

Factor Affecting The Adoption of Tax Incentive Programs Related to Economic Development

: The Case of Florida Counties

조세 감면 프로그램 채택에 미치는 영향 요인 분석에 관한 연구
: 플로리다 카운티정부를 바탕으로

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■ 목 차 ■

- I. Introduction
- II. Tax Incentive Programs in Florida
- III. Literature Review about Tax Incentives
- IV. Political Market Theory
- V. Model Specification and Analysis
- VI. Conclusions and Implications

This research investigates factors influencing policy adoption of tax incentive programs related to economic development in Florida local governments in terms of political market theory. By employing political market theory, this research emphasizes local politics, fiscal and interest group factors.

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Furthermore, this study utilizes two analyses: 1) a logistic regression examines local contextual factors influencing the adoption of tax incentive programs, and 2) an OLS model is conducted to investigate the effects of selected factors on the adoption of a number of tax incentive programs among local governments which have already adopted at least one tax incentive program. Statistical findings support the significant influence of political and interest group factors on tax incentive program adoption. More specifically, local governments that have an appointed manager have a high probability of adopting the tax incentive program, also the number of local business groups in local governments is positively related to a greater number of tax incentive programs.

□ Keywords : Tax incentives, political market theory, local economic development

본 연구는 경제 개발과 관련한 조세 감면 프로그램 채택에 미치는 영향 요인들을 정치 시장 이론과 플로리다 지방정부들을 바탕으로 분석하였다. 정치 시장 이론은 정책결정과 정에서의 지방 정부, 정책결정자 그리고 이익 집단들 간의 상호작용을 강조하기 때문에 본 연구는 지방 정치, 지방 재정 및 이익 집단 요소들을 강조하였다. 또한 지방정부의 조세 감면 정책에 미치는 영향 요인들을 분석하기 위해 로짓 회귀분석 (logistic regression)과 다중 회귀분석 (OLS)을 활용하였다. 통계적 결과를 바탕으로, 전문 행정 관료를 갖춘 지방 정부는 경제 개발과 관련된 감면 조세 프로그램을 채택하는데 중요한 요인으로 분석 되었으며, 지역 이익집단인, 지역 사업체들은 다양한 형태의 조세 감면 프로그램을 채택하는데 영향을 미치는 요인으로 분석되었다.

□ 주제어: 조세 감면 프로그램, 정치 시장론, 지역 경제 개발

I . Introduction

During the past several decades, various kinds of tax incentives have been created and expanded by state governments to increase property valuation, job growth, and investment growth. Whereas 24 states offered tax incentive programs to create job positions in 1984, 43 states offered tax incentives in 1998 (Chi and Hoffman, 2000). The State of Florida is one of the states which offers tax incentives as one set of policies to develop economic conditions. Tax

incentives assist local governments to develop economic conditions without changing the tax sources or reducing other services. Florida local governments can adopt tax incentive programs such as industry/workforce/infrastructure incentives, Brownfield incentives, Enterprise Zone incentives, and local tax incentives. Types of tax incentive programs offered are tax credits, tax deduction, exclusions, exemptions, or reduced tax rates for business location, creating job positions, establishing facilities, and investing funds.

According to Luger and Bae (2005), even though there is considerable debate in the literature or among policy makers about their effects, tax incentive programs have been enacted and implemented for political reasons rather than cost-benefit, or cost-effectiveness reasons. As discussed, Florida tax incentives for businesses come in many different shapes and sizes. They can offset tax liability, assist with working capital, develop or improve infrastructure, and help build a skilled workforce. Do all Florida counties adopt tax incentive programs to attract business locations? In fact, many of Florida's sixty-seven counties provide tax incentives while other counties do not. Florida rules allow counties to choose tax incentive programs according to their own policy approval processes. It means that the choice of tax incentive programs is not required but optional. Florida county governments make a decision to choose tax incentive programs or not, for political reasons, economic efficiency, or socioeconomic status. In other words, counties with a wealthy economic status or enough business activity may have less probability of choosing tax incentives for economic development because counties with wealthy economic conditions may want to choose environmental policies to improve residents' life quality. Likewise, counties with weak economic conditions are more interested in economic development policy such as tax incentive programs. Therefore, a recurring question is what are the factors that influence the policy choice of tax incentive programs? Prior research has focused on the specific effects of tax incentives based on an economic development perspective, including investment growth, job growth, and property value growth (Baum, 1987; Berger, 1993; Bernstein, 1986; Billings, 2009; Byrne, 2006; Dye, 2000; Faulk, 2002; Garner, 1959; Gera, 1987; Gurley-Calvez et al., 2009; Luger

and Bae, 2005). On the other hand, prior research pays little attention to the county contextual factors influencing the adoption of tax incentive programs. In fact, there are several types of tax incentive choices among Florida county governments. In other words, while several tax incentive programs are offered by state government, not all county governments choose to offer the same tax incentive programs. In this paper, we strive to analyze the factors that influence the adoption of tax incentive programs among Florida county governments.

This research primarily explores factors affecting the adoption of tax incentive programs among county governments. In this study, we focus on political factors, fiscal stability and interest groups in county governments as potential influencers of tax incentive program adoption. This research is grounded in tax incentive literature and political market theory since political market theory is an appropriate theoretical perspective to explore policy choice mechanisms in local governments. This research begins with a literature review of tax incentive programs relating to economic development; provides a political market perspective and its analytical models; and lastly presents the results and implications/discussion.

