Estimating Government Policy Preferences to Predict New Firm Formation

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Introduction

Knowledge about the role entrepreneurship plays in economic development has evolved over the last several decades and many believe that increasing the level of entrepreneurship also increases the odds of long-term economic prosperity. Recently, emphasis has been placed on the effect community culture has on entrepreneurship, specifically on the formation and survival of new firms (Armington and Acs 2002; Goetz and Freshwater 2001; Florida 2002; Fritsch and Mueller, 2007; Lee, Florida and Acs 2004). Conceptually, community culture is believed to be related to the entrepreneurial climate. Within the literature, the term entrepreneurial climate (also referred to as entrepreneurial culture) has been used somewhat ambiguously, but has been used to describe how supportive communities are with respect to the creation and survival of new businesses (Armington and Acs 2002; Goetz and Freshwater 2001; Fritsch and Mueller, 2007). Community support can take a wide variety of forms, for example, the availability of capital for business loans, the presence of other new firms or the amount of government spending on education. The general idea is that communities with strong entrepreneurial climates should experience more new business formation relative to communities with weaker entrepreneurial climates. The challenge for policy makers lies in knowing how to encourage communities' entrepreneurial climate when the concept itself is not well defined. Several studies have identified potential indicators of strong entrepreneurial climates, for example, the number of self-proprietors (Armington and Acs 2002), the number of artisans (Lee, Florida and Acs 2004), and the number of young, small firms (Fritsch and Mueller 2007). However, making specific governmental policy

recommendations based on these indicators pose some challenges for researchers. The extent that governments can influence the formation and survival of new firms remains unclear (Peak and Marshall 2007). Further, community culture encompasses more than a few measures and is not captured very well in previous models.

In this study, an approach to modeling new firm formation is proposed which differs from previous research in two ways. First, this study expands determinants used in some other studies to include both fiscal and spending policies of states. Second, the approach allows states' fiscal and spending policies to be determined by the states' culture, which are reflected by a wide range of demographic information. In this way, states' entrepreneurial climates do not have to be directly defined in the context of states' culture but are embodied in state governments' decision making. The proposed procedure employs the methods developed by Aaberge and Langorgen (2003) to distinguish between subsistence policies (i.e., policies which reflect mandated programs and regulatory oversight) and discretionary polices (preferences beyond subsistence) and further limits state governments' influence to discretionary policies only.

Literature Review

Entrepreneurship and Community Culture

Goetz and Freshwater (2001) distinguish between two types of new business formation: that which results from the production of new products or services (Schumpeter's concept of entrepreneurship) and that which results from normal population and income growth (subsistence growth not resulting from entrepreneurship). They focused on Schumpeterian business formation and defined states' entrepreneurial climate as the residuals from the linear regression of new firm formation and initial public

offerings on research grants, patents, college graduates, and venture capital. They found that increasing human capital in a number of states could potentially lead to more entrepreneurship. Additionally, they found that gains from financial capital only occur in the early stages of firm formation.

Armington and Acs (2002) emphasized the difficulty of quantifying the relationship between communities' culture and the formation of new firms. They explained this difficulty is due in part to the lack of a coherent definition of the entrepreneurial climate (they use the term entrepreneurial culture) and the disparity over interpreting the causes of high regional variation for entrepreneurship. Following the work of Illeris (1986), who believes employment choice is directed by the social and cultural factors of one's environment, they used the proportion of self-proprietors as a measure of the entrepreneurial climate. They found the number of self-proprietors to be positively related to new business formation in certain industries. However, a clear relationship between self-proprietors (entrepreneurial climate) and new instances of entrepreneurship given a community's culture was not determined; specifically, the aspects of the culture which may have encouraged individuals to start businesses were not identified.

