observed.

My econometric model specification is:

$$\textbf{Ratio of Large vs. Small} = \beta_0 + \beta_{1t}\textbf{Mayor} + \beta_{2t}\textbf{District} + \beta_{3t}\textbf{Turnover} + \beta_{4t}\textbf{Expenditure} + \beta_{5t}\textbf{RPC} + \beta_{6t}\textbf{ILA} + \beta_{7t}\textbf{Construction} + \beta_{8t}\textbf{Real Estate} + \beta_{9t}\textbf{Income} + \beta_{10t}\textbf{White} + \beta_{11t}\textbf{Homeownership} + \beta_{12t}\textbf{Degree} + \beta_{13t}\textbf{EAR} + \beta_{14t}\textbf{Interaction} + \mu_{1t}$$

and I assumed that ratio is observed if

$$\gamma_0 + \gamma_{1t}\textbf{Population} + \gamma_{2t}\textbf{Population change} + \gamma_{3t}\textbf{Population Density} + \gamma_{4t}\textbf{Water/Land} + \gamma_{5t}\textbf{Shoreline} + \mu_2 > 0$$

where ε_{1t} and ε_{2t} have correlation ρ

Another concern is that the panel nature of the data creates within-city error correlations and heteroscedasticity providing incorrect standard errors (Wooldridge 2002; Cameron and Trivedi 2005). So, to correct standard errors, I used robust standard errors clustered at the city-level.

Table 10. Hypothesized Direction and Measurement

Variables	Hypothesized Direction	Measurement
Institutions		
Formal Institution		
- Form of Government	+	Strong Mayor-Council 1, others 0
- Type of Election	+	Proportion of council members elected by district
- Leadership Turnover	-	% of Number of member changes in councils
- Administrative Capacity	+	Comprehensive planning expenditure
Informal Institution		
- Network Bonding Communities (Strong Ties)	+	Expenditure of ILAs
- Network Flowing Information (Weak Ties)	+	If a city participates in RPC meetings or has membership 1, if not 0
Community Characteristics		
Environmental Interest		
- Education	+	% of college degree or above
- Median Income	+	Dollar
- Homogeneity	+	% of white
- Homeownership	+	% of homeowners
Development Interest		
- Construction	-	Proportion Construction Industry
- Real Estate	-	Proportion of Real Estate Industry
Physical Characteristics		
- Size of City	+	Log population
- Population Increase	+	% of population increase
- Population Density	+	people per square miles
- Water Area	+	Ratio of water vs. land
- Shoreline	+	Miles of shoreline
Moderating Effect		
- Mayor*Homogeneity - Mayor*Income - Mayor*Homeownership - Election*Homogeneity - Election*Income - Election*Homeownership - RPC Participation*Homogeneity - RPC Participation*Income - RPC Participation*Homeownership	Increase the impact of Environmental interests	
Control Variable		
- EAR		Adopted year 1 others 0

Institutional Moderating Effects for Both Models

The both models imply the important consideration of institutional influences in the IAD framework. As the framework argues, institutions have both direct and moderating effect on community attributes' influences. In other words, different institutional arrangements are expected to increase the influence of environmental community interests[58].

To test these effects, I estimate models with separate interaction terms between institutional variables and community environmental interests. These interaction terms involve different combinations of environmental interest variables with institutional variables. However, as interaction terms always do, putting all interaction terms in one model create unstable results because there are possible multicollinearity problems among interaction variables and constitute variables. Thus, I put three interaction terms at once in a model to reduce these problems.

As the result tables in the next chapter show, interaction models are divided by three models. The first model is without interaction terms (first column in the result table). The second model includes interaction terms between mayor council form of government, and white, income, and homeownership (second column). The third and fourth models respectively include interaction terms on district election and Regional Planning Council participation with same community environmental interest variables as the second model (third and fourth column).

[58] Interaction terms in this research are limited to the community interest variables that have been theoretically well developed since interaction terms make the entire model unstable.

CHAPTER 5

RESULTS AND IMPLICATIONS

Results

Panel Probit Analysis of Conservation Amendments

To estimate the influences of the indicators on local land use policy change, I employed the random effect panel probit model with the dichotomous variable of conservation amendments using robust standard errors. Before I used robust standard errors in this model, I ran the panel probit model without standard errors to check whether this model is appropriate for this analysis. LR (Likelihood Ratio) test of rho=0[59] is not statistically significant but this does not mean using the panel probit model is not appropriate[60]. However, the Wald tests of model fits for four models (without and with interaction terms) are all statistically significant at p=.01 level.

Table 11 shows the results of the panel probit model of conservation amendment of local comprehensive plans. The first column of the table 11 reports the coefficients without interaction effects. There are five variables that are statistically significant: strong mayor form of government (Mayor); council member turnover (Turnover); Regional Planning Council participation (RPC); homogeneity of community (White); and the population (Population). A distinguishing result of this model is that the strong mayor form of government is positively related to the conservation amendments while holding other variables constant (significant at p=.01 level). This confirms the hypothesis of

[59] LR test statistics does not appear after standard errors are corrected.

[60] When LR test of rho=0 is statistically significant, that means the data structure only allow panel probit model, not pooled probit model. So, even though LR test is not significant, that does not necessarily mean we cannot use panel probit. Rather that means coefficient values are not different between pooled probit and panel probit. In addition, the LR test is very sensitive to adding or dropping an independent variable. So, I keep the panel probit result in this research.

mayoral influence on comprehensive plan amendments, meaning that if a city adopted strong mayor form of government, the probability to offer conservation amendments are much higher than the cities with other forms of governments. However, the legislative institution (proportion of council members elected by district) has no significant influence on the pro-environmental land use policy change. This result may be caused by mixed nature of election types mitigating the influence of one election type's influence on conservation amendments.

Table 11. Panel Probit Model of Conservation Amendments[1]

Variables	Without Interaction	Interaction with Mayor	Interaction with District Election	Interaction with RPC
Institutions				
Formal Institutions				
Mayor	.65	-1.59	.66	.63
	(.11)***	(.88)*	(.11)***	(.11)***
Expenditure	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
District	.00	.00	-.02	.00
	(.00)	(.00)	(.01)	(.00)
Turnover	-.01	-.01	-.01	-.01
	(.00)**	(.00)**	(.00)**	(.00)**
Informal Institutions				
RPC	.30	.31	.31	-.92
	(.13)**	(.14)**	(.14)**	(.78)
ILA	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Community Interests				
Development Interests				
Construction	1.26	1.14	1.42	1.08
	(1.07)	(1.21)	(1.09)	(1.07)
Real Estate	1.05	1.30	.92	1.27
	(1.76)	(1.73)	(1.82)	(1.82)
Environmental Interests				
White	.008	.002	.007	.006
	(.004)*	(.004)	(.004)	(.005)
Income	-.00	-.00	-.00	-.00
	(.00)	(.00)	(.00)	(.00)
Homeownership	.004	.005	.002	.003
	(.055)	(.008)	(.006)	(.008)
Degree	.004	.003	.002	.007
	(.006)	(.007)	(.006)	(.005)

[1] with Robust Standard Errors

Table 11. Continued[1]

