Applied Research Project Prospectus

Purpose

Texas local governments rely on municipal bonds as a major funding source to accomplish needed community projects and programs. Municipal bonds are “the means through which improvements, whose benefit is of a public nature, are financed” (Compton, 1920, pp. 51). These improvements affect the quality of life in all communities and range from streets and water, to libraries, parks, and fire stations. The needs are enormous. Simonsen (2001) states the nationwide bond market averages $150 to $350 billion annually. There is much at stake in ensuring successful bond elections.

Most municipal bonds must be approved by voters and are backed by the community’s promise to pay over time utilizing the tax base (Compton, 1920). The fact that municipal bonds are future tax liabilities and not current tax dollars means that they are paid for by the benefactors. “Here the principle of pay-as-you use finance is required to distribute costs among the various generations” (Musgrave, 1959). Thus, municipal bonds represent an equitable financing mechanism in that only those that use the improvements pay for them. The ability to pay, however, can be influenced by the state of the local economy. Clark (1977) maintains that a city experiences fiscal strain if its population or economic base declines (Peterson, as cited by Clark 1977 pp. 54). Hildreth (1993) states that the economic disincentive to borrow is heightened by a lack of tax base
diversity or growth, two symptoms of a stagnant economy. Pearson (2002) also lists personal income as a measurement for economic health which could also impact the ability to pay. The state of the economy is the first research meta-framework.

The entire community should be involved in deciding how municipal bond proceeds are spent. King, et.al. (1998) asserts that “decision making without public participation is ineffective”. Shields (2003) identifies “participatory democracy” as an essential component of the “community of inquiry”. It is inquiry that leads to defining the needs of the community. Shields further states that “Participatory democracy is not a replacement for representative democracy. The two should work together. Nevertheless, participatory approaches are better equipped to reach win-win solutions” (Shields, 2003, pp. 33). Hence, public participation is the second research meta-framework.

Since most municipal bonds require voter approval, analyzing factors that impact voter behavior is important. Using a review of the literature regarding the two meta-frameworks, the health of the Texas economy and degree of public participation will be analyzed for their affects on bond elections. Control factors such as city size, debt load, credit rating, and bond size will be included in the statistical analysis. The purpose of this research is to explain the determinants of a successful Texas municipal bond election.

**Conceptual Framework**

Can the passage of municipal bond elections be correctly predicted from knowledge of the state of the economy and effective public participation? No literature was located directly linking the three variables, however, much literature was found concerning the role of public participation in government, and economic effects on voting behavior.
These are two major processes in developing municipal bond programs. Hildreth (2002) identifies voter approval as the most uncertain hurdle to successful bond programs. Additionally, “Real per capita changes in personal income in the last year of the inter-election period are significantly related to voting behavior” (Happy, 1986, pp. 49). The literature on public participation and economic effects are used to explain successful bond elections. The research question is a “why” question, thus the conceptual framework is explanation using formal hypotheses. Why questions are addressed by “If X, then Y” (Shields, as cited in Pearson, 2002). The literature review on public participation and economic effects will form the basis for the first two research hypotheses. Happy (1986) ascertains the economy as the dominant factor affecting voter behavior and this will form the basis of a third formal hypothesis.

Citizen Participation

“The responsibility of the city manager is to empower the governing body and citizens by helping to develop and use the tools of engagement” (Nalbandian, 1999, pp. 195). This supports the importance of obtaining voter trust and confidence through effective public participation, a key planning component for government policy making. Hildreth states that “Generally, voter approval is the most uncertain of the legal hurdles that must be addressed” and follows with, “an effective strategy for voter approval tends to be built around a highly perceived but justified need coupled with a political-style campaign to motivate citizens to vote for the proposal within a political environment of fiscal trust and accountability” (Hildreth, 2001, 46). Voters will view “highly perceived
but justified need” more favorably if they play a role in its identification. Thus one would expect:

H1: There is a positive relationship between municipal bond election passage and effective public participation.

Local Economy

The state of the economy is relatively easy to measure. Pearson (2002) used labor force, unemployment rate, personal income, population change, and earned income among other variables in his assessment of the impact of hospital closures on local Texas economies. Happy’s (1986) study on voter sensitivity to economic conditions reveals a direct relationship between the two. Since most municipal bonds require voter approval, the economy impacts the success rates of bond elections as well. During economic downturns, personal income may be reduced leading to less acceptance of municipal debt payments in the form of additional taxes. During economic upturns, citizens may have more disposable income and demand more services (Shields, 1984). Bloom (1975) determines that economic upturns and downturns affect voter behavior to varying degrees. “A party already in power is rewarded much less for good times than it is punished for bad times” Bloom (1975, 1240). Thus one would expect:

H2: There is a positive relationship between municipal bond election passage and the health of the local economy.

Strongest effect – local economy

Happy’s (1986) research states the economy as the predominating factor affecting voter behavior. The assumption that “economic events during the year of the election

4
dominate voting behavior has been supported in subsequent analysis” (Happy, 1986,45). This assumption forms the basis for the third formal hypothesis:

H3: The health of the economy is the predominating factor affecting municipal bond elections

Testing these hypotheses will explain the determinants of a successful bond election. Table 1 summarizes outlines the formal hypotheses and links them to the supporting literature;

### Table 1 Conceptual Framework Linked to the Literature

<table>
<thead>
<tr>
<th>Formal Hypothesis</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: There is a positive relationship between municipal bond election passage and effective public participation.</td>
<td>Barron, 2006; Berman, 1997; Boxet al, 2001; Compton, 1920; Crosby, 1986; Douglas, 2006; Hastings, 1920; Kathlene, 1991; King, 1998; Nalbandian, 1999; Roberts, 1997; Rosener, 1978; Shields and Tajalli, 2005; Shields 2003; Simonsen et al.; 2001; Stivers, 1994; Verba, 1993; Warner, 2001; Weil, 1907</td>
</tr>
</tbody>
</table>
| H3: The health of the local economy is the | Happy, 1986; Hildreth, 1993; Shields, 1984.
predominating factor affecting municipal bond election passage.