Florida (2002) developed the Creative Class Index intended to establish a clearer link between a community's entrepreneurial climate and the amount of entrepreneurship. His index is a weighted average of four other measures: the number of artists present, Milken Institute's Tech Pole Index (a measure of high technology firms), patents per capita and the Gay Index (a measure of male same-sex unmarried partners). He reported that communities with a higher tolerance for diversity attracted more high-tech firms. Lee, Florida and Acs (2004) expanded this work by examining the impacts of variations in

creativity and diversity on the amount of entrepreneurship in the region. In this study, creativity was defined by the Bohemian Index (a measure of artisans and other creative people in a region), while diversity was measured by the Melting Pot Index (a measure of the foreign born population) and the Gay Index. Firm births were used to measure the amount of entrepreneurship. They argued that the factors that contribute to creativity and diversity in a region also promote innovation and, therefore, encourage entrepreneurship. In essence, more creative cultures result in higher levels of entrepreneurship. They reported that their creative index was the only significant determinant in all the industry sectors analyzed and the diversity index was only significant in service sectors. Fritsch and Mueller (2007) defined the entrepreneurial climate as the concentration of small and young firms and found that employees of small and young firms are more likely to start their own business than employees of larger firms. From their analysis, they argued that the presence of small and young firms encourages the formation of additional small and young firms.

Sutaria and Hicks (2004) combined indirect community culture characteristics (reflected in local government spending at the municipality level) with a number of economic indicators (for example, unemployment, population change, per capita income and bank deposits per capita) in an effort to explain the formation of new firms. They reported that aggregated local government spending was not a significant factor for determining new firm formation. Conversely, Peak and Marshall (2007) investigated the impact of state government expenditures (specifically in education, health, highways, police protection, natural resources and parks and recreation) on the number of new firm formed. Their hypothesis was that state governments can positively impact firm formation

through expenditures in a number of broad categories. In general, they found that expenditures have a positive effect on new firm formation; however, expenditures on police protection were found to have a negative effect. Other studies have pointed to the influence of government actions on entrepreneurship (usually measured as new firm formation) but did not attempt to quantify the relationship (Birley1986; Bradshaw and Blakely 1999; Isserman 1994).

State Fiscal and Spending Preferences

In order to determine state government preferences for fiscal and spending policies, a distinction must be made between the minimum subsistence levels of spending and savings as well as maximum acceptable levels of taxation. Lluch (1973) developed the Extended Linear Expenditure System (ELES), assuming intertemporal choice and maximizing a Stone-Geary utility function. The ELES was modified from Stone's Linear Expenditure system to allow for consumer savings in response to price changes. The intertemporal choice results as consumers place values on goods at different points in time. The Stone-Geary utility function includes a parameter for subsistence which is estimated by the ELES. Howe (1975) modified the ELES by making savings a good and assuming consumers had preferences for different levels of savings. Further, the subsistence level of savings was assumed to be zero.

A number of studies have used the ELES approach to model government decision making (Inman 1971; Ehrenberg; Johnson 1979; Aaberge and Langørgen 2003; Allers and Elhorst 2010). In particular, Aaberge and Langørgen (2003) followed Howe (1975) by allowing preferences for savings; however, Aaberge and Langørgen assumed savings could be negative in some years resulting in a budget deficit. Additionally, they made a

distinction regarding the control governments could exercise over taxes and user fees by making some taxes exogenous while other taxes and user fees were treated as endogenous. In essence, governments were assumed to have preferences for part of the income received (that from endogenous tax levels and user fees).

Another characteristic of the approach used by Aaberge and Langørgen (2003) is that elected governments are a reflection of the entire community as opposed to the median voter. They included a number of different demographic variables in the individual demand equations for public services, taxation and savings. The demographic variables selected were believed to be the primary drivers of demand for the public services, taxation and savings. Further, demographic variables used varied between demand equations that made up the total system. For example, the proportion of families with children age 7 to 15 was included in the demand equation for education but not in the demand equation for infrastructure. Aaberge and Langørgen argued that estimating the ELES under the additional assumptions (taxation and user fee preferences, the potential for negative savings, and including demographic variables believed to drive the different demands) resulted in subsistence spending on public services, minimum savings (potentially less than zero) and maximum levels of taxes would better reflect the preferences of the community that elected the government.