Variables	Without Interaction	Interaction with Mayor	Interaction with District Election	Interaction with RPC
Physical Characteristics				
Population	.29 (.11)**	.30 (.11)**	.30 (.11)**	32 (.11)**
Popchange	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Density	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Water Land Ratio	.002 (.003)	.002 (.003)	.003 (.004)	.002 (.003)
Shoreline	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Moderating Effects				
White* Institutions		.03 (.01)**	.00 (.00)	.00 (.01)
Income*Institutions		.00 (.00)	-.00 (.00)	.00 (.00)**
Homeownership *Institutions		-.01 (.01)	.00 (.00)	.00 (.01)
Control Variable				
EAR	-.37 (.28)	-.39 (.28)	-.38 (.28)	-.38 (.28)
Constant	-4.30 (.56)	-3.86 (.66)	-4.07 (.59)	-3.80 (.71)
Observation	2347	2347	2347	2347
Wald test	127.21 (.00)***	169.12 (.00)***	129.68 (.00)***	148.08 (.00)***

[1] with Robust Standard Errors

However, the political turmoil (council member turnover) is statistically significant (at p=.05 level), showing its negative relationship to the pro-environmental land use policy change while holding other variables constant. This confirms the hypothesis that, when a council faces higher turnover rates, then the city does not tend to offer conservation amendments. Another important finding is that the linkage to the RPC board meeting. As the table 11 indicates, a city's RPC connection is positively related to offering conservation amendments while holding other variables constant (significant at

p=.05 level). This can be interpreted that when a city has a linkage with the appropriate RPC, then the probability of offering conservation amendments will be much higher than the cities that do not have linkage with RPC (network flowing information). However, the other important informal institutional variable of ILA expenditure (network bonding communities) seems not to influence the pro-environmental land use policy change. This may comes because the data of ILA expenditure was limited to the cities in the counties that have population more than 100,000. This causes a lot of missing variables. 1,171 (32.3%) were missed out of 3636 observation years, reducing available observations. The administrative capacity variable is not also statistically significant even though the direction is positive to offering conservation amendments. This may occur because the expenditure data does not perfectly measure the actual city's planning capacity. The comprehensive planning activity expenditure may not reflect actual planning capacity of a city[61].

Unlike many institutional variables show their hypothesized directions, most of community interest variables are not statistically significant. As table 11 reports, only homogeneity variable (percentage of white population) is positively related to cities' offering of conservation amendments (significant at p=.05 level). This means that if a community is more homogeneous (white dominated), then the city has higher possibility to offer conservation amendments. However, even though most community interest variables are not statistically significant, the directions have positive relationships with pro-environmental land use policy change except median income variable.

The physical attributes variables are mostly not significant in this model. However, population is positively related to conservation amendments while holding other variables constant, confirming scarce land increases the possibility of pro-environmental policy change. The unexpected result of these physical characteristic variables is that many variables such as density, population change, and shoreline may have negative relationship with conservation amendments even though they are not

[61] For example, whenever city did works regarding comprehensive planning activities, the city spent a lot of money regardless of the size of the city. For example, cities of Bradenton Beach and Cedar Key have around 1000 population, but their expenditure on comprehensive planning activities are similar to the amount of the ones that more than 20,000 population cities. In this case, expenditure per capita does not work also.

statistically significant. This is probably because the amendments are basically developer-driven. However, although it is not significant, water-land ratio variable seems to have positive relationship with conservation amendments.

Column 2, 3, and 4 report the moderating effect of institutions on community interests. The second column is the model with interaction terms between strong mayor form of government and three community interest variables (white, income, and homeownership). Even though two interaction terms are not statistically significant, the important finding of this model is that as a community is more dominated by white, mayors are more likely to favor pro-environmental land use policy change. It means that the positive relationship with pro-environmental land use policy is much higher in the cities where mayors have greater political power. However, as the third column indicates, there is no evidence of interaction influence of election types with the community interest variables. In this model, the mayor's influence is changed reversely. This could be interpreted that when a community is not dominated by white, mayor tends not to offer pro-environmental change. Other variables such as Turnover, RPC, and Population have same impacts on conservation amendments as the without interaction model.

Another important finding is in the interaction between RPC linkage and one of community pro-environmental interest variables (income). As the fourth column of the table 11 indicates, the interaction term of RPC with income is statistically significant in a positive direction. This means that as a community becomes affluent, the city's RPC connection works as a factor that increase the possibility of pro-environmental land use policy change. In other words, the influence of income on the pro-environmental land use policy change is higher in cities that have connection with RPC board meeting. In a reverse logic, when a city does not have any connection with RPC board meeting, then the higher income people lose the influence on the pro-environmental land use policy change. However, there is no evidence that there is any interacting influence of RPC with white and homeownership on pro-environmental land use policy change.

Table 12 reports the economic significance (marginal effects) of these models. The coefficients of nonlinear models such as Logit or Probit are not straight forward unlike OLS coefficient values because they are the values that simply maximize the

likelihood function (Wooldridge 2002; Cameron and Trivdedi 2005). For the convenient purpose, I just report the variables that are statistically significant in this analysis. Coefficient signs from the marginal effect are consistent with those of the random effect probit model.

Table 12. Marginal Effect of Conservation Amendments

Variables	Without Interaction	Interaction with Mayor	Interaction with District Election	Interaction with RPC
Mayor[1]	.05	-.037	.05	.045
	(.01)***	(.015)**	(.01)***	(.011)***
Turnover	-.0002	-.0003	-.0003	-.0003
	(.0001)**	(.0001)**	(.0001)**	(.0001)**
RPC[1]	.017	.016	.016	-.035
	(.008)**	(.007)**	(.007)**	(.029)
White	.0004	.0001	.0003	.0003
	(.0002)**	(.0002)	(.0002)*	(.0002)
Population	.014	.014	.014	.015
	(.005)**	(.006)**	(.006)**	(.005)**
White*Institutions		.001		
		(.000)**		
Income*Institutions				6.30e-07
				(.00000)**
Homeown*Institutions				

[1] dy/dx is for discrete change of dummy variable from 0 to 1

In the model of without interaction, if a city adopted strong mayor form of government, then the probability of offering conservation amendments increase by around 5%. For the council member turnover, one percent increase of council turnover is correlated to the decrease of probability of offering conservation amendments by 0.02%. RPC linkage has positive influence on the probability of conservation amendments showing a city that has RPC connection may amend pro-environmentally by 1.7% more. White and population also have similar impacts. For the interaction terms, mayors in the strong mayor form of government system increase the probability of offering conservation amendment when a community is more homogenous[62]. The same impact exists on the interaction term of RPC and income.

[62] It is very complex to interpret the marginal effects of interaction terms. And it is not necessary to report the exact percentage. So, the interpretation is limited to the general description.

Heckman Selection Model for Ratio of Large to Small Scale Amendments of Future Land Use[63]

Table 13 and 14 report parameter estimates for four with and without interaction models. Table 13 reports the selection equation stage while Table 14 shows the outcome equation[64]. The likelihood ratio test (LR test) reported at the bottom of the table 14 is an equivalent test for $\rho = 0$ and the comparison of the joint likelihood of an independent probit model for the selection equation and a regression model on the observed ratio data against Heckman model likelihood. Since $\chi 2 = 7.50$ for the without interaction model, this justifies the Heckman selection equation with these data. The rests of LR tests are $\chi 2 = 8.50$ (Mayor interaction with community interests), $\chi 2 = 8.83$ (Election interaction with community interests), $\chi 2 = 7.63$ (RPC interaction with community interests) justifying the appropriateness of using Heckman selection model. The model fits of all estimating models are statistically significant at the 1% level ($\chi 2$ is significantly different from zero).

