ABSTRACT

The existence of low-balling – an audit practice of setting audit fee below the total audit costs on the initial engagement – and its effect on auditor independence have received a considerable attention in the accounting profession. In this study, we examine the competitive nature of governmental audit market and the effect of governmental enforcement on low-balling in the setting of Texas municipalities. Using the survey data from municipalities in the state of Texas where low-balling is banned, we find that low-balling effect exists only in small cities, where the audit market is more contestable due to competition. This finding is consistent with Chan’s (1999) predication that the practice of “low-balling” occurs only in a certain market segment where audit firms compete fiercely.

INTRODUCTION

The perception of low-balling (i.e., auditors compete for clients by bidding below total audit costs on an initial audit engagement, then lower audit fees are compensated by carrying out more lucrative audit in the following periods) has received considerable attention from academics as well as the accounting profession (Jensen and Payne 2003; Johnson 2003; William 2007). Moreover, the link between low-balling and impaired auditor independence has led to calls for closer regulations of auditing. While most studies agree that low-balling is an inevitable strategy for audit firms to gain market power due to competition (e.g., DeAngelo, 1981; Dye, 1991; Deis and Giroux 1996), Chan (1999) suggests that low-balling only occurs in a certain market segment where audit firms compete fiercely. Specifically, he examines the economic implications of the government enforcement to ban low-balling. The theoretical propositions in Chan’s (1999) study indicate that a policy of banning low-balling actually raises rather than lowers the quasi-rents (i.e., profits) of incumbent auditors in the future periods since they will choose to specialize in a more efficient way, thereby reducing total auditing costs.

The purpose of this study is to provide empirical evidence on the low-balling phenomenon in Texas governmental audit market where low-balling was banned in 1991. This legislative event provides a unique opportunity to study low-balling in this new economic environment. Given the tension between Texas enforcement to push initial audit fees up and the audit firms’ motivation to reduce fees through specialization, it remains an open question whether audit fees charged for initial engagement should be significantly lower than fees charged for continuous engagement after controlling for other economic factors.

To investigate this issue, we surveyed 113 municipalities with populations greater than 10,435 in the state of Texas with fiscal years ending in 1998. The empirical evidence shows that in small cities, audit fees paid by cities that switched to a new auditor were significantly smaller. The audit fee level for initial audit engagement is lower than that for continues audit by roughly 22 percent. However, the low-balling effect could not be observed in large Texas cities, where the audit market is less contestable based on the competition level tests. The overall findings are consistent with Chan’s (1999) predication that the practice of “low-balling” occurs only in a certain market segment where the competition is intense. While we were unable to separate the impact of ineffective government policy from efficiency gain by audit firms through specialization on the existence of low-balling, the results warrant further investigation of low-balling phenomenon and the potential impairment of auditor independence, especially from the perspectives of policy makers.
This paper also contributes to Rubin (1988) by providing additional insights on the association between audit fees and the joint impact of auditor size and auditee size. The results of previous studies using municipal audit market have been inconclusive. Following Rubin’s (1988) research framework, we find that a Big6 firm could charge a fee premium in large municipalities but not in small cities in two data settings (e.g., the entire sample and samples partitioned by city size). This result does not support Rubin (1988), who analyzes comparable specifications and concludes that Big6 firms in large cities also need to compete fiercely with peers to maintain a lucrative business.

Finally, this study reexamines the appropriateness of the audit fee models developed by prior literature for public sector. Since the auditing business has grown increasingly complex at both the private and public levels, researchers as well as auditors need better framework for audit pricing. In particular, we identify financial stability of auditee, internal control, and bidding process as relevant economic factors that influence the contemporary audit market in Texas. Identifying determinants of audit fees that are unique to a certain environment can be useful as audit markets in varied regulatory and economic settings function in different manners. As such, the results of this study are valuable to local city governments in Texas to plan their audit services more efficiently.