Conceptual Framework

The importance of communities' entrepreneurial climates on levels of entrepreneurship has been emphasized in the literature yet the definition remains somewhat ambiguous and there is no agreement on its empirical measurement (Armington and Acs 2002; Goetz and Freshwater 2001; Florida 2002; Fritsch and Mueller, 2007; Lee,

Florida and Acs 2004). Using the methodology developed by Aaberge and Langørgen (2003) to estimate fiscal and spending preferences, the challenge of defining and measuring states' entrepreneurial climate is avoided. Further, because a wide range of demographic characteristics are used in the different demand equations, a broader view of the entrepreneurial climate is potentially captured. It is also important to consider the sequence of events regarding budget decisions and the representative government. Therefore, demographic variables should be lagged relative to the fiscal year of the budget decision making.

Given the previous discussion about state fiscal and spending preferences, it is reasonable to consider the extent of government control over expenditures is limited to the discretionary policies (preferences) directed at the various services or policies that result in a reduction from the maximum acceptable level of taxes and user fees. This implies that results from entrepreneurial studies examining government control that do not differentiate between the observed quantities of spending, savings and taxes and user fees may be misleading. Additionally, the distinction made by Goetz and Freshwater (2001) between Schumpeterian and subsistence business formation may justify new interpretations of the intercept in a regression of new firms on the fiscal and spending preferences. If only the intercept is used, then it would be interpreted as the subsistence level of firm growth due to an increase in population and income. However, the intercept value will be a single value for all states. Therefore, the interpretation in the context of the model used would be an average subsistence among all states. If subsistence levels of government spending is also included, then one would expect that the sum of the

subsistence levels times their respective coefficients would explain the subsistence level of firm growth for each state.

Another consideration is the variables to be included in the model. Peak and Marshall (2007) regressed new firm formation (firms less than 500 employees) on per capita state expenditures on education, health, highways, police protection, natural resources and parks and recreation to determine how state governments can influence new firm formation (firms less than 500 employees). They justified their selection of variables based on spending they believed would strongly affect new firms' formation. This strategy assumes government decision makers have control over all levels of spending. However, once the subsistence levels of services are provided (argued here to be beyond the normal control of government decision making), only then can one consider the motivation behind additional expenditure on a particular service. If government representatives are assumed to maximize the welfare of their constituents, then any extra spending on a service would be to improve the quality of life or achieve greater economic prosperity. In other words, the primary intent of discretionary spending could be thought of as increasing the amount of entrepreneurship. Therefore, all the discretionary spending (with the exception of savings and administration) as well as a reduction (or increase) in taxes and user fees should be included in the regression model. In the models presented in the next section, discretionary spending is also lagged one year relative to the new firm formation variable.

If subsistence spending, minimum acceptable savings and maximum acceptable taxes and user fees are not included in the model, the intercept would represent an average subsistence level of new firm formation for all states. Since this is a single value for all

states, this value should be positive given positive population and income growth in the United States. In the expanded model (where subsistence spending, minimum acceptable savings and maximum acceptable taxes and user fees are included), the sum of the coefficients times their respective values should be positive (negative) where population and income growth are positive (negative). If income and population move in different directions, then whichever has the strongest affect given its magnitude will determine whether or not firms are created or lost. In general, the coefficients on the discretional terms are expected to be positive. However, a number of scenarios can be used to explain why this may not be the case. For example, an increase in education spending may result in a loss of population (and potentially firms) if the unemployment is high as this investment may increase competition for jobs and force some to relocate to other states to find work. Therefore, results should be considered in the context of unemployment and population change. This leads to the necessity to estimate two additional models (one with the subsistence, minimum savings and maximum user fees and taxes and one without) that include a change in population and change in employment variable. As discussed above, the coefficients on these two new variables are expected to be positive.