Physical characteristics of communities at the selection equation[65] have very similar influence on whether cities offer amendments for the future land use map in both without interaction terms model and with interaction terms models. While other variables are constant, population has positive relationship with cities offering amendments of future land use map, which means larger communities are more likely to offer future land use map change. As the table shows, cities with higher population density and more shoreline are less likely to offer future land use map change amendments. This result could be possible since most amendment packages have a pro-developmental nature. Another possible explanation of this is the data's time-invariant nature. For example, in a small city, one development may make the city more populous. The population change and water/land ratio variables are not statistically significant at all. Further, population change has negative relationship with future land use change amendments. These results can be explained also in the above way.

[63] Before running the model, I ran the regression model with panel standard error corrected. The result is reported in Appendix. The result does not show much difference from the Heckman model except some community interest variables.

[64] For the convenience purpose, I split the Heckman selection results into selection and outcome parts. Thus, I report Wald test, rho, sigma, lamda statistics in only outcome equation table.

[65] The selection equation model is related to why a city offered future land use map amendment whether or not an amendment is small or large. Thus, the direct interpretation of direction is not straight forward.

Table 13. Heckman Selection Model of Ratio of Large/ Small Scale[1] (Selection Equation)

Variables	Without Interaction	Interaction with Mayor	Interaction with District Election	Interaction with RPC
Population	.99 (.09)***	.99 (.09)***	.99 (.09)***	.99 (.09)***
Popchange	-.0004 (.0008)	-.0004 (.0008)	-.0004 (.0008)	-.0004 (.0008)
Density	-.0001 (.0000)***	-.0001 (.0000)***	-.0001 (.0000)***	-.0001 (.0000)***
Water Land Ratio	.001 (.002)	.001 (.002)	.001 (.002)	.001 (.002)
Shoreline	-.003 (.000)***	-.003 (.000)***	-.003 (.000)***	-.003 (.000)***
Constant	-3.81 (.34)***	-3.81 (.34)***	-3.81 (.34)***	-3.81 (.34)***

[1] robust standard error clustered at city level

While the physical characteristic variables produced mixed results, institutional variables are mostly in the hypothesized directions. In column 1 of without interaction model, strong mayor form of government has statistically significant direct effects in pro-environmental land use policy change. Strong mayor presents a ratio of large/small scale amendments of 8.65%[66] higher than the other forms of government. District election also confirms the hypothesized direction showing significant positive effects on pro-environmental land use policy change. 1% increase of council members elected by district is correlated to the .1% increase of the ratio of large/small scale amendments. Another important finding is that turnover rates of council members are also confirming my hypothesis showing negative relationship with pro-environmental land use policy change. 1% increase of council member turnover rates is correlated to the 0.09 % decrease of the ratio of large/small scale amendments.

Unlike the analysis of conservation amendments, administrative capacity variable (expenditure) is statistically significant at p=.10 level in a positive direction. This means that the bigger a city's planning capacity the higher the ratio of large/small scale amendments is. However, informal institutional variables (RPC and ILA) have no significant direct effects in this analysis.

[66] In the Heckman Selection Model, the coefficient value is same as marginal effect (Wooldridge 2002). Thus, this type of interpretation can be allowed in this analysis

Table 14. Heckman Selection Model of Ratio of Large/ Small Scale[1]

Variables	Without Interaction	Interaction with Mayor	Interaction with District Election	Interaction with RPC
Institutions				
Formal Institutions				
Mayor	8.65	21.21	7.38	8.55
	(4.61)*	(12.7)*	(4.48)	(4.59)*
Expenditure	0.00	0.00	0.00	0.00
	(0.00)*	(0.00)*	(0.00)	(0.00)*
District	.10	.09	.38	.10
	(.05)**	(.05)**	(.09)***	(.05)**
Turnover	-.09	-.09	-.08	-.08
	(.05)*	(.05)*	(.05)	(.05)
Informal Institutions				
RPC	3.54	3.97	3.44	-1.18
	(3.40)	(3.38)	(3.36)	(21.2)
ILA	-.00	-.00	-.00	-.00
	(.00)	(.00)	(.00)	(.00)
Community Interests				
Development Interests				
Construction	-89.4	-96.3	-92.7	-89.2
	(42.1)**	(42.8)**	(43.0)**	(42.5)**
Real Estate	75.9	95.2	56.2	75.8
	(91.5)	(85.6)	(93.9)	(90.1)
Environmental Interests				
White	-.08	-.09	-.12	-.11
	(.09)	(.09)	(.10)	(.12)
Income	.0002	.0002	.0002	.0004
	(.0001)**	(.0001)**	(.0001)**	(.0001)**
Homeownership	.16	.30	.28	.10
	(.19)	(.20)	(.19)	(.25)
Degree	.10	.07	.12	.08
	(.17)	(.17)	(.17)	(.17)
Mediating Effects				
White*Institutions		.01	.00	.04
		(.33)	(.00)	(.18)
Income*Institutions		.0006	.0000	-.0001
		(.0003)*	(.0000)*	(.0002)
Homeown*Institutions		-.53	.009	.11
		(.37)	(.003)***	(.33)
Constant	24.4	17.5	***21.4***	26.6
	(11.9)**	(8.4)*	(11.6)*	(15.9)*
Rho	.27	.28	.29	.27
	(.09)	(.09)	(.10)	(.09)
Sigma	39.7	39.6	39.6	39.7
	(.79)***	(.81)***	(.84)***	(.81)***
Lamda	10.4	10.7	11.2	10.7
	(.96)	(3.63)	(3.71)	(3.82)
Wald test of independent Equations	Chi2=7.50*** (1d.f)	Chi2=8.50*** (1d.f)	Chi2=8.83*** (1d.f)	Chi2=7.63*** (1d.f)
Wald test of model fit	Chi2=81.0*** (13d.f)	Chi2=72.4*** (13d.f)	Chi2=91.8*** (13d.f)	Chi2=66.5*** (13d.f)
Observation	Censored=2065 Uncensored=1137	Censored=2065 Uncensored=1137	Censored=2065 Uncensored=1137	Censored=2065 Uncensored=1137

[1] robust standard error clustered at the city level

There are two community interest indicators that are statistically significant in the hypothesized directions. First, one of pro-development interest variables (proportion of construction industry) is negatively related to the pro-environmental land use policy change. 1% increase of construction industry proportion is correlated with the 0.9% decrease of ratio of large/small scale amendments. Secondly, one of community wealth variable (median income) is positively related to the pro-environmental land use policy change. If a community has $1000 more median income than other communities, then the ratio of large/small scale amendment increases by 0.2%. However, the other community interest variables are not statistically significant.

Column 2, 3, and 4 report the Heckman selection model with interaction terms. In the second column, the interaction term between strong mayor form of government and median income is statistically significant at p=.10 level in a positive direction. Confirming the hypothesized direction, this can be interpreted that, as a community's affluence increases, mayors are more likely to prefer pro-environmental land use policy change. In other words, as a community has a strong mayor, then the influence of community affluence is much higher in that city. In a reverse logic, if a city has manager or other types of form of government, then the influence of community affluence is reduced in that city.