II. Tax Incentive Programs in Florida

Florida tax incentive programs are offered as an economic development tool. Economic development is a crucial component of a state's ability to foster a strong business environment, leading to quality employment opportunities for residents. Florida's approach to economic development is to work with businesses to identify their specific needs and assist with meeting these needs. Tax incentives for businesses come in many different shapes and sizes. They can offset tax liability, assist with working capital, develop or improve infrastructure, and help build a skilled workforce. One or a combination of tax incentive programs may be used to attract businesses and improve the

economic situation (Florida Incentive Report, 2011). Appendix A shows specific contents regarding tax incentives which are offered by Florida counties. Tax incentive programs are mainly offered as sale/use or income tax reduction, deduction, or exemption; as main tax revenue sources at the state level; increased investment, job growth, and property value growth. Thus, county government can get increasing investment, job quality, and property value growth without reducing local tax resources. Also, Florida tax incentive programs are mainly targeted for county governments instead municipal governments unlike other states (Florida Incentive Report, 2011).

As shown in Appendix A, there are several kinds of tax incentive programs which Florida county governments have adopted. First, industry/workforce/infrastructure incentives include targeted industry incentives, workforce training incentives, and infrastructure incentives. Targeted industry incentives are offered as tax refunds, tax credits, and incentive grants for businesses that create high wage jobs, grow high technology employment, make capital investments, and establish high impact facilities. Workforce training incentives provide new value-added businesses with training programs. Infrastructure incentive offers an economic development transportation fund, commonly referred to as the "Roan fund," which is an incentive tool designed to alleviate transportation problems that adversely impact a specific company's location decision. State incentives are primarily targeted for businesses regarding, construction, manufacturing, and information, as well as professional, scientific, and technical services. In addition, state rules show that businesses which employ more than 500 workers in construction, manufacturing, and information, as well as professional, scientific, and technical services can get incentives, including tax refunds, tax credits, and training programs (Florida Incentives Report, 2011).

Second, local governments can adopt Brownfields incentives as special opportunity incentives. Brownfields incentives are offered to businesses that locate in Brownfields sites. Brownfields incentives are available to encourage Brownfields redevelopment and job creation in construction and manufacturing firms (Florida Brownfields Redevelopment Program Annual Report, 2011).

Third, local governments can apply to designate enterprise zones to stimulate economic conditions. Enterprise zones can be designated by federal or state government and multiple enterprise zones can be designated in a single local government. Enterprise zone incentives include a sales and use tax credit, and tax refunds for construction and manufacturing companies in an enterprise zone (Florida enterprise zone program annual report, 2011).

Forth, some local governments provide local incentives to businesses. Like state incentives, local incentives are also offered as a type of tax refund, tax credit, or tax exemption. Businesses in counties which employ local incentives can get additional incentives from local governments. Local incentives are also targeted for businesses with more than 500 workers in construction, manufacturing, and information, professional, as well as scientific and technical services (Florida Incentives Report, 2011).

Florida county governments can choose tax incentive programs among four categories of incentive programs. The Florida Incentive Report does not show the general requirements for counties to apply for tax incentive programs. Instead, as shown Appendix A, each program has specific conditions for businesses such as number of employment. Thus, county governments can adopt tax incentive programs in accordance with their business situations. Appendix B shows the number of tax incentive programs chosen by Florida counties.

III. Literature Review about Tax Incentives

There have been many studies regarding tax incentives. Previous research has primarily focused on specific effects of tax incentives on economic development, including property value growth, investment growth, job growth, and business location at the municipal level. First, previous research focuses on the effects of tax incentives on property valuation. Anderson (1990) looks at tax incentives in a tax incremental financing (TIF) zone and finds that

municipalities using tax incentives aggregate higher property value growth than those that did not. Man (1999) focuses on growth in the median value of homes in Indiana municipalities. They find that the choice of tax incentives leads to decreased housing value. According to the author, tax incentives in a TIF zone have a negative effect on a municipality's aggregate housing value. This negative relationship between tax incentives in a TIF zone and housing value differs from other studies. Byrne (2006) examines the effect of the adoption of tax incentives on the growth in property values in a TIF district relative to the rest of the cities. Byrne finds that cities with tax incentives in a TIF district have a higher growth in property values compared to the rest of the cities.

Second, Garner (1959), Grady (1987), and Meyer et al. (1993) study the effects of tax incentives on investment growth. Gurley-Calvez et al. (2009) examine whether or not the tax credit program leads to increased investment in low income communities, finding that the tax credit program increases the investment available to low-income communities. Thus, tax incentives influence investment growth in low income communities or development-oriented communities.

Third, Faulk (2002), Gera (1987), and Luger and Bae (2005) explore the relationship between tax incentives and job creation and growth. Faulk (2002) investigates whether or not employment tax credits create more jobs at the municipal level. The result of Faulk's study shows that municipalities with employment tax credits create more jobs than municipalities without employment tax credits. Gera (1987) argues that the Canadian employment tax credit program has an incremental employment impact, finding that employment tax credits lead to job position creation. Also, in the case of North Carolina, Luger and Bae (2005) find that the state business tax incentive programs lead to job creation and investment.