Methods and Procedures

The first step in the proposed procedure is to estimate spending preferences. The second step is to estimate the regression model using new firm formation (endogenous) and the estimated preferences (exogenous) and subsistence government spending (exogenous). The third step is to test for misspecification, specifically non-normality, static heteroskedasticity and autocorrelation. The fourth step is to select a final model and discuss the implications of the estimated parameters.

Estimating State Preferences

Lluch (1973) demonstrated that maximization of a Stone-Geary welfare function subject to a budget constraint resulted in the ELES. Howe (1975) showed that the ELES could also be obtained with the inclusion of a savings subsistence parameter. Aaberge and Langørgen (2003) allowed savings subsistence to be negative (creating a potential budget deficit) and added a parameter for maximum acceptable user taxes and user fees. Following Aaberge and Langørgen, the resulting system of equations are:

where is the expenditure on service *k* for state *i* in year *t*, is the subsistence spending on service *k*, is the exogenous income, mx is the maximum acceptable taxes and user fees (endogenous part of the income), is minimum acceptable level of savings, is the subsistence spending on service *j*, for , and is the share of discretionary income directed to service *k*. Similar equations are specified for savings and taxes:

where and are the observable savings and taxes respectively and and are the shares of discretionary income directed to savings and reduced from taxes respectively. Note that discretionary spending is represented by:

Because prices are not observable, the subsistence spending, minimum acceptable level of savings and maximum acceptable level of taxes and users fees have to be estimated using a set of demographic variables from each state believed to drive the demand for the particular services, savings or taxes and user fees. Additionally, the shares must also be estimated with a different set of explanatory variables that are uncorrelated with the demographic variables used in the subsistence, minimum savings and maximum tax and user fees equations. The equations to be estimated for the subsistence spending and shares of discretionary income are:

where is the demographic variable *h* to explain service *k* for state *i* in year , is the share explanatory variable *g* of service *k*, and are the random errors and the and are parameters to be estimated for and .

Similarly, equations like (3a) and (4a) are estimated for minimum acceptable savings and its respective share, as well as maximum acceptable taxes and user fees and its respective share.

where , , and are parameters to be estimated for and . The values for *H* and *G* may differ between equations as some equations may have more (or less) explanatory variables and the explanatory variables themselves may also differ between equations. Finally, the adding up constraint is imposed such that the shares sum to one, .

A new set of explanatory variables are now provided to estimate the following four models:

where is the per capita new firm formation (with fewer than 500 employees) for state *i* in year *t*, is a vector of the subsistence spending and maximum acceptable taxes and user fees in year , is a vector of discretionary spending and a reduction in taxes and user fees, is the change in population, is the change in employment, is an indicator variable for year, is the random error term, and , and are parameters to be estimated and and are vectors of parameters to be estimated.

Data

State expenditures are from the U.S. Census for 2003-2007 (see Table 1). Demographic information used to estimate subsistence, minimum savings and maximum taxes and user fees and the other explanatory variables used to estimate the shares of discretionary income are shown in Table 2. The expenditures are for all 50 U.S. states. The tax and user fees were comprised of general sales tax, selected sales tax, license tax and other sales tax. The exogenous income was made up of corporate and individual income taxes, intergovernmental revenue, miscellaneous general revenue, utility, liquor store and insurance trust revenue. Government administration is made up of normal administration spending plus interest on general debt, other and non-allocable, utility expenditure, liquor store expenditure and insurance trust expenditure. Budget data and per capita income were deflated using the consumer price index. New firm formation data were from the U.S.

Census for 2004-2007, change in unemployment data is from the Bureau of Economic Analysis for 2002-2005 and change in population data is from the U.S. Census for 2002-2005. For equations 5(a) - 5(d), new firm formation years used are 2004-2007 and the estimated fiscal and spending preferences were from years 2003-2006.