The most interesting finding is in this analysis at the column 3. Even though interaction terms between election institution and community interests in the previous probit model, this model does provide strong statistical significant influence on pro-environmental land use policy change. Interaction terms between district election and community affluence variables (median income and homeownership) are positively significant at p=.10 and .01 levels respectively. These results mean that community's pro-environmental interests may easily influence on local land use policy decision making when the community has more council seats elected by district. In other words, even though environmental interests are disperse (Lubell et al. 2005), their influence might be much higher when local governments have more council members who are elected by district. However, as column 4 shows, the roles of informal institutions are not statistically significant at all. This is a quiet different result from the panel probit model.

Implications

As I discussed in the first chapter, this research is to integrate four partial explanations of land use policy change such as Deterministic View, Property Rights Model, Interest Group Model, and Political Economist View. Built upon the IAD framework, the political market framework provides a possibility of being a more comprehensive framework to understand land use policy change at the local level. While building a comprehensive framework, there are several implications in this research.

First, as the previous chapter's results indicate, institutions matter on local land use policy change. Local political institutions provide incentives and constraints on local land use policy decision. The results show that strong mayor council form is an important factor that affects the pro-environmental land use policy change. Because of the existence of a single executive authority, strong mayors are easily able to deal with the pressures of changing land use policies (Feiock 2004; Maser 1998; Hansell 1998). Also, this strong mayor position shapes and provides opportunity structures in which elected leaders easily do political credit claiming through changing local land use policy more pro-environmental while other forms of government such as reformed one did not provide political leaders incentives. Because too stringent land use policy may reduce the room where managers administer their communities for balancing community needs, managers may not want pro-environmental land use policy change. In addition, their performances are usually judged by community improvement in terms of economic development (McCabe et al. 2001).

In addition, the structure of legislative institutions seemed to have an impact on land use policy change. Because environmental interests are unorganized and dispersed in a whole community, those interests are not easy to collectively work together. However, as the results of the second model show, larger proportion of district representation in city councils removes entry barriers for community interests seeking to preserve environment (Gerber and Phillips 2004; Lubell et al. 2005). This implies that district representation on city council may be more amenable to environmental pressures and more inclined to favor pro-environmental policies as a means to reelection (Lubell et al. 2005).

Another important implication is that rules are not independent from other rules (Ostrom 1990). As the results show, the configuration of rules is important. Even though there have been much progress in many literature (Svara 1999; Frederickson and Johnson 2001; DeSantis and Renner 1994, 2002; Lubell et al. 2005; Gerber and Phillips 2004), much of previous research has used political institutions not being affected by other important institutions. From configuration of political institutions, this research helps measuring local political institutions. In this research, I pulled the factors that affect mayors' centralized authority and political dimensions to code strong mayor council form of government. To deal with election types, I used proportion of council members of elected by district. From the results of both models, it is important to configure institutions when we do an institutional analysis.

Along with the above political aspects of local governments, unelected bureaucrats influence local policy decision making. The second model confirms that the planning capacity is a critical factor of pro-environmental land use policy change. This implies that, even though planners seek and balance various interests such as pro- and anti-environmental interests, their educational orientation to achieving environmental goals makes planners rigorously engaged in the local policy making process. In addition, increased pressures of growth management by state have provided planning experiences to local governments. More activities regarding planning issues along with planners' informational and technical powers increase the higher possibility for planners to influence land use policy decision making (Rudel 1989). These powers work as a barrier to political opportunism for elected officials to promote their own policy preferences (Feiock and Kim 2000) as well as a factor of promoting bureaucrats' own preferences (Teske and Schneider 1993).

Another important implication is in the influence of political turmoil on the land use policy decision. As the results show, higher turnover rates are negatively related to the pro-environmental policy change. In urban policy making process, councils act as multiple principals while executive bodies work as agents. So, when a council faces risks of frequent turnover, the monitoring costs and information asymmetries will be higher than when council stable. This makes executive bodies easily pursue their preferences. In

this situation, a decisive mayor could have a higher possibility to make a developmental policy choice (Clingermeyer and Feiock 2001). In addition, when they face political turnovers, councils try to avoid the blame for controversial decisions such as pro-environmental land use policy decisions that are highly distributional because they are in nature reelection seeking legislators (Fiorina 1982; McCubbins 1985). This implies that the study of land use policy decision should include the relational nature between executive and legislative institutions as well as the structure of political institutions.

The most important finding of this research is the influence of informal institutions. RPC's roles in the urban land use policy making show how social capital constructed through relational structures influence on the pro-environmental land use policy decision making. As I discussed earlier, informal institutions are a set of norms and conventions that constrain or facilitate certain behaviors (North 1990; Ostrom 1990). These norms and conventions are created and supported as social capital embedded in the relationships individuals establish as members of a social network (Burt 2000). Therefore, embedded norms and conventions can be seen through the social networks in which actors are involved. The result implies that the role of informal institutions should not be ignored when we do a policy research. The most important barrier on using informal institutions is the appropriate measurements of informal institution. In addition, most scholars assume away informal institution as constant and culturally embedded. Social capital theory could be a useful theory that network can be a generator of informal institutions such as norms, values, and conventions that constrain behaviors. As the result indicates, local governments could have informal norms and values constructed by participation in RPC.

Finally, this research confirms that local land use policy decision implies the conflicting community interests and responses to the scarce of available physical space. A lot of previous research, as I mentioned in the first chapter, has used community and physical characteristics as minor independent or control variables. This research shows that these variables should be considered as important explanatory variables (Ostrom 1990; Ostrom et al. 1994). Furthermore, as the results of the interaction terms show, the

influence of community characteristics is moderated by the institutions. Therefore, the influence of community characteristics should be interactive as well as additive.

Conclusion

The goal of this research was to build a more comprehensive framework to investigate the influence of political institutions and informal institutions on the local land use policy change in Florida cities. The contributions of this research is to integrate various research streams such as Deterministic, Interest Group, Property Rights, and Political Economy views of land use policy into a framework. Political institutions really do matter in local land use policy in this research. In addition, the most important finding is that political institutions do have mediating role on community interests. Community interests could not work well without better political institutions that can help those interests to be articulated into a policy. As North (1990) and Ostrom (1990) argue, informal institutions also matter. This research contributes how informal institutions role to land use policy. Cities' linkage to a resource network could provide norms and conventions to make cities stick together as well as provide information. IAD framework is useful tool for policy research. However, its usefulness has been proved limitedly. Another important contribution is that integrating political market framework based upon Institutional Analysis and Development framework increases the possibility for IAD framework to be applied for other policy areas and at the different level.

Even though the research provides important findings and implications, it is necessary to point out several limitations of this research to study further. First, we need more in-depth configuration of rules for further studies, especially in political institutions. A lot of scholars have tried to make combination of rules reflecting changing characteristics of local political institutions (Desantis and Renner 2002; Frederickson and Johnson 2001; Feiock et al. forthcoming; Gerber 2006; Lubell et al. 2005 and forthcoming). However, exact combination of political institutions for a certain policy

outcome should be far back behind. One of reasons[67] for this is that the difficult to code. For more accurate measurement on political institutions, we need to consider various aspects of institutions. For example, rather simply using proportion of council members elected by district, we need to consider other critical aspects of election system such as council size, length of term, and other rules in the city charter. In addition, the relationship between executive and legislative institutions may provide different policy outcomes (Desantis and Renner 2002; Frederickson and Johnson 2001). Thus, we need to consider this relationship in-depth also.