The remainder of the paper is structured as follows. Based on the prior literature, the model of municipal audit fees is developed in the next section. Section III describes the sample and data collection procedures, and reports descriptive statistics. Empirical results and analysis are presented in section IV. Finally, Part V presents conclusions and suggestions for further research.

**BACKGROUND AND MODEL DEVELOPMENT**

**Background**

Initial engagement discounts (i.e., low-balling) has been an issue of importance and a focal point for academicians, practitioners, as well as market regulators. DeAngelo (1981) argues that initial engagement discounts arise from transactions costs (switching costs and auditor start-up costs) that give the incumbent auditor a cost advantage over competitors, allowing incumbents to set future fees above their avoidable cost and thereby earn rents. In comparison, Dye (1991) concludes that low-balling is driven by the non-observability of quasi-rents (information about audit fees) rather than the existence of transaction cost. That is, when quasi-rents (audit fees) are not publicly observable, the client has an incentive to pay positive quasi-rents to influence the audit report in its favor. This leads to initial engagement discounts and the possible impairment of auditor independence in future periods.

From the regulator’s standpoint, the economic consequence associated with low-balling is the potential risk of losing independence of auditors. In 1991, low-balling was banned in Texas, where the act specifies that an accountant “who performs or offers to perform a service involving audit skills for compensation that is less than the direct labor cost reasonably expected to be incurred in performing the service creates a presumption of loss of independence.”¹ This regulatory change has put upward pressure on initial audit cost. Stated differently, one would expect that, in Texas, an initial audit engagement won’t decrease the audit fee significantly.

Nevertheless, another stream of research argues that initial audit fees might actually decrease following the policy banning low-balling. Using a two-period model, Chan (1999) theoretically suggests that the presence of start-up costs along with the cost advantage accrued from specialization creates a joint incentive for audit firms to expand their market shares and continue the auditor-client relationship once it was established. While Chan’s (1999) analysis agrees with the existing literature that the practice of low-balling is a natural consequence of the competition among audit firms, he uniquely provides theoretical proof that low-balling occurs only in a certain market segment where audit firms compete fiercely. Based upon Chan's (1999) comparison of the economic equilibrium of banning low-balling with otherwise equivalent economic situations, a policy of banning low-balling always results in increased profits for audit firms and increased fees. This also leads audit firms to specialize in a more efficient way, thereby reducing total auditing costs and increasing future profits. If the existence of larger quasi-rents rather than low-balling per se leads to

¹ Texas Statue 901.458. Occupations Code. "Direct labor cost" means: (1) the total compensation paid to a person who performs services; and (2) the employer payroll expenses related to that compensation, including workers' compensation insurance premiums, social security contributions, costs of participating in retirement plans, group insurance costs, and unemployment taxes.
a potential loss of auditor independence, as DeAngelo (1981) argues, policy banning low-balling may not be an effective measure to promote auditor independence. On the contrary, this policy may bring about the opposite, unintended results.

Given the conditions discussed above, the audit fee trend for initial engagement in the governmental audit market remains an empirical question following the 1991 Texas Act of banning low-balling, especially per Chan’s (1999) propositions. Exploring the audit fee model would be a useful tool to study the low-balling trend in this relatively new economic environment and may provide another angle for policy makers in regulating the market.2

Model Development

To do the empirical test, we develop an audit fee model with a focus on the impact of low-balling. In particular, low-balling is defined as an indicator variable (LOWBALL) that takes the value 1 if the audit is an initial engagement, and 0 for continuous engagement.

Simunic (1980) uses the general audit fee model in his benchmark study on the pricing of audit services for corporations. In the public audit sector, Rubin (1987) documents an economic analysis of audit fee structure for 100 national cities, and finds that municipal audit fees are significantly related to auditor and auditee size, loss exposure, entity complexity, report complexity, auditor retention and selection, and auditor production cost. Using a time-series approach, Baber et al. (1987) investigate the audit services market in North Carolina county governments for five years. Their study relates audit fee variances to the differential financial and political characteristics of the county governments. More recently, Deidiker and Giroux (1996) conduct a study for audit quality and audit fees using a sample of Texas Independent School Districts (ISDs). Significant explanatory variables identified include audit quality, auditor size, number of clients, auditor tenure, and whether Comprehensive Annual Financial Report (CAFR) is provided.