Fourth, Billings (2009) analyzes enterprise zone (EZ) incentives in Colorado to examine the relationship between tax credits and the location of new businesses and jobs. Billings finds that while EZ incentives have no effect on where new establishments locate in Colorado, EZ incentives do increase the

number of employees hired. By using an experimental approach in which the municipalities designated EZs were the treatment group and those municipalities that qualified, but were not designated EZs, served as the control group, Boarnet and Bogart (1996) find that an EZ designation had no significant effect on employment or property values in New Jersey. Also, Bondonio and Engberg (2000) examine the impact of EZ program on employment growth, finding that EZ programs do not influence employment growth. Greenbaum and Engberg (2004) explore the capitalization of EZ tax credits in the local housing market, and find that EZs have no impact on housing prices.

While tax incentive programs have been studied in municipalities, the research has rarely dealt with county tax incentive programs. In the literature, the local optional taxes are administered by municipal, county and special district governments. Usually, local option taxes are taxes levied with state approval by municipalities, counties, and special district governments including school districts. Local option taxes are gross receipts that counties and municipalities impose for their own revenues. The state does not impose them. As a convenience, the state collects taxes from the local governments and then redistributes the income to the county or municipality imposing the tax. In general, local option taxes include local option sales taxes, local option income taxes, and local option excise taxes. While some states allow all kinds of local option taxes, others allow one or two local option taxes.

While previous studies regarding local option taxes have focused on the effects of local option taxes and the determinants for adoption of local option taxes at the county and municipal levels, prior research regarding tax incentive programs has mainly focused on the effects of specific incentive programs at the municipal level.

As shown in Appendix C and D, most of the prior research has primarily focused on the specific impacts of each incentive program on local economic conditions at the municipal level. Instead, many studies have paid little attention to county contextual factors that affect the adoption of tax incentive programs at the county level. Along this line, this paper focuses on the

characteristics of county governments that used tax incentive programs since Florida tax incentive programs are targeted for county governments. This paper examines the factors affecting the adoption of tax incentive programs using political market theory at the county level. In doing so, this study can introduce the following research implication: Tax policy decision makers can assess interest groups in the tax policy decision making process, and adjust their strategies in order to make tax policy changes.

IV. Political Market Theory

A central focus of political market theory is to concisely explain institutional and policy choices (Alston, Eggertsson, and North, 1996; Eggertsson, 1990; Knight, 1992; North, 1990; Ostrom, 1990). That is, political market theory conceptualizes policy choice as the result of a dynamic contracting process between suppliers and demanders in policy decision-making (Alston, Eggertsson, and North, 1996). Likewise, Park, Feiock, and Kwon (2011) argue that political market theory works well to address the mechanisms of the bargaining and negotiation process among various stake-holders and emphasizes the mechanism of policy choice in terms of the interaction between interest groups and political institutions.

As discussed, Florida counties can choose their incentive programs, which are offered by the State, through authorizing legislative and voter approval. This section discusses the policy choice process among county governments using political market theory. In economic development policy choices such as tax incentive programs, diverse actors including appointed managers, administrators, existing residents, and interest groups are involved in decisions regarding community development. Also, decisions regarding economic development policies are made in the context of local politics rather than by simple economic calculations (Feiock, 2004). whereas some actors want less government intervention in order to avoid uncertainty resulting from

redefinition of property rights or reallocation of resources (Lubell et al., 2005), interest groups such as targeted businesses are more likely to prefer economic development policies. In local politics, government officials, especially appointed managers, prefer economic development policies to maximize their own utility or benefits. In addition, economic conditions may also have an influence on economic development policy decision making since local governments with weak economic conditions are more likely to prefer economic development policies that improve their economic status. In short, in order to improve their own benefits, local actors attempt to create new institutions or to choose new policies (Alston, Eggertsson, and North, 1996; Eggerstsson, 1990).

1. Political Institution

Political institutions exhibit substantial variance in the structure of county governments. In general, political institutions affect policy decision making, policy program choice, policy program adoption, and policy implementation. According to Lubell et al. (2005), the form of county government in terms of political institutions is a fundamental variable for understanding policy decision making. County governments generally are of two different types: the elected official form and the appointed manager form. In general, elected officials are more likely to respond to the needs of constituencies and interest groups and focus on short-term policies to demonstrate their political achievements. However, appointed managers emphasize administrative and policy efficiency and are more likely to produce long-term policies and consider the overall governmental financial situation. Furthermore, appointed managers emphasize their professional expertise when administering executive functions.

In empirical research, Lubell et al. (2005) examine the influence of the form of government on land-use policy choices in economic development counties, finding that counties with appointed managers are clearly vulnerable to the politics of the economic growth-oriented groups because appointed managers respond to development interests. Jeong (2006) investigates determinants of the adoption of development impact-fees, which are innovative growth

management and finance tools. The impact-fees may not only facilitate infrastructure construction but can also reduce the risk of private development investment in the development process. The empirical results demonstrate patterns, showing that counties with appointed managers have a high probability of adopting local development impact-fees. Previous literature suggests that local appointed managers are more likely to support local economic development policies (Feiock, 2004; Jeong and Feiock, 2006; Lubell, Feiock, and Ramirez, 2005; West and Feiock, 1993). In other words, appointed managers play a crucial role in economic development policy adoption, as the economic development policy adopted can bring policy efficiency, a comparison of governmental inputs (i.e., the adoption of tax incentives) with governmental outputs (i.e., job creation, local business growth, increased governmental revenue, saving governmental budgets, increased property and land values, etc). Thus, counties with the appointed manager form of government may open policy-windows for economic development policy adoption such as tax incentives more than those with the elected official form. This leads to the following hypothesis:

Hypothesis 1: In counties with an appointed manager form, the choice of tax incentive programs will be higher.