Results

The results from estimating the subsistence and shares of discretionary income directed at the different services, savings or reduction in taxes and user fees are shown in Tables 3 and 4. The results of the initial misspecification tests conducted on the models from equations 5(a) - 5(b) are shown in Table 5. Finally, the parameter estimates of the corrected model for equation 5(d) are shown in Table 6. The model presented was only corrected for heteroskedasticity; however, the test for normality on the corrected model was found to be not significant. Additionally, the autocorrelation in the model was not corrected; therefore, the results presented in this section are potentially misleading.

The signs for the preferences on education, health, natural resources, parks and recreation and on reduced taxes and user fees are positive (for clarification on the preferences for taxes and user fees, the value is a reduction in taxes and user fees since the preference represents difference between the larger maximum acceptable level and the smaller observed level); however only two of these coefficients are significant. The sign on highways is of concern especially since the value is significant in the model. These results differ considerably from Peak and Marshall (2007), as they reported that only police protection had a negative coefficient. Additionally, the subsistence and discretionary parameters of like categories (for example, education spending) were tested to see if they are the same. Results indicate that a distinction can be made between the effects on firm

formation by the subsistence policies versus discretionary policies. The subsistence levels of firm formation were calculated from the data and parameter results. As it turns out, the preferences were the values negatively affected by a change in population, employment or both. Although this result is not intuitive, it may be that the preference is more representative of a correction from the subsistence level when the economy is troubled.

Discussion and Conclusion

The purpose of this project was to present an alternative procedure in predicting governmental influence on new firm formation without having to directly confront the challenges associated with defining and measuring the entrepreneurial climate. The estimation of preferences poses two distinct problems in the context of this procedure. The variables selected to predict preferences should be carefully considered as small changes in these predictor variables lead to dramatic changes in the preferences. This leads to the second problem of errors in the estimated preferences and subsistence which would result in simultaneity. Therefore, more work is needed to improve this procedure. One suggestion for further research includes a Monte Carlo study to examine different properties of the resulting estimates.

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Table 1. State Expenditures 2003-2007

Variable Name[a]
Exogenous Income
Intergovernmental revenue
Individual income tax
Corporate income tax
Utility revenue
Liquor store revenue
Insurance trust revenue
Miscellaneous general revenue
Taxes and User Fees
General sales
Selective sales
License taxes
Other taxes
Education
Public welfare
Hospitals
Health
Highways
Police protection
Correction
Natural resources
Parks and recreation
Government administration
Interest on general debt
Other and unallocable
Utility expenditure
Liquor store expenditure
Insurance trust expenditure

a. Retrieved from U.S. Census

Table 2. Information to Estimate Subsistence and Shares 2002-2006

Variable Name[a]
Subsistence Information
Population Share
0-5 years of age
5-17 years of age
65-84 years of age
80 years & above
85 years & above
Single parents with children 0-6 years
Mentally disabled 5-15 years per capita
Mentally disabled 16 years and above per capita
Unemployed 16-59 years per capita
Divorced/separated 16-59 per capita
Foreigners from remote cultures per capita
Population density
Person hours (average traveling time)
Dummy for rural (states)
Dummy for urbanized cluster (states)
Dummy for urban (states)
Duration and severity of cold winter period
Per capita change in municipal income
Share Information
Percent republicans in state house
Percent republicans in state senate
Per capita income
Percent population with H.S. degree
Percent population with B.S. or higher degree

a. Retrieved from U.S. Census

Table 3. Parameter Estimates for Subsistence, Minimum Savings and Maximum Taxes and User Fees, Equations 3(a) - 3(c)