In the present study, we limit the number of control variables used in the prior literature and incorporate new variables in the audit fee model. The selection of the variables is based upon two characteristics of the current municipal audit markets. First, new economic phenomena warrant identification of new variables and examination of their potential effect on audit fees. Second, the explanatory power of certain variables used in the previous literature diminishes as the underlying audit market changes with time. A typical example of such changes is that cities seldom got a qualified opinion in the 1990’s as compared to 1980’s and 1970’s, and the adjustment entries primarily focused on the inappropriate disclosure of fixed assets. Also, municipal governments use calendar year as financial reporting period with very few exceptions. Therefore, auditor’s opinion and fiscal year end are omitted in this study because it is unlikely to observe significant result of their relationships with audit fees. The variables used in our municipal audit fee model are classified into the following categories.

Auditee Characteristics

Larger organizations usually enter into more financial transactions thereby requiring longer audit time, which will be reflected in larger audit fees. Therefore, auditee size would be associated with higher audit fees. In the previous governmental audit fee studies, size is measured by either population or revenues of the municipality. Copley (1989) suggests that revenue is a better proxy for size for government audit fee models, and as such, we use revenue rather than population in this study. Debt per capita has been widely used as a proxy for the risk factor or loss exposure with municipalities in previous studies. However, Rubin (1987), Copley (1989) and Ward et al. (1994) have found inconsistent results as to the effect of debts per capita on audit fees. The mixed findings are partly due to the potential multicollinearity problem when debt per capita is used with other control variables, such as population and revenue. It may be also due to the fact that debt variables are more important measures of loss exposure for larger governmental units that have greater amounts of public debt. Both Rubin (1987) and Copley (1989) use samples drawn from large cities across the country. We substitute debt per capital with financial volatility as a surrogate of risk factor in the audit

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1 In general, Texas Statute requires an annual audit by independent certified public accountants for all of the Texas municipalities. In addition, the municipal audit also needs to meet the requirements of the Federal Single Audit Act of 1984, and provision of OMB Circular A-133.
fee model. Financial volatility is calculated as general fund actual revenue divided by general fund equity. The higher the ratio of financial volatility, the higher the level of general fund debts a city assumes for future payment. Therefore, a positive association between audit fees and financial volatility is expected.

Audit production cost

Several variables were included in the fee model to capture the complexity of the audit and factors associated with audit production costs as identified by prior research. When the audit engagement is on a CAFR, it is considered more complex and requires more audit efforts than auditing a General Purpose Financial Statement (GPFS). Thus, the audit contract based on a CAFR is expected to reflect the auditor’s additional responsibilities concomitantly with a higher audit fee. Following conventional wisdom, we use an indicator variable CAFR to approximate the complexity of the auditee.

Audit firm’s industry experience is included in previous studies to explain the variations of such audit economic variables as audit quality, audit fees, and audit hourly fees. From the theoretical perspective, firms committed to more governmental audit contracts are posited to be more efficient in conducting the audit, and as such, the efficiency will be reflected in fewer audit hours and lower production cost. If audit firms are willing to pass these benefits partially to their clients, the fee will be lower. On the other hand, higher fee is also expected as specialists usually provide higher service quality that in turn requires fee premiums. As a result, the empirical results to date are mixed in regard to the impact of industry experience on audit fees (Palmrose, 1986; Ward et al., 1994; Mayhew and Wilkins, 2003). In this study, we use a continuous variable (i.e., the total number of clients for each audit firm in the sample) to control the auditor industry experience. However, no prediction is made for the directional effect of this variable.