2. Fiscal Status

In tax policy choice regarding economic development, fiscal conditions in local governments are considered an important factor. Dye (1966) demonstrates that fiscal variables determine the nature of local fiscal and economic systems. Furthermore, Dye argues that fiscal conditions have direct impacts on tax policy choice outcomes without the mediating effects of other factors. Also, Bingham (1978) asserts that certain forms of tax policy were adopted in local governments and are the strongest single variable that affects fiscal characteristics. Prior research suggests that fiscal status is considered an influential factor influencing local development policy adoptions (Berry and Berry, 1990; Dye, 2000; Kim, Bae, and Eger, 2009; Pajari, 1984; Zhao,

2005). In terms of fiscal status, scholars have focused on revenues from higher level governments, such as the ratio of intergovernmental grants. In empirical research, Dye (2000) examines the effect of the ratio of intergovernmental grants on TIF adoption among municipalities, and Pajari (1984) explores the effect of the ratio of intergovernmental grants on the adoption of local option sales tax in Georgia counties. According to Dye (2000), municipalities with a high ratio of intergovernmental grants have a greater tendency to adopt an alternative revenue source, such as the TIF program. Pajari (1984) finds that counties with high intergovernmental grants have strong incentives to adopt local option sales taxes. Also, Kim et al. (2009) examine factors affecting the adoption of local discretionary sales taxes among Florida counties, finding that the ratio of intergovernmental grants has a positive effect on the adoption of local discretionary sales taxes. Along with the ratio of intergovernmental grants, the ratio of property tax revenues also has been considered an important factor in fiscal status, opposite in meaning to intergovernmental grants. This leads to the following hypothesis:

Hypothesis 2a: In counties with a high ratio of intergovernmental grants, the choice of tax incentive programs will be higher.

Hypothesis 2b: In counties with a low ratio of property tax revenue, the choice of tax incentive programs will be higher.

3. Interest groups

Interest groups have been emphasized by many scholars as one of the main factors in the local development policy adoption process (West and Feiock, 1993). According to Lowi (1969) and Olson (1982), interest groups have been linked to the policy adoption or choice process as well as functional activities of government. At the local level, interest groups have been debating matters. Previous empirical studies have demonstrated that interest groups within a community can decisively influence a county government's policy choices (Feiock, 1994; Jeong, 2006; Jeong and Feiock, 2006; Kim, Bae, and Eger, 2009; Lubell, Feiock, and Ramirez, 2005; Zhao, 2005). Interest groups are

expected to have different interests and values regarding economic development policy in general. Also, interest groups which are influenced by a certain policy will enhance the likelihood of that policy's adoption. For instance, counties with a greater number of businesses which are targeted for economic development policy may seek tax incentive programs to engage in new business opportunities (Jeong, 2006).

Previous literature also suggests that economic development policy is largely influenced by local business groups that prefer economic development (Jeong and Feiock, 2006; Lubell, Feiock, and Ramirez, 2005). The interest groups model emphasizes the selective benefits businesses derive from economic development policies. This set of business groups has a positive influence on business-friendly policies. In other words, counties which have targeted businesses have a significant influence on the adoption of local economic development policy. This leads to the following hypothesis.

Hypothesis 3: In counties with more targeted businesses, the choice of tax incentive programs will be higher.

V. Model Specification and Analysis

1. Variables and Measurements

To investigate factors affecting the adoption of tax incentive programs, we conducted two analyses: 1) a logistic regression examining county contextual factors influencing the adoption of tax incentive programs, and 2) after the logistic regression test, an OLS model is conducted to investigate the effects of selected factors on the number of tax incentive programs among counties which have already adopted at least 1 or more tax incentive programs. Therefore, a logistic model is useful to measure whether county governments adopt tax incentive programs or not as a dummy dependent variable. The OLS model is useful because the dependent variable is a continuous variable, the number of

tax incentive programs. The adoption of tax incentive programs and the number of tax incentive programs are gathered from the Florida Enterprise Zone Annual Report, Florida Brownfields Redevelopment Program Annual Report, and each county government webpage.

In addition, we operationalize the independent variables using previous studies regarding local development policy choice (Kang & Feiock, 2006; Jeong, 2006). An elected official form of government is coded as 0 and an appointed manager form of government is coded as 1. Duval and Miami-Dade are dropped in the analyses because these two counties are included in the large cities of Jacksonville and Miami, respectively, and as a result the counties have less power to adopt local development policy. In Florida, 44 of the 65 counties are classified as an appointed manager form. The county form of government is gathered from the Municipal Yearbook, 2008. Fiscal status is measured by the ratio of intergovernmental grants to total revenue and the ratio of property tax revenue. The data regarding fiscal status are based upon the fiscal data of the Florida Legislative Committee on Intergovernmental Relations (2008). Interest groups are measured by the number of targeted business divided by the total number of businesses in a county. As mentioned earlier, the targeted businesses for tax incentive programs include construction, manufacturing, information oriented, professional, scientific, and technical firms with more than 500 employees. As control variables, race, education level, median income, home rule charter, MSA status, and population are used (Jeong, 2006; Kang and Feiock, 2006; Kim, Bae, and Eger, 2009; Phillips and Gross, 1995; West and Feiock, 1993). The race variable is measured as the percentage of white people. Education level is measured as the ratio of residents who have at least Bachelor's degree. Median income is measured by median income per capita. Population is the number of residents. Race and education data are gathered from the Florida Statistical Abstract 2008. Median income and population data are gathered from the U.S. Census Bureau 2008. Also, charter is measured by a dichotomous variable as charter counties are coded as 1 and non-charter counties are coded as 0. MSA status is also measured by a dichotomous variable as counties in MSA are

coded as 1 and counties in non-MSA are coded as 0. Appendix E shows the variables, measurements, and sources. Appendix F shows a descriptive analysis of the variables.