Methodology

This study uses existing aggregated data and document analysis to explain the factors that predict success in municipal bond elections. Data analysis is the preferred method for obtaining readily available economic information. Rosener (1976) used document analysis to thoroughly evaluate municipal public participation program effectiveness. This methodology is one of the preferred approaches to conducting explanatory research to answer to “X then Y” question. The units of analysis are Texas municipalities, and the sample will be the twenty five most populous. The dependant variable is the municipal bond election. Independent variables are the state of the local economy, and citizen participation. Control variables are city size (population), debt load (percent of budget), credit rating (Standard & Poor’s and/or Moody’s), and per capita bond size ($).

These variables are operationalized in Table 2. The operational table outlines the variables used in the study and their relationship to the hypothesis (positive/negative). The units of measurement are also defined and the data sources identified.
### Operationalization of the Hypotheses

#### Table 2

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>+/-</th>
<th>Measurement</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Bond Election (Pass / Fail)</td>
<td></td>
<td></td>
<td>State elections database Municipal public records</td>
</tr>
</tbody>
</table>

#### Independent Variables

<table>
<thead>
<tr>
<th>Public Participation (criteria)</th>
<th>+/-</th>
<th>Measurement</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Formalization</td>
<td></td>
<td></td>
<td>Rosener, (2001) City Council minutes, program documents, planning documents, citizen panel minutes, public meeting minutes.</td>
</tr>
<tr>
<td>2. Funding</td>
<td></td>
<td></td>
<td>Pearson, 2002 Dept. of Labor economic data.</td>
</tr>
<tr>
<td>3. Interaction</td>
<td></td>
<td></td>
<td>Municipal financial reports</td>
</tr>
<tr>
<td>4. Citizen input implementation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Citizen involvement in problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>definition and priorities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### State of the Economy (indicators)  

<table>
<thead>
<tr>
<th>State of the Economy. (indicators)</th>
<th>+/-</th>
<th>Measurement</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Employment growth</td>
<td></td>
<td>Growth rate</td>
<td>Dept. of Labor economic data.</td>
</tr>
<tr>
<td>2. Per capita income growth</td>
<td></td>
<td></td>
<td>Municipal financial reports</td>
</tr>
<tr>
<td>3. population growth</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Strongest effect- local economy

| Strongest effect- local economy    | +   |             | The coefficients for citizen participation and local economy will be compared |

#### Control Variables

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>+/-</th>
<th>Measurement</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Size, (pop.)</td>
<td></td>
<td>number</td>
<td>2000 census data</td>
</tr>
<tr>
<td>City debt load, (% of operating budget)</td>
<td></td>
<td>%</td>
<td>City financial reports</td>
</tr>
<tr>
<td>City credit rating, (Credit score)</td>
<td></td>
<td></td>
<td>City financial reports, Standard &amp; Poor’s and Moody’s rating co.</td>
</tr>
<tr>
<td>Bond size, (per capita)</td>
<td></td>
<td>$</td>
<td>City financial reports, Election data.</td>
</tr>
</tbody>
</table>

### Dependent Variable

Municipal bond election data will be obtained from state election records as well as municipal open records. Participation programs will be evaluated from city planning documents, council minutes, citizen panel group meeting minutes, and program literature.
Municipal demographic data (size, debt, and credit ratings) will be obtained from financial reports. Municipal financial reports and department of labor statistics will provide economic growth data regarding new jobs, per capita income, and population.

Bond elections will be chosen from two recent periods assumed to exhibit economic recession (post Sept. 11, 2001), and prosperity (2005-2006). The dependent variable is dichotomous with only two possible outcomes (pass/fail) and is hypothesized to depend on two independent variables.

**Independent Variables**

Public participation will be gauged using an instrument obtained from the literature review (Rosener, 1978). Rosener defines five evaluation criteria used to gauge public participation effectiveness. A scale of 0-5 will be used to measure effectiveness with 5 satisfying all criteria and deemed most effective.

Economic indicators of job growth, population growth, and per capita income will be used to measure the appropriateness of these two periods as either an economic upturn, or economic downturn. Employment and population growth will be quantified while per capital income will be measured in dollars.

**Control Variables**

Control variables city size, debt load, and bond size will be measured by population, percent of operating budget, and dollars per capita respectively. The municipal credit rating will be measured using a scale of 0 to 2 correlated to Standard and Poor’s and/or
Moody’s credit ratings. A chi-square goodness-of-fit test will be used to test the significance of these control variables.

**Statistics**

A logistic regression analysis is used to define the relationship between the dependent and independent variables. When the values of the dependent variable are not continuous (as in this case) and can be expressed as membership/non-membership, completion/non-completion, survival/failure, or pass/fail, a logistic regression analysis can be used to predict the outcome. This statistical method will be used to analyze the data to support the hypotheses. The logistic regression is based on the probabilities (odds) of the outcome occurring, and the logarithm of the odds. (George & Mallery, 2000). The values will always be between 0 and 1, with 1 being most likely to pass.

**Human Subjects Protection** – No human subjects will be used.

**Bibliography**