Another important aspect of the auditor’s cost function that has not been addressed much in the literature is the duration of audit report time. Given the fact that increased report time usually associates with additional audit production cost, audit firms are expected to charge more audit fees to recoup the extra expenditure. Longer time is also related to “bad news” (Deis and Giroux, 1992), so that a positive sign is expected for the auditor report time lag. In line with McLelland and Giroux (2000), auditor report time lag is measured as the number of days from the end of the fiscal year to the external auditor report date.

Agency cost

Similar to the organizational structure of private sector, the form of municipal governments may lead to agency cost. Zimmerman (1977) found that the demand for auditing is greater in the city-manager form of government than in the strong mayor form. He ascribed the increased audit demand to increased agency costs with the city manager form of government. A contradictory argument is from Copley (1989) who proposes that professional manager forms of government are likely to have better control systems and lower audit costs. Accordingly, we include a variable for the city-manager form of government, but did not make a forecast for the direction of this variable.

Internal Control

Adequate and effective internal control enables auditors put more confidence on the client’s accounting system, and as such, reduces auditors’ workload in performing the required test. Web pages have become an important media for most municipalities to keep timely communication with public in terms of tourism, general, and specific information. An increasing number of cities are now presenting financial and budget information, sometimes updating them on a monthly basis. In a study of auditor report time for national municipalities, McLelland and Giroux (2000) use a city’s web page as a proxy for internal control, and find significant auditor report time reduction for cities with a web page. If financial information and budget information provided in a city’s web page is viewed as a positive signal of the city’s commitment to effective internal control, we also expect the associated audit fee should be lower.

Bidding frequency

The General Accountability Office (GAO) recommended that governments use competitive bidding for audits as a tool to improve audit quality. Prior studies show that increased use of competitive bidding may have put downward
pressure on audit fees (Copley et al., 1994; Ward et al., 1994). In the survey, Texas cities are asked to indicate how frequently they go through the re-bidding process, such as every three or five years. Longer bidding frequency suggests a city is inactive in bidding audit contract and more likely to lose chances to leverage the trend of reduced audit fees during the past decade. In this regard, we predict a positive sign for this variable since cities are expected to get a higher auditing price with the infrequent bidding attempts.

**Audit firm size**

As shown in prior studies, the expected relation between auditor size and audit fees depends on the competitive nature of the audit market. In order to assess the fee/auditor size relation, a framework similar to Rubin (1988) is used in our study. In essence, Rubin’s model contains three indicator variables capturing the joint effects of auditor size and municipality size. Auditor size is measured by whether a firm is one of the then Big6 audit firms. Municipalities are categorized as being large or small based on whether they are above or below the median population of the sample. The model uses small cities that do not use Big6 auditors as the basis for comparison and includes an indicator variable for small cities using a Big6 auditor, an indicator variable for large cities using a Big6 auditor, and an indicator variable for large cities not using a Big6 auditor. To test this model, Rubin (1988) assumes that small municipalities contract for audits in a competitive market. The competitive nature of the large auditee market can be inferred by comparing the effect of auditor size on audit fees between large and small cities.

The large city audit market is considered non-competitive if the variables indicating large city Big6 audits is positive and the other indicator variables have insignificant or negative coefficients. The large city audit market also is considered non-competitive if the large city Big6 indicator variable coefficient is insignificant but the small city Big6 variable is negative. The remaining combinations of signs of the indicator variable coefficients suggest competitive markets. Information regarding the incumbent auditor identification was obtained from the survey.