2. Analytical Techniques

The statistical results of the two analyses - two logistic models with 65 counties explaining whether or not the counties adopt tax incentive programs and two OLS models within 48 counties that already adopted at least one of the tax incentive programs include coefficients, statistically significant factors and the explanatory R-square. The reason two models are conducted in both a logit model and an OLS model is to detect impacts of control variables on an outcome. As shown, the total number of observations of this study is 65 Florida counties and this small number of observations can make statistical models more sensitive to the number of variables. Therefore, it is necessary to evaluate the influences of control variables on the dependent variable. If Model 1 without control variables and Model 2 with control variables have the same significant variables, it is possible to argue that the results of the models used in this study are not affected by the number of variables (Park, Lee and Lee, 2010).

3. Analytical Result

As seen in the statistical result, the logistic regression test (N=65) using only independent variables reveals that the Pseudo R-square is about 11% and the Count R-square is about 72%, which explains the model's explanatory power between independent variables and the dependent variable. Also, the logistic regression test (N=65) using all variables reveals that the Pseudo R-square is around 27% and the Count R-square is around 80%. In the first logistic regression, the two logistic regression models show that counties have variations in adopting tax incentive programs regarding one local political

factor (the form of government). Using the odds ratio, the odds ratio of form of government is 4.52 without control variables. It means that the probability of the adoption of tax incentive programs in the appointed manager form is 4.52 times greater than in the elected manager form. As mentioned above, the two models are conducted to detect the impacts of control variables on an outcome. In Model 2, the odds ratio of form of government is 6.58. It indicates that the probability of the adoption of tax incentive programs in the appointed manager form is 6.58 times greater than in the elected manager form of government, controlling for other variables. Specifically, the probabilities of county governments which adopt tax incentive programs are analyzed in Appendix G using only those statistically significant predictors. The appointed manager form of government has a higher probability (84%) than the elected official form of government (56%) to adopt tax incentive programs.

<Statistical Result of the Adoption of Tax Incentive Program>

	Logit model Adoption of Tax incentive Programs		OLS model Number of Tax Incentive programs	
	Model 1 Odds Ratio (SD)	Model 2 Odds Ratio (SD)	Model 1 Coefficient(SD)	Model 2 Coefficient(SD)
FOG	4.5221** (3.3344)	6.5864** (6.2111)	.4258 (.4514)	.4500(.4800)
Inter_rev	1.0003 (.0003)	1.0004 (.0006)	.00014 (.00015)	.00009 (.00030)
Property_rev	1.0003 (.0004)	1.0001 (.0005)	.00030 (.00029)	.00010 (.00013)
Targeted business	1.4009 (.4878)	.9671 (.7781)	.4959*** (.1344)	.5515** (.2708)
White		.9995 (.0003)		-.00027 (.00016)
Education level		1.0000 (.0009)		.00026 (.00039)
Median income		.0012** (.0045)		-2.0277 (1.6796)
Population		1.4606 (1.4719)		-.0181 (.4926)
MSA		1.3053 (1.8266)		-.5148 (.7098)
Home Rule Charter		2.8347 (3.1073)		-.2318 (.5444)
Observations	65	65	48	48
LR chi2	8.09**	20.47**		
Pseudo R2	0.11	0.27		
Count R2	0.72	0.80		
F-value			6.71***	3.23***
R2			0.25	0.37

(* significant at 0.10, ** significant at 0.05, *** significant at 0.01)

The second test of tax incentive programs using an OLS model has an interesting finding compared to the first logistic regression. The counties (N=48) that have already adopted at least one tax incentive program have variations in the ratio of targeted business. This model explains about 25% (R-square) of the variability explaining for the predictors. Also, the OLS model including control variables explains about 37% (R-square) of the variability accounting for the predictors. In specific, counties with a higher number of targeted businesses choose a higher number of tax incentive by a factor of 0.42 without control variables. Also, with control variables, counties with a higher number of targeted businesses choose a higher number of tax incentive programs by a factor of 0.55.

In sum, counties with an appointed manager increase the probability of tax incentive program adoption. As discussed, appointed managers usually seek to adopt more efficient policy programs to advance administrative efficiency. Also, tax incentive programs are an attempt to assist counties in attracting private development without changing the tax resources or reducing other services. Thus, this finding supports the premise that appointed managers are apt to adopt more efficient tax incentive programs which tend to promote local economic development.

Furthermore, interest groups have an impact on the choice of a number of tax incentive programs. This means that the number of targeted local businesses is a crucial factor for county government to adopt a number of tax incentive programs. Also, this result supports the premise that interest groups with narrowly concentrated preferences are more likely to push those interests to local politics and administrations. That is, targeted businesses rationally calculate the economic benefits expected by tax incentive programs, and then the greater number of targeted businesses leads county governments to adopt various types of tax incentive programs related to targeted local businesses.

VI. Conclusions and Implications

Tax incentive programs assist local governments in attracting private development and new businesses without using local resources. Previous research concerning tax incentive programs has focused on their specific effects and impacts on community areas. Many scholars have studied the proliferation of tax incentive programs as economic development tools. The main question has been whether tax incentive programs stimulate economic development, paying little attention to the characteristics of the local governments that choose tax incentive programs.