Second, relational nature of institutions is important in this research. The measurement of strong tie network as ILA expenditures is limited. For better measurement, it is necessary to identify various relational structures among local entities regarding environmental and land use issues. In that way, we could better understand how relational social resources influence local policy changes.

Third, for better measurement of trends of community and physical characteristics, longitudinal data sets are necessary. The time-invariant assumption of community interests and physical characteristics could lead to significant random measurement errors because of not considering time variant impact. More precise measurement of city wide developmental and environmental interests is needed for better outcome.

Fourth, King et al. (1995) argues that the importance of replication for policy research. Florida has its own community and institutional characteristics, which in turn results in different policy outcome. If this research is applied for other states, the results could be same or different. I expect that there should be same institutional effects on the policy decision making. However, even though there is a different result, this research may provide a basement framework for other researchers to study same subject.

The other issue is a generalizability of a framework. IAD framework has been used for limited policy areas such as common pool resources. Starting with the monumental study by Lowi (1965), Wilson (1980), and Peterson (1981), types of policies

[67] Coding like Frederickson's work is even more difficult. Information in our data has limits to provide the whole dimension of his typology. For example, the information of whether elected officials are part-time or not is very limited in our data set.

have different consequences. Institutional impacts on policy choice could be different while various community and physical characteristics' influences vary. To extend the usage of IAD framework require applying other policy areas such as affordable housing policy at the local level or similar policy areas such as Development of Regional Impact at the regional level. Applying various subjects and at the various levels may make the framework robust and generalizable in the policy analysis[68].

[68] Affordable housing at the local level is critical issue for the city government. It requires for cities to address collective action problems to provide more housings to the poor persons. Various community interests create barriers to provide affordable housing in a community. Development of Regional Impact (DRI) issues are another important ones because more efficient way of permission processes may reduce transaction costs from the conflicts of local entities.

APPENDIX A. CORRELATION MATRIX OF COEFFIENTS

e(V)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1																
2	-0.07	1															
3	-0.11	-0.07	1														
4	0.05	0.05	0.02	1													
5	-0.08	-0.02	0.08	-0.03	1												
6	0.05	0.06	-0.24	-0.03	-0.04	1											
7	0.02	0.05	0.06	-0.04	0.02	0.03	1										
8	-0.01	0.02	0.06	-0.05	0.03	-0.01	0.08	1									
9	-0.14	0.02	-0.06	-0.01	-0.02	0.01	-0.20	-0.18	1								
10	0.09	0.03	0.01	0.06	-0.03	-0.05	0.10	-0.01	-0.04	1							
11	0.00	-0.01	-0.08	-0.03	0.03	0.03	0.03	-0.17	-0.11	-0.59	1						
12	-0.10	-0.01	0.10	-0.02	0.03	0.10	-0.17	0.09	-0.24	-0.38	0.10	1					
13	0.02	-0.14	-0.22	0.03	-0.33	-0.21	-0.05	-0.07	0.09	0.09	-0.06	-0.04	1				
14	-0.04	0.05	0.05	0.01	0.13	0.09	0.13	-0.08	-0.02	-0.02	-0.03	0.26	-0.41	1			
15	0.00	-0.07	-0.01	0.01	0.05	0.01	-0.07	-0.13	0.06	-0.33	0.04	0.03	-0.01	0.05	1		
16	0.10	-0.06	-0.01	-0.04	0.01	-0.03	0.15	-0.27	-0.15	0.03	-0.20	-0.01	0.15	-0.21	0.11	1	
17	-0.14	0.04	-0.32	0.02	-0.13	0.04	-0.03	0.00	0.05	0.00	0.04	-0.13	-0.06	0.04	0.00	-0.25	1

1. Mayor 2. District 3. Expenditure 4. Turnover 5. RPC 6. ILA 7. Construction 8. Real-estate 9. White
10. Income 11. Degree 12. Homeownership 13. Population 14. Density 15. Population Change 16. Water/Land Ratio 17. Shoreline

APPENDIX B. PANEL REGRESSION ANALYSIS WITH ROBUST STANDARD ERROR: RATIO OF LARGE TO SMALL AMENDMENTS

	Without Interaction	With Interaction Mayor	With Interaction District	With Interaction RPC
Mayor	10.85	22.93	9.54	10.86
	(4.79)**	(9.17)**	(4.54)**	(4.79)**
District	0.10	0.09	0.38	0.10
	(0.05)**	(0.05)**	(0.08)***	(0.05)**
Turnover	-0.05	-0.06	-0.04	-0.05
	(0.05)	(0.05)	(0.05)	(0.05)
RPC	5.87	6.37	5.86	7.22
	(3.42)*	(3.44)*	(3.40)*	(20.08)
ILA	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Expenditure	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Construction	-75.87	-82.47	-83.46	-75.91
	(42.94)*	(43.65)*	(44.23)*	(43.45)*
Real estate	73.43	93.31	55.08	74.06
	(93.27)	(85.96)	(94.71)	(95.27)
White	-0.07	-0.08	-0.11	-0.07
	(0.10)	(0.10)	(0.11)	(0.14)
Income	0.00	0.00	0.00	0.00
	(0.00)**	(0.00)*	(0.00)*	(0.00)
Homeownership	0.25	0.36	0.37	0.26
	(0.18)	(0.18)**	(0.17)**	(0.24)
Degree	0.16	0.13	0.20	0.16
	(0.16)	(0.16)	(0.16)	(0.16)
Logpop	-8.82	-9.21	-9.47	-8.81
	(3.33)***	(3.34)***	(3.30)*	(3.35)***
Popchange	0.06	0.06	0.06	0.06
	(0.05)	(0.06)	(0.06)	(0.06)
Density	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Water Area	0.02	0.03	-0.02	0.02
	(0.11)	(0.11)	(0.11)	(0.11)
Shoreline	-0.06	-0.07	-0.06	-0.06
	(0.03)**	(0.03)**	(0.03)*	(0.03)**
EAR	-1.03	-0.78	-0.93	-1.01
	(3.52)	(3.52)	(3.54)	(3.52)

APPENDIX B. CONTINUED

	Without Interaction	With Interaction Mayor	With Interaction District	With Interaction RPC
White*Institutions		-0.05	0.00	0.00
		(0.34)	(0.00)	(0.17)
Income*Institutions		0.00	0.00	0.00
		(0.00)*	(0.00)	(0.00)
Homeown*Institutions		-0.46	0.01	-0.03
		(0.40)	(0.00)***	(0.33)
_cons	51.11	47.78	50.58	50.28
	(20.00)**	(19.78)**	(20.02)**	(24.28)**
Obs	1137	1137	1137	1137
F-stat	6.27***	6.19***	6.5***	5.43***
R2	0.0977	0.1025	0.1073	0.0978
N of clusters	238	238	238	238

REFERENCE

Alston, Lee, Thrainn Eggertsson, & Douglas North. 1996. *Empirical Studies in Institutional Change.* New York, NY: Oxford University Press.