A detailed description for all of the independent variables is presented in Table 1. The dependent variable used in this study is the natural log of the municipality’s audit fees, consistent with previous studies. Data on city audit fees were obtained from the survey.

| Table 2: Summary Statistics for Dependent and Independent Variables (n=113) |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                | Total Sample (n=113) | Large Cities (n=56) | Small Cites (N=57) | t-statistics for differences of means between large and small cities |
| Name a          | Mean  | Range          | S.D.  | Mean  | Range          | S.D.  | Mean  | Range          | S.D.  |
| Dependent Variable |       |                |       |       |                |       |       |                |       |
| Audit fee       | 39583 | 7400-450000     | 53686 | 61154 | 12000-450000   | 15883 | 98978 | 18755          | 2E+05 |
| LOGREV          | 54491 | 1957-136000     | 15883 | 98978 | 3754-136000    | 2E+05 | 9896  | 1957-46628     | 8076  |
| FV b            | 11.87 | -838.63         | 77.69 | 18.82 | 1.25-85.69     | 110.2 | 5.05  | -51.72         | 7.49  |
| Auditor selection and production |       |                |       |       |                |       |       |                |       |
| CAFR            | 0.84  | 0-1             | 0.37  | 0.96  | 0-1            | 0.19  | 0.72  | 0-1            | 0.45  |
| CLIENTS         | 4.38  | 11-1            | 3.83  | 5.47  | 11-1           | 4.23  | 3.31  | 11-1           | 3.06  |

* indicates statistical significance at the 0.05 level.
TIMELAG   101.73  19-274  43.86  104.6  30-163  31.91  98.93  19-274  53.2  1.66

Internal Control WEBBUD  0.17  0-1  0.38  0.3  0-1  0.46  0.05  0-1  0.22  3.64*

Bidding Process BIDFREQ  4.16  12-1  1.43  4.59  12-1  1.47  3.83  06-1  1.29  2.88*
LOWBALL  0.15  0-1  0.36  0.14  0-1  0.35  0.16  0-1  0.37  0.04

Auditor size BIG6  0.18  0-1  0.38  0.3  0-1  0.46  0.05  0-1  0.22  2.88*
B6LARGE  0.15  0-1  0.36  0.3  0-1  0.46
B6SMALL  0.03  0-1  0.16
NB6LARGE  0.47  0-1  0.5  0.95  0-1  0.22

*: refer to Table 1 for the variable definitions
*: significant at the 0.01 level

SAMPLE AND METHODOLOGY

We estimate the model using 1998 audit fees and financial data for 113 Texas municipalities. Annual reports were requested by letters for each of the 187 cities with populations over 10,435 in Texas. Based on the CAFRs received from 155 cities, surveys inquiring audit information were mailed to these city governments. The number of non-response cities for the survey is 18. Furthermore, data on the level of audit fees or some of the explanatory variables (mainly bidding frequency) were not available for 24 entities responding to the survey, reducing the usable sample to 113.

Descriptive statistics for these entities are summarized in Table 2. The results indicate that audit fee is significantly higher for larger cities ($61,154.25 vs. $18,755.07, p value < 0.001). As compared to small cities, large cities are more likely to provide CAFRs (96 percent vs. 72 percent, pvalue < 0.001), provide budget information in the website (30 percent vs. 5 percent, pvalue < 0.001), and bid for the audit contract less frequently (4.59 years vs. 3.83 years, pvalue < 0.01). Moreover, the industry experience variable (total number of clients) is significantly larger in big cities than it in small cities (5.47 vs. 3.31, pvalue < 0.001).

Overall, about 15 percent of the municipalities switched to a new auditor in the year of 1998. Large cities and small cities do not differ significantly in this regard (i.e., 14 percent for large cities and 16 percent for small cities). However, clients tend to switch from non-Big6 auditors to Big6 auditors in large cities, but this trend was not observed in small cities. Further, in large city market, industry specialization seems to be an attractive feature for clients as more cities switch to auditors with more clients. Finally, we find audit fees associated with auditor switches to be lower than that charged to continuous engagement. These questions will be fully addressed in the multivariate analysis.