We examine the characteristics of counties that adopt tax incentive programs. As in previous studies, this study focuses on political institutions, fiscal status, and interest groups using tax incentive programs from the perspective of the political market framework. Based on the previous literature regarding the political market framework, we emphasize the effects of influential factors (i.e., the form of government, the ratio of intergovernmental grants, and the number of targeted businesses) on the adoption of tax incentive programs.

In terms of theoretical and statistical findings, there are some implications toward South Korea, even though the roles and capacities of local governments in South Korea are quite different from local governments in Florida. First, Korean central government needs to open the windows for local governments to have opportunities to adopt various tax incentive programs. Since local governments have limited budgetary sources and tax policies or tax incentive programs in South Korea, it is difficult for local governments to produce local tax incentive programs or tax policies for themselves. Just as Florida state government opens the channels to county governments so that they can adopt various tax incentive programs, Korean central government could provide opportunities for local governments to have various tax incentive programs or subsidize local tax incentive programs, Korean local governments selectively adopt tax incentive programs in terms of their local business patterns.

Second, in an efficient administrative practice of tax incentive programs in Korean local governments, the securing of professional administrators must take precedence in order for local tax incentive programs to succeed. Although Korean central government subsidizes or supports local tax incentive programs, local governments cannot utilize the benefits of tax incentive programs unless they have professional administrators who have insight into local economic development and its patterns. As the tax incentive programs are coordinated with local business groups and promote local economic development without any changes in local tax sources and other services, local governments need to have an opportunity to foster relationships with professional bureaucrats to help design local tax incentive programs.

Whereas this research contributes to theoretical and practical advancement, there are imitations in this study. First, this study uses cross-sectional data and it is certain that time factor plays an important role in examining predicted factors that affect policy choice studies since current published data sources are limited for the year 2011. In future studies, using panel data to examine the time effect on the choice of local tax policy is recommended. With panel data, it would be possible to overcome the problem of the small number of observations and examine the time effect on local policy choice decision making. Second, this paper does not consider the amount of tax incentives that are offered by state government and the ratio of tax incentives among county governments because this paper focuses on factors affecting the choice of tax incentive programs among counties. However, it seems that research that would regrade the effects on the amount of tax incentives that counties have received and the ratio of tax incentives among county revenue sources is also important. In doing so, it would be possible to investigate the effects of tax incentives on local finance. In future study, we have planned to explore the effect of tax incentive programs on local finances using the amount of tax incentives offered by state government and the ratio of tax incentives in counties.

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<Appendix A> Florida Tax Incentive Programs

Incentives	Contents
<p>Targeted Industry Incentives</p>	<p>Qualified Target Industry Tax Refund (QTI) The qualified target industry tax refund incentive is available for companies that create high wage jobs in high value-added industries. This incentive includes refunds on corporate income, sales, ad-valorem, intangible personal property, insurance premium, and certain other taxes.</p> <p>Qualified Defense and Space Contractor Tax Refund (QDSC) The QDSC tax refund is a tool to preserve and grow Florida's high-technology, defense, and space related employment base, giving Florida a competitive edge as defense, homeland security, or space businesses, acquire new contracts or sub-contracts, consolidate existing contracts, or convert to commercial production.</p> <p>Capital Investment Tax Credits (CITC) The capital investment tax credits are used to attract capital-intensive industries in Florida. It is an annual credit, provided for up to 20 years, against a company's corporate income tax. The amount of the annual credit is based on the eligible capital costs associated with a qualifying projects. Eligible capital costs include all expenses incurred in the acquisition, construction, installation, and equipping of a project from the beginning of construction to the commencement of operations.</p> <p>High Impact Performance Incentive Grant (HIPI) The high impact performance incentive grant is a negotiated incentive used to attract and grow major high impact facilities in Florida. Grants are provided to pre-approved applicants operating in designated portions of high-impact sectors, which currently include clean energy life sciences, financial services, corporate headquarters, transportation equipment manufacturing, and semi-conductor manufacturing.</p>
<p>Workforce Training Incentives</p>	<p>Quick Response Training Program (QRT) The quick response training program provides grant funding for customized training required by new or expanding businesses. Through this business-driven program, Florida is able to effectively retain and attract businesses creating new high-quality jobs. Workforce Florida Inc. administers the program. This performance-based program is a key component of Florida's incentive portfolio as major competitor states have similar training incentive offerings.</p>

Incentives	Contents
	<p>Incumbent Worker Training Program (IWT) The incumbent worker training program provides grant funding for the training needs of existing profit businesses. Through this business-driven program, Florida is able to effectively retain and keep business competitive using upgrade skills training for existing full-time employees. Workforce Florida Inc. administers the program.</p>
Infrastructure Incentives	<p>Economic Development Transportation Fund The economic development transportation fund is used to alleviate transportation impediments that adversely affect a company's location or expansion decision. The incentive is available in the form of a grant to the local government responsible for the transportation projects and is submitted on behalf of a business considering locating or expanding in Florida. The incentives are used to improve the transportation infrastructure across the state by making modification to existing roadway such as turn lanes and signal, or creating new infrastructure such as access roads. These improvements make it possible for a company to locate or expand at a specific site, which would otherwise not be suitable but for the transportation improvements.</p>
Special Opportunity Incentives	<p>Enterprise Zone Incentives Florida offers an assortment of tax incentives to businesses that choose to create employment within an enterprise zone, which is a specific geographic area targeted for economic revitalization. These include a sales/use tax credits, tax refund for business machinery, equipment used in enterprise zone, sales tax refund for building materials used in an enterprise zone, and a sales tax exemption for electrical energy used in an enterprise zone.</p> <p>Brownfield Incentives Florida offers incentives to businesses that locate in Brownfield sites, which are under-utilized industrial or commercial sites due to actual or perceived environmental contamination. The Brownfield redevelopment bonus refund is available to encourage Brownfield redevelopment and job creation. Approved applicants receive tax refunds of up to \$2,500 for each job created.</p>
Local Incentives	<p>Some local governments provide local incentives to businesses. Like state incentives, local incentives are also offered as a type of tax refund, tax credits, or tax exemption. Businesses in counties which employ local incentives can get additional incentives from local governments. Local incentives are also targeted for business with more than 500 workers in construction, manufacturing, information, professional, as well as scientific and technical services.</p>