Anthony, J. 2003. "Do State Growth Management Regulations Reduce Sprawl?" *Urban Affairs Review* 39: 376-397.

Appleman, Bernard R. 2006. "Why Classifying a Small-Scale Land Use Amendment as a Legislative Decision is Not Justified." *The Florida Bar Journal* (April):53-57.

Archian, A. A. & H. Demsetz. 1973. "Production, Information, Costs, and Economic Organization." *The American Economic Review* 62 (5): 777-795.

Baumgartner, Frank & Bryan Jones. 1993. *Agendas and Instability in American Politics.* Chicago: University of Chicago Press.

Becker, G.S., and Mulligan, C.B. 1997. "The Endogenous determination of Time Preference." *The Quarterly Journal of Economics* 112: 729-758.

Benson, Bruce L. 1981. "Why Are Congressional Committees Dominated by 'High-Demand' Legislators?: A Comment on Niskanen's View of Bureaucrats and Politicians." *Southern Economic Journal* 48 (1): 68-77.

Bourdieu, P. 1986. *The Forms of Social Capital.* Handbook of Theory and Research for Sociology of Education. J.G. Robinson. New York: Greenwood Press: 241-258.

Bozeman, B. and L. DeHart-Davis. 1999. "Red tape and clean air: Title V air pollution permitting implementation as a test bed for theory development." *Journal of Public Administration Research and Theory* 9: 141–177.

Brueckner, J. K. 1997. "Consumption and Investment Motives and the Portfolio Choices of Homeowners." *Journal of Real Estate Finance and Economics* 15: 159-180

Brody, S. D. and W. E. Highfield. 2005. "Does planning work? Testing the implementation of local environmental planning in Florida." *Journal of the American Planning Association* 71(2): 159-175.

Burt, Ronald S. 1992. *Structural Holes: The Social Structure of Competition*. Cambridge: Harvard University Press.

Burt, Ronald S. 2000. *The Network Structure of Social Capital.* pp 345-423 in Research in Organizational Behavior, edited by Robert I Sutton and Barry M. Staw, Greenwich, CT: JAI Press.

Cameron A.C. and P.K. Trivedi. 2005. *Microeconomics: Methods and Application*. Cambridge, NY: Cambridge University Press.

Carlton, Lisa. 1999. "Streamlining of Local Government Comprehensive Plan Amendment Review." Interim Project Report 2000-25 of Committee on Comprehensive Planning, Local and Military Affairs, The Florida Senate.

Carriker, Roy R. 2006. "Comprehensive Planning for Growth Management in Florida." EDIS document FE 642, Institute of Food and Agricultural Sciences: University of Florida FL.

Clingermeyer, James C. 1994. "Campaigns, Careerism, and Constituencies: Contracting City Council Members about Economic Development," *American Politics Quarterly* 22 (4): 453-468.

Clingermayer, James C. & Richard C. Feiock. 2001. *Institutional Constraints and Policy Choice.* Albany NY: State University of New York Press.

Coleman, J. S. 1990. *Foundations of Social Theory.* Cambridge: Harvard University.

Harding, Garrett. 1968. "The Tragedy of the Commons." *Science* 162: 1243-1248

DeGrove, J. 1992. *Emerging State and Regional Roles in Growth Management*. Cambridge, MA: Lincoln Institute of Land Policy.

deHaven-Smith, Lance. 1984. "Regulatory Theory and State Land-Use Regulation: Implications from Florida's Experience with Growth Management." *Public Administration Review*, 44 (5): pp. 413-420.

Demsetz, Harold. 1967. "Towards a Theory of Property Rights." *The American Economic Review* 57 (2): 347-359.

Denzau, Arthur T., & Barry R. Weingast. 1982. "The Political Economy of Land Use Regulation," *Urban Law Annual* 23: 385-405

DeSantis,V., and T. Renner. 1994. "The impact of political structures on public policies in American counties." *Public Administration Review* 54 (3): 291–95.

DeSantis, Victor S. & Tari Renner. 2002. "City Government Structures: An Attempt at Clarification." In H.G. Frederickson and J. Nalbadian (eds.), The Future Local Government Administration: The Hansell Symposium, (Washington D.C.: ICMA): 71-80H.

Donovan, Todd & Max Neiman. 1992. "Citizen Mobilization and the Adoption of Local Growth Control." *The Western Political Quarterly* 45 (3): 651-675.

Dowie, M. 1995. Losing Ground: *American Environmentalism at the Close of the Twentieth Century*. Cambridge, MA: MIT Press

Dunlap, Riley E., Angela G. Mertig, editors. 1992. *American environmentalism: The US environmental movement, 1970-1990.* Philadelphia, PA: Taylor & Francis.

Durant, Robert F. 1984. "EPA, TVA, and Pollution Control: Implications for a Theory of Regulatory Policy Implementation." *Public Administration Review*, 44 (4); 305-315.

Eggertson, T. 1990. *Economic Behavior and Institutions*. Cambridge, Cambridge: University Press.

Elkin, Stephen L. 1985. "Twentieth Century Urban Regimes." *Journal of Urban Affairs* 7: 11-28.

Evenson, Bengte, & William Wheaton. 2002. "Why Local Governments Enact Land Use Controls." *MIT Department of Economics (August)*: 231-256.

Fainstein, N. I., and S. S. Fainstein. 1983. "Regime Strategies, Communal Resistance, and Economic Forces." In Restructuring the city, edited by S. S. Fainstein and N. I. Fainstein, 245-282. New York: Longman.

Feagin, J. 1988. *The Free Enterprise City: Houston in Political-Economic Perspective.* New Brunswick, NJ: Rutgers Univ. Press.

Feiock, Richard C. 1999. "Politics, Institutions and Local Land-Use Regulation." *Urban Studies*, 41 (2): 363-375.

Feoick, Richard C. 2002. A Quasi-Market Framework for Local Economic Development Competition," *Journal of Urban Affairs* 24: 123-142.

Feiock, Richard C. 2004. *Metropolitan Governance: Conflict, Competition and Cooperation*. Washington D.C.: Georgetown University Press.

Feiock, Richard., and Jae-Hoon Kim. 2000. "Form of Government, Administrative Organization, and Local Economic Development Policy." *Journal of Public Administration Research and Theory* 11: 29-49.

Feiock, Richard, Antonio Taveras, and Mark Lubell. 2008. "Policy Instrument Choices for Growth Management and Land Use Regulation." paper presented at MPSA.

Fiorina Morris P. 1982. “Legislative Choice of Regulatory Forms: Legal Process or Administrative Process?” *Public Choice* 39: 33-66.

Fischel, W. A. 2005. “Politics in a Dynamic View of Land Use Regulation: Of Interest Groups and Homevoters.” *Journal of Real Estate Finance Economics*, 31, 397–403.

Fleischmann, A. 1989. “Politics, Administration, and Local Land-Use Regulation: Analyzing Zoning as a Policy Process.” *Public Administration Review* 49 (4): 337-344.

Fleischmann, A & Carol A. Pierannunzi. 1990. “Citizens, Development Interests, and Local Land-Use Regulation.” *Journal of Politics* 52 (3): 838-853.