Variable Name	Education	Welfare	Hospital	Health	Highway	Police	Corrections	Resources	Parks	Administration	Savings	Taxes
Subsistence Information												
Intercept	-0.087060	-1.776270	0.122845	-0.172160	0.030605	-0.063620	0.064548	0.211020	0.117880	-1.511980	0.605836	1.921332
	0.407900	*0.463000*	*0.105600*	*0.071900*	*0.127800*	*0.023200*	*0.033400*	*0.044100*	*0.014500*	*0.277200*	*0.093400*	*0.156000*
Population Share												
0-5 years of age		-2.282420										
		2.473200										
5-17 years of age	5.304980											
	1.474100											
65-84 years of age		-0.053820	-0.636540	1.085205								
		1.239000	*0.509000*	*0.330800*								
Single parents with children 0-6 years		6.706083	1.831201	0.678689								
		2.272300	*1.074500*	*0.737800*								
Mentally disabled 5-15 years per capita	-19.407400											
	9.300000											
Mentally disabled 16 years and above per capita		8.269728										
		1.716500										
Unemployed 16-59 years per capita					3.363434	-0.005500	1.086567	-0.046960		21.618860		-4.650550
					1.043700	*0.153200*	*0.241000*	*0.372800*		*4.065700*		*3.174700*
Foreigners from remote cultures per capita	-0.733440									-0.641680		
	0.444700									*0.576800*		
Population density	-0.000380		0.000021		-0.000006	-0.000001			0.000023	0.000656		
	0.000085		*0.000037*		*0.000034*	*0.000006*			*0.000004*	*0.000116*		
Person hours (average traveling time)	0.816352		0.062735	0.374995	-0.179070				0.097363	3.084406		
	0.404700		*0.158700*	*0.106500*	*0.161500*				*0.019200*	*0.659200*		
Dummy for rural (states)	0.977194	2.873821	-0.051370	0.011399	0.391205	0.140169	-0.029220	-0.176890	-0.174880			
	0.435200	*0.384900*	*0.055600*	*0.037500*	*0.167500*	*0.031000*	*0.044800*	*0.057600*	*0.019700*			
Dummy for urban (states)	0.450169	2.108962			0.068877	0.092499	0.023097	-0.217360	-0.156550			
	0.348000	*0.290000*			*0.139500*	*0.025100*	*0.034800*	*0.044800*	*0.016600*			
Per capita change in municipal income			0.268063						0.027578	2.199634	4.249411	4.099707
			0.369100						*0.044300*	*1.321500*	*1.662900*	*1.397400*
Adjusted R-Squared	0.3714	0.6691	0.0770	0.3071	0.7675	0.4004	0.6310	0.7598	0.4304	0.8328	0.6592	0.2846

Note: Values in italics are the standard error and are below their respective parameter estimate

Table 4.Parameter Estimates for the Shares of Discretionary Income, Equations 4(a)-4(c)

Variable Name	Education	Welfare	Hospital	Health	Highway	Police	Corrections	Resources	Parks	Administration	Savings	Taxes
Intercept	0.2218930	0.0569560	0.2125320	-0.1544300	-0.2902100	-0.0145200	-0.0172800	-0.1122400	0.0119690	-0.3314800	0.3310650	1.4017120
	0.2931000	*0.2059000*	*0.1008000*	*0.0734000*	*0.0962000*	*0.0179000*	*0.0274000*	*0.0383000*	*0.0110000*	*0.2393000*	*0.4075000*	*0.4663000*
Percent republicans in state house	0.3255610	-0.5009500	-0.0823500	-0.0003400	0.2039850	0.0306850	0.0708090	0.0669090	0.0172920	0.0938250	0.2278490	-0.5200500
	0.1068000	*0.0723000*	*0.0358000*	*0.0260000*	*0.0359000*	*0.0065500*	*0.0101000*	*0.0139000*	*0.0041300*	*0.0865000*	*0.1456000*	*0.1647000*
Percent republicans in state senate	-0.4859000	0.2484190	0.0475400	-0.0281100	-0.0723500	-0.0357700	-0.0597000	-0.0187500	-0.0141300	-0.0739400	0.1079080	0.4545830
	0.1062000	*0.0706000*	*0.0348000*	*0.0254000*	*0.0348000*	*0.0064700*	*0.0099300*	*0.0136000*	*0.0040400*	*0.0846000*	*0.1461000*	*0.1655000*
Per capita income	0.0000050	0.0000053	-0.0000012	0.0000017	-0.0000002	0.0000005	0.0000014	0.0000000	0.0000004	0.0000001	-0.0000047	-0.0000074
	0.0000020	*0.0000014*	*0.0000007*	*0.0000005*	*0.0000007*	*0.0000001*	*0.0000002*	*0.0000003*	*0.0000001*	*0.0000017*	*0.0000025*	*0.0000028*
Percent population with H.S. degree	-0.0020700	0.0008950	-0.0017000	0.0015520	0.0034800	0.0000780	-0.0002700	0.0012910	-0.0003100	0.0081460	-0.0014800	-0.0134600
	0.0034600	*0.0024300*	*0.0012100*	*0.0008790*	*0.0011500*	*0.0002120*	*0.0003250*	*0.0004520*	*0.0001330*	*0.0028200*	*0.0047600*	*0.0054500*