<Appendix B> The List and Number of Tax Incentives Adopted

List of Tax Incentives	Number of Counties	Percent of Counties adopting tax incentives
- Industry/workforce/infrastructure incentives	36	55%
- Brownfields incentives	27	42%
- Enterprise zone incentives(federal/state)	43	66%
- Local incentives	18	28%
Choice of Tax Incentives	Number of Counties	Percent of Counties which have or have not the tax incentive
- Non-choice	17	26%
- Chose at least 1 tax incentive programs	48	69%
Number of Tax Incentives	Number of Counties	Percent of Counties which have at least 1 or more tax incentive programs
1	6	13%
2	19	40%
3	11	23%
4	8	17%
5	4	8%

<Appendix C> Previous Studies Regarding Tax Incentive Programs

Authors	Dependent	Independent variables	Implications
Anderson (1990)	<ul style="list-style-type: none"> - Property value growth 	<ul style="list-style-type: none"> - Tax incremental financing (TIF) adoption - Population - Property tax rate - MSA status 	<ul style="list-style-type: none"> - Municipalities with tax incentives in TIF zone aggregate higher property value growth.
Man (1999)	<ul style="list-style-type: none"> - Housing value growth 	<ul style="list-style-type: none"> - Tax incremental financing (TIF) - Education - Population density - Property tax revenue per capita - Income tax revenue per capita - Sales tax revenue per capita - Fees/charges revenue per capita - Grants revenue per capita 	<ul style="list-style-type: none"> - The choice of tax incentives in TIF districts decreased housing value growth.
Byrne (2006)	<ul style="list-style-type: none"> - Property value growth 	<ul style="list-style-type: none"> - TIF zones - Race - Population density - Income per capita - Unemployment rate 	<ul style="list-style-type: none"> - Cities with tax incentives in TIF zones have a higher growth in property values compared to the rest of the cities.
Garner (1959)	<ul style="list-style-type: none"> - Capital investment 	<ul style="list-style-type: none"> - Tax credits 	<ul style="list-style-type: none"> - Tax credits lead to more capital investment.
Grady (1987)	<ul style="list-style-type: none"> - Investment efforts 	<ul style="list-style-type: none"> - Tax credits - Interest group - Unemployment rate - Policy subsystem 	<ul style="list-style-type: none"> - Cities with tax credits have higher investment efforts.
Meyer et al. (1993)	<ul style="list-style-type: none"> - GDP - Employment rate - Deficit 	<ul style="list-style-type: none"> - Investment tax credits 	<ul style="list-style-type: none"> - States with investment tax credits increase GDP and the employment rate, and decrease deficits.

Authors	Dependent	Independent variables	Implications
Gruley-Calvez et al. (2009)	- Investment	- New market tax credits - Income per capita - Real estate assets - Age - Location	- New market tax credit programs lead to increased investment in low income communities.
Faulk (2002)	- Employment change	- Employment tax credits - Age - Previous tax credits	- Municipalities with employment tax credits create more jobs than those without employment tax credits.
Gera (1987)	- Employment rate	- Canadian employment tax credits	- Employment tax credits lead to job position creation.
Luger & Bae (2005)	- Job creation - M&E investment - R&D investment	- State business tax incentive programs	- State business tax incentive programs lead to job creation and investment.
Billings (2009)	- Job creation - New business location	- Enterprise zone tax credits	- Enterprise zone tax credits have no impact on where new establishments locate in Colorado; however, EZ tax credits do increase the number of employees hired.
Boarret & Bogart (1996)	- Employment rate - Property value	- New Jersey urban enterprise zone programs - Population	- EZ designation has no significant effect on employment rate or property values in New Jersey.
Bondonio & Engberg (2000)	- Employment growth	- State enterprise zone - Population density - Income per capita - Poverty rate	- The state enterprise zone does not influence the employment rate.
Greenbaum & Engberg (2004)	- Housing value	- Enterprise zone tax credits - Unemployment rate - Education - Housing value	- Capitalization of enterprise zone tax credits in the local housing market has no impact on housing prices.