Fleischmann, A., G.P. Green, & T.M. Kwong. 1992. “What’s a City to do? Explaining Differences in Local Economic Development Policies.” *Western Political Quarterly* 45: 677-699.

Forester. J. 1993. *Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism.* Albany: State University of New York Press.

Frederickson, G., & G. Johnson. 2001. “The Adapted American City: A Study of Institutional Dynamics.” *Urban Affairs Review*, 36 (6): 872-874.

Gerber, Elisabeth R. 1999. *The Populist Paradox: Interest Group Influence and the Promise of Direct Legislation.* Princeton, NJ: Princeton University Press.

Gerber, Elisabeth R. & Justin Phillips. 2004. “Direct Democracy and Land Use Policy: Exchanging Public Goods for Development Rights.” *Urban Studies,* 41: 463-479.

Grafstein, R. 1988. “The Problem of Institutional Constraint.” *The Journal of Politics*, 50 (3): 577-599.

Granovetter, Mark S. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78(6): 1360- 1380.

Gray, Virginia & David Lowery. 1996. “A Niche Theory of Interest Representation.” *The Journal of Politics*, 58: 91-111

Hansell, Bill. 1999. “Revisiting the Reform of the Reform.” *Public Management* 81(1): 28

Huckfeldt, R. Robert. 1979. “Political Participation and the Neighborhood Social Context.” *American Journal of Political Science* 23 (August): 579-92.

Hoch, Charles. 1994. *What Planners Do?* Chicago, IL: American Planning Association’s Planner’s Press.

Ihlanfeldt, Keith. 2007. "The Effect of Land Use Regulation on Housing and Land Prices." *Journal of Urban Economics* 61: 420-435.

Imperial, Mark T. 1999. “Institutional Analysis and Ecosystem-Based Management: The Institutional Analysis and Development Framework.” *Environmental Management*. 24(4):449-465.

Jenkins-Smith, Hank & Paul Sabatier. 1993. “The Study of Public Policy Processes.” In Paul Sabatier and Hank Jenkins-Smith, eds., *Policy Change and Learning*: An Advocacy Coalition Approach. Boulder, CO: Westview.

Jeong, Moon-Gi. 2006. “Local Choices for Development Impact Fees.” *Urban Affairs Review* 41 (3): 338-357.

Kahn, Matthew, and John Matsusaka. 1997. “Environmental Demand: Evidence From California Voting Initiatives.” *Journal of Law and Economics*. XL: 137-173

Kang, In-Sung & Richard C. Feiock. 2006. “Implementation of Growth Management Policy in Florida Cities: Zoning Approval and Regulatory Policy Enforcement.” *International Review of Public Administration* 11 (1): 85-98.

Kaya, Nursen & Bruce Stiftel. 2005. “Land Development Permitting in Tallahassee, Florida: A Two-Table Perspective on Planner’s Preparation and Persuasion.” Presented AESOP VIENNA.

Kelly, E. 1993. *Managing Community Growth-Policies*. New Port, CT: Prager Press.

Kenny, Christopher. 1992. “Political Participation and Effects from the Social Environment.” *American Journal of Political Science* 36 (February): 259-67.

King, G, R.O. Keohane, and S. Verba. 1995. *Designing Social Inquiry: Scientific Inference in Qualitative Research.* Princeton, NJ: Princeton University Press.

Kingdon, John. 1984. *Agendas, Alternatives, and Public Policies*. Boston: Little Brown.

Klineberg, Stephen, Matthew McKeever, and Bet Rothenbach. 1998. “Demographic Predictors of Environmental Concern: It Does Make A Difference How It’s Measured.” *Social Science Quarterly*, 79 (4):. 734-750.

Koontz, Tomas M. 2005. "We Finished the Plan, so Now What? Impacts of Collaborative Stakeholder Participation on Land Use Policy." *Policy Studies Journal* 33(3): 459-481.

Lewis, Paul & Max Neiman. 2002. *Cities under Pressure: Local Growth Controls and Residential Development Policy.* San Francisco, CA: Public Policy Institute of California.

Libecap, G. 1989. *Contracting for Property Rights*. New York: Cambridge Univ. Press.

Lin, Nan. 2005. "A Network Theory of Social Capital." In Handbook of Social Capital, edited by Dario Castiglione, Jan Van Deth, and Gulielmo Wolleb, Oxford: Oxford University Press.

Lineberry, R. L. & E. Fowler. 1967. "Reformism and Public Policy in American Cities." *American Political Science Review* 61: 701-715.

Logan, John R. & Harvey L. Molotch. 1987. *Urban Fortunes: The Political Economy of Place.* Berkley, CA: University of California Press.

Lowery, David & Virginia Gray. 2001. "The Expression of Density Dependence in State Communities of Organized Interests." *American Politics Research*, 29 (4): 374-391.

Lubell Mark, Schneider, J. Scholz, and M. Mete. 2002. "Watershed Partnerships and the Emergence of Collective Action Institutions." *American Journal of Political Science* 46 (1); 148-163.

Lubell Mark, Richard C. Feiock, & Edgar Ramirez. 2005. "Political Institutions and Conservation by Local Governments." *Urban Affairs Review* 40 (6): 706-729.

Lubell Mark, Richard C. Feiock, & Edgar Ramirez 2008. "Local Institutions and the Politics of Urban Growth." presented at MPSA.

McCabe, Barbara and Richard C. Feiock. 2001. "State Rules and City Money." In Lincoln Institute of Land Policy Working Paper.

McCubbins, Mathew. 1985. "The Legislative Design of Regulatory Structure." *American Journal of Political Science* 29 (5): 721-748.

March, James G., Martin Schulz, & Xueguang Zhou. 2004. *The Dynamics of Rules: Change in Written Organizational Codes.* Stanford, CA; Stanford University Press.

Maser, Steven. M. 1985. "Demographic Factors Affecting Constitutional Decisions: The Case of Municipal Charters." *Public Choice* 47: 121-162.

Maser, Steven. M. 1998. "Constitutions as Relational Contracts: Explaining Procedural safeguards in Municipal Charters." *Journal of Public Administration Research and Theory* 8: 527-564.

Miller, Gary. 1977. "Bureaucratic Compliance as a Game in the Unit Square." *Public Choice* 29: 37-52.

Miller, Gary 1985. "Progressive Reform as Induced Institutional Preferences." *Public Choice* 47: 163-181.

Mintrom, M. 1997. "Policy Entrepreneurs and the Diffusion of Innovation." *American Journal of Political Science* 41:738-770.

Molotch, H. 1976. "The City as a Growth Machine: Toward a Political Economy of Place." *American Journal of Sociology* 86: 1387-1400,

Musgrave, Richard A. 1959. *The Theory of Public Finance.* New York, NY: McGraw-Hill.

North, Douglas C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge, NY: Cambridge University Press.

Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge, MA: Harvard University Press.

Ostrom, Elinor. 1986. "Agenda for the Study of Institutions." *Public Choice* 48: 3-25.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* New York, NY: Cambridge University Press.

Ostrom, Elinor. 1999. "Institutional Rational Choice: An Assessment of the IAD Framework." In Sabatier, eds., Theories of the Policy Process. Boulder, CO: Westview Press.