Note: Values in italics are the standard error and are below their respective parameter estimate

Table 5. Misspecification Tests of the Estimated Models 5(a) - 5(d)

	Heteroskedasticity		Normality		Autocorrelation		Parameter Test[a]	
Model Tested	LM	p Value	Bera-Jarque	p Value	DW	p Value	F Value	p Value
5(a)	34.04	0.0001	11.1115	0.0039	0.6325	0.0001	-	-
5(b)	36.05	0.0104	8.1429	0.0171	0.8313	0.0001	4.89	0.0001
5(c)	31.96	0.0007	6.5180	0.0384	0.7909	0.0001	-	-
5(d)	55.88	0.0002	14.8968	0.0006	1.0157	0.0001	5.28	0.0001

a. Tests whether the estimates of the subsistence parameters of like expenditure categories are equal to the preference parameters of those same categories.

Table 6. Heteroskedasticity Corrected MLE of Model for Equation 5(d)

Variable Name	Estimate	Standard Error	t Value	p Value
Intercept	2.33800	0.33970	6.88	0.0001
Subsistence				
Education	-0.49920	0.15080	-3.31	0.0011
Public Welfare	-0.46990	0.19310	-2.43	0.0160
Hospitals	-0.96260	0.60430	-1.59	0.1130
Health	-2.10040	1.31830	-1.59	0.1129
Highways	-3.17080	0.88860	-3.57	0.0005
Police Protection	33.36980	7.21320	4.63	0.0001
Corrections	2.58900	1.88840	1.37	0.1722
Natural Resources	9.86900	2.65890	3.71	0.0003
Parks and Recreation	0.38290	3.85340	0.10	0.9210
Max Acceptable Tax	0.16190	0.09229	1.75	0.0812
Preference				
Education	0.13480	0.09406	1.43	0.1535
Public Welfare	-0.00515	0.07615	-0.07	0.9462
Hospitals	-0.46930	0.31540	-1.49	0.1385
Health	0.55190	0.36130	1.53	0.1285
Highways	-0.82820	0.20430	-4.05	0.0001
Police Protection	-0.21480	1.13880	-0.19	0.8506
Corrections	-1.02320	0.84130	-1.22	0.2255
Natural Resources	4.01750	0.66940	6.00	0.0001
Parks and Recreation	1.70370	3.78140	0.45	0.6529
Tax Increase/Reduction	0.91160	0.10210	8.93	0.0001
Other Variables				
Year 1 Indicator	-0.17250	0.07808	-2.21	0.0285
Year 2 Indicator	-0.20050	0.05645	-3.55	0.0005
Year 3 Indicator	-0.21890	0.04287	-5.10	0.0001
Change in Employment	0.12220	0.03003	4.07	0.0001
Change in Population	0.07533	0.03034	2.48	0.0140
Log likelihood	49.20			