<Appendix D> Previous Studies about The Adoption of Local Option Taxes

Authors	Dependent variable	Factor focused	Unit	Findings
Deran (1968)	- Property tax burden	- Local option income taxes	City	- Cities with local option income taxes have lower property taxes as a percentage of total taxes than cities without local option income taxes. Also, per capita property taxes and per capita total taxes had increased at a lower rate in cities with local option income taxes.
Krmenec (1991)	- Property tax revenue per capita	- Local option sales taxes - MSA status - Population density	City	- The substitution of local option sales tax revenue for property tax revenue was in cities with local option sales taxes. Also, cities in higher density metropolitan areas were less likely to experience sales-for-property tax substitution.
Ulbrich (1996)	- Property tax growth - Per capita property tax	- Local option income taxes	City	- Property tax growth in cities with local option income taxes was less than one tenth of that in cities without local option income taxes. Also, per capita property taxes increased about \$7 in cities with local option income taxes, compared to about \$32 in cities without local option income taxes.
Zhao & Hou (2008)	- Fiscal disparity - Revenue diversification	- Local option sales tax - Income - Property value - Education	County	- Local option sales taxes diversify the revenue structure and enhance the fiscal capacity of county government.
Pajari (1984)	- The adoption of local option sales taxes	- MSA status - Population density - Presence of interstate highway - Political ideology	County	- The probability of adoption of local option sales taxes is positively associated with taxable sales, income, property value, education achievement, MSA status, population density, presence of an interstate highway, and political ideology.

Authors	Dependent variable	Factor focused	Unit	Findings
Ulbrich, Marby, & Warner (1990)	- Property tax burden	- Local option sales taxes	State	- The presence of local option sales taxes is negatively associated with property tax burden. In specific, the presence of local option sales taxes would lower the effective property tax rate to 0.83% or reduce the per capita property tax to a level \$135 lower than in areas without local option sales taxes.
Jung (2001)	- Property tax burden	- Local option sales taxes - Property tax level - Mileage rate - Local spending level	County	- Counties with local option sales tax tend to have per capita property taxes that are an average of \$12 or 1.8 million lower than counties without local option sales taxes.
Zhao (2005)	- The adoption of local option sales taxes	- Property tax mileage rate - Presence of interstate highway - Political ideology - MSA status - Population change	County	- Motivations are higher in counties with higher property tax mileage rates and potential sales tax exportation: obstacles include high existing sales tax rates and severe tax competition; and a major resource for overcoming these obstacles is the adoption of the local option sales taxes in other counties.
Kim et al. (2009)	- The adoption local government infrastructure surtax	- Population density - Per capita property tax - Number of neighbor counties that adopt the LGIS - Property value - Taxable retail sales value - Political ideology	County	- The adoption of a local government infrastructure surtax is associated with political, socioeconomic, and regional diffusion factors as earlier findings suggest. However, this paper finds that fiscal factors and direct tax burden have no influence on the adoption of local government infrastructure surtax.

<Appendix E> Variables and Measurements

Variables	Measurements	Data sources
Dependent variable		
- The adoption of a tax incentive in Counties	- Chose at least one tax incentives =1, Otherwise =0	- Florida Enterprise Zone Program Annual Report - Florida Brownfields Redevelopment Program Annual Report
- The number of tax incentives in Counties	- Continuous scale: 1, 2, 3, 4, 5	- County webpage
Independent variables		
Political factor		
- The form of government	- Elected official form =0 - Appointed manager form =1	- Municipal Year Book
Fiscal factor		
- The ratio of intergovernmental grants	- Intergovernmental grants/ total revenue	- Florida Legislative Committee on Intergovernmental Relations
- The ratio of property tax revenue	- Property tax revenue/ total revenue	- Florida Legislative Committee on Intergovernmental Relations
Interest group		
- The ratio of targeted businesses in Counties	- The number of targeted business/ total number of business	- Economic Census Bureau
Control variables		
- Median income	- The amount of median income	- Florida Statistical Abstract
- Education level	- The percent with at least bachelor degree	- Florida Statistical Abstract
- White race	- The ratio of white race	- U.S. Census Bureau
- Charter	- Non-charter county =0 - Charter county =1	- Florida Association of Counties
- MSA	- Non-MSA area =0 - MSA area =1	- U.S. Census Bureau
- Population	- Population	- U.S. Census Bureau

<Appendix F> Descriptive Statistics

Variables	The adoption of Tax incentive program				Number of Tax incentive programs					
	obs	Mean	SD	Min	Max	obs	Mean	SD	Min	Max
Dependent variable										
- The adoption of a tax incentive program	65	0.73	0.44	0	1	48	2.68	1.15	1	5
- Number of Tax incentive program										
Independent variables										
- Form of Government	65	0.67	0.47	0	1	48	0.77	0.43	0	1
- Inter_Revenue (%)	65	24.11	14.11	8.6	78.3	48	22.92	14.61	8.6	78.3
- Property_Revenue (%)	65	44.76	10.01	16.5	70.4	48	45.38	9.94	16.5	70.4
- Targeted Businesses	65	1.35	1.65	0.02	7.07	48	1.56	1.81	0.04	7.07
Control variables										
- White People (%)	65	71.84	12.59	35.3	89.8	48	69.8	13.42	35.3	89.8
- Education (%)	65	16.57	8.15	6.8	41.7	48	16.7	8.0	7.3	41.7
- Median Income per capita	65	43,737.01	8,195.47	31,443	67,238	48	43,027	7,520	32,444	61,379
- Population	65	231,986.7	339,641.5	7,957	1,751,234	48	275,955	378,368	7,957	1,751,234
- Home Rule Charter	65	0.27	0.45	0	1	48	0.33	0.47	0	1
- MSA	65	0.49	0.50	0	1	48	0.52	0.50	0	1

<Appendix G> Probability / Marginal effect of the Structure of County Government

Predicted Probability/Marginal effects of outcomes for Choosing Tax incentive programs	
Predictor	Probability / Marginal effects
Elected official vs. Appointed manager	0.562 vs. 0.839