Ostrom, Elinor. 2005. *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press

Ostrom, E., R. Garner, and J. Walker. 1994. *Rules, Games, and Common Pool Resources.* Ann Arbor, MI: University of Michigan Press.

Park, Hyung Jun. 2005. *Collaborative Approach to Economic Development of Local Governments and Institutional Collective Action.* Dissertation: Florida State University.

Peterson, Paul. 1981. *City Limits*. Chicago, IL: University of Chicago Press.

Protash, William & Mark Baldassare. 1982. "Growth Policies and Community Status." *Urban Affairs Quarterly*, 19: 397-412.

Putnam, Robert. 1995. "Bowling Alone: America's Declining Social Capital." *Journal of Democracy* 6: 65-78.

Quigley, J. M., S. Raphael, and L. A. Rosenthal. 2004. "Local Land-use Controls and Demographic Outcomes in a Booming Economy," *Urban Studies* 41 (2): 389-421.

Ramirez, Edgar. 2007. *Land Use Regimes and the Development Permitting Process: Explaining Delay in Land Use Development in Florida*. Dissertation: Florida State University.

Riker, William. 1982. "Implications from the Disequilibrium of Majority Rule for the Study of Institutions." *American Political Science Review* 74: 432-446.

Rooy, Joseph V. 2004. "The Development of Regional Impact in Florida's Growth Management Scheme: The Changing Role in Regionalism." *Journal of Land Use* 19 (2): 255-296.

Rudel, Thomas K. 1989. *Situations and Strategies in American Land-Use Planning*. Cambridge: Cambridge University Press.

Ruhil, Anirudh V., Mark Schneider, Paul Teske, & Byung-Moon Ji. 1999. "Institutions and Reform: Reinventing Local Government." *Urban Affairs Review* 34 (3); 433-455.

Schlager, Edella & William Blomquist. 1996. "A Comparison of Three Emerging Theories of the Policy Process." *Political Research Quarterly*, 49 (3): 651-672.

Schneider, M., and J. R. Logan. 1982. "The Effects of Local Government Finances on Community Growth Rates: A Test of the Tiebout Model." *Urban Affairs Quarterly* 18: 91-106.

Schneider, Mark & Paul Teske. 1995. "The Antigrowth Entrepreneur: Challenging the 'Equilibrium' of the Growth Machine." *The Journal of Politics* 55: 316-327.

Sharpe, E. 1991. "Institutional Manifestations of Accessibility and Urban Economics Development Policy," *Western Political Quarterly* March.

Sharp, E. 2002. "Culture, institutions, and urban officials' responses to morality issues." *Political Research Quarterly* 55: 861-884.

Shepsle, Kenneth A. 1996. "Political Deals in Institutional Settings." In The Theory of Institutional Design, edited by R.E. Goodin. Cambridge: Cambridge University Press.

Stone, Clarence N. 1989. *Regime Politics: Governing Atlanta 1946-1988*. Lawrence: University of Kansas Press.

Svara, James H. 1999. "The Embattled Mayors and Local Executives," in *American State and Local Politics: Directions for the 21st Century*. New York, NY: Seven Bridges Press edited by R.E. Weber and P Brace: 139-165.

Tang, Shui Yan. 1991. "Institutional Arrangements and the Management of Common-Pool Resources." *Public Administration Review* 51 (1): 42-51.

Teske, Paul & Mark Schneider. 1994. "The Bureaucratic Entrepreneur: The Case of City Managers," *Public Administration Review* 54 (4): 331-340.

Tiebout, C. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64: 416-424.

Weber, R.E. and Paul Brace. 1999. *American State and Local Politics: Directions for the 21st Century*. New York, NY: Seven Bridges Press.

Whittaker, R.J., M.B. Araújo, P. Jepson, R.J. Ladle, J.E.M. Watson and K.J. Willis. 2005. Conservation biogeography: assessment and prospect. *Diversity and Distributions* 11:3–23.

Wooldridge, J.M. 2002. *Introductory Econometrics*.Cambridge MA: MIT Press

Wu, Junjie & Cho, Seong-Hoon. 2007. "The Effect of Local Land Use Regulations on Urban Development in the Western United States*." Regional Science and Urban Economics* 37 (1): 69-86.

BIOGRAPHICAL SKETCH

Education

Florida State University, Tallahassee, Florida
Askew School of Public Administration and Policy, Ph. D Candidate 2008
Dissertation: "Political Market and Local Land Use Policy Change"
Advisor: Dr. Richard C. Feiock

Eastern Michigan University, Ypsilanti, Michigan
Department of Political Science, MPA 2003
Advisor: Dr. Raymond A. Rosenfeld

Kon-Kuk University, Seoul, Korea
Department of Public Administration, MPA 1995
Department of Public Administration, BA 1992

Experience

Instructor, Askew School of Public Administration and Policy, Fall 2007
Course: Public Administration and Society (Undergraduate)

Teaching Assistant, Askew School of Public Administration and Policy, Spring 2007
Course: Policy Research (Graduate)
Supervisor: Dr. Richard C. Feiock

Research Assistant, Askew School of Public Administration and Policy, Summer 2006 to Fall 2006
NSF funds study of local land use development policy and practices
Supervisor: Dr. Richard C. Feiock

Senior Analyst, Florida Department of Environmental Protection, Feb 2005 to June 2006
Conducted performance measurement of state environmental policy implementation for a project supported by an EPA grant
Supervisor: Stephen Adams, Director of Office of Strategic Planning and Project, Florida Department of Environmental Protection

Intern, Planning Department of Pittsfield Township, Michigan, Feb 2002 to August 2002

Researcher, The Institute of Public Affairs at Kon-Kuk University, Seoul Korea, May 1996 to Aug 1999

Visiting Researcher, Department of Urban Management at Seoul Development Institute, Seoul, Korea, Sep 1995 to April 1997

Honors and Awards

Dissertation Fellowship, Devoe Moore Center at Florida State University, Sep 2006 to Aug 2007

Director's Award for Excellent Work, Florida Department of Environmental Protection 2006

Scholarship from Kon-Kuk University, 1994 and 1995

Paper Presentations and Manuscripts in Process

"What Factors Influence the Changes of Collaborative Governance Institution?: The Case of EPA-States Performance Partnership Agreements (PPAs)," presSoutheastern Conference of Public Administration (SECOPA), Nashiville, TN. Sep 2007 co-author Sejin Lee

"Institutions and Local Land Use Policy Change: Institutional Analysis and Development Framework (IAD)." Southeastern Conference of Public Administration (SECOPA), Athens, GA, Sep 2006

"The Comprehensive Framework for Local Land Use Policy Change in Florida." American Society of Public Administration (ASPA), Denver, CO, April 2006

"Organizational Choice in Local Economic Development Practices: Rational Choice Perspective." Southeastern Conference of Public Administration (SECOPA), Little Rock, AK, Sep 2005

"Institutional Choice within Organizations: Rational Choice of Local Economic Development Agency." Southern Political Science Association, Annual Meeting, Atlanta, GA, Jan 2005

"The Determinants on Local Land Use Policy Choice in Florida Counties." Southeastern Conference of Public Administration (SECOPA), Charlotte, NC, Sep 2004

"The Determinants on Local Economic Development Policy Adoption." Florida Political Science Association (FPSA), Gainesville, FL, March 2004