We use ordinary least square regressions as the primary empirical analysis to examine the relationship between municipal audit fees and the explanatory variables. The regression model for the entire sample is:

\[ \text{LOGFEES} = (\text{LOGREV FV CAFR CLIENTS TIMELAG MGR WEBBUD BIDFREQ LOWBALL BIG6 B6LARGE B6SMALL NB6LARGE}) \]

In order to examine whether the estimated audit fee model is structurally constant across city population, two separate regressions were performed for the large and small city sub samples. Another concern for partitioning the sample by municipal size is that standard audit fee models do not work well for smaller municipalities (Rubin 1988, Roberts and Glezen 1990). The regression model for the sample by city size is:

\[ \text{LOGFEES} = (\text{LOGREV FV CAFR CLIENTS TIMELAG MGR WEBBUD BIDFREQ LOWBALL BIG6}) \]
Regression diagnostics were used to detect outliers, normality of residuals, and multicollinearity. The largest Cook’s D is 0.147 and the largest variance inflation factor is 2.76. This suggests that multicollinearity is unlikely to affect the statistical significance of the results. A normal probability plot of residuals and individual influential observations do not indicate the violation of assumptions underlying regression analyses. A Spearman correlation matrix (not reported) suggests no evidence of high correlation across the independent variables.

**EMPIRICAL ANALYSES**

Results of the three OLS audit fee models are shown in Table 3. The full model has an F ratio that is significant at p < 0.0001 on a two tailed test, and has explanatory power with an adjusted $R^2$ of 75 percent. Adjusted $R^2$’s for the large and small city models are 67 and 44 percent respectively. The signs of all parameters of the independent variables are in the expected directions except for bidding frequency. However, the significance of variables in the sub samples has different magnitudes, indicating the potential variation of the models specified for large and small cities.

<table>
<thead>
<tr>
<th>Table 3: Regression Results: Main Effects Model</th>
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<td>Variable Description</td>
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<td>INTERCEPT</td>
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<td>Auditee characteristics</td>
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<td>LOGREV</td>
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<td>FV</td>
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<td>Auditor selection and production</td>
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<td>CAFR</td>
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<td>CLIENTS</td>
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<td>TIMELAG</td>
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<tr>
<td>Agency cost (MGR)</td>
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<td>Internal control (WEBBUD)</td>
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<td>LOWBALL</td>
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<td>Bidding process (BIDFREQ)</td>
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<td>Auditor size</td>
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<td>BIG6</td>
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<td>NB6LARGE</td>
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<td>Adjusted $R^2$</td>
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</table>

*: refer to Table I for the variable definitions
* significant at 0.001 in a one-tailed test
** significant at 0.05 in a one-tailed test
*** significant at 0.1 in a one-tailed test
**** significant at 0.05 in a two-tailed test
Analysis of the full model

Auditee size, as expected, explains significant variation of audit fees among municipalities. This result is consistent with municipal audit fee studies in which revenues are used as a size surrogate and always suggest that financial volatility is a significant determinant of audit fees if revenue is included as a size found to be significant. Financial volatility was negative and significant (pvalue < 0.01) as expected. Thus, cities that appear to be at higher financial risk are associated with larger audit fees. Empirical results variable in the audit fee model. For the sake of completeness, I also use debt per capital as the risk proxy to repeat the analysis. Results and interpretation remain unchanged.

Regarding the three control variables for audit production cost, CAFR is in the expected sign (positive) but not significant. The number of clients, as a proxy for industry experience, is significantly (p value < 0.10) associated with reduced audit fee. This result supports that the more clients a specific auditor retains in the Texas municipal audit market, the more efficient it may perform the audit engagement. As an ex post measurement, the coefficient on auditor report time is positive (pvalue < 0.05). City governments are advised to get lower audit fees by reducing the duration of audit services. With respect to the agency cost, the city manager form is insignificantly negative associated with the level of audit fees. Thus, no future evidence in our study is presented to the evaluation of the effect of city manager form on audit fees.

Internal control, as measured by whether the city furnishes budget information in its web page, is significant (pvalue < 0.05) and has the expected sign. Cities that provide web page budget disclosure are likely to maintain adequate internal controls and be subject to supervision from public. In contrast to our expectation, I could not identify a significant association between audit fees and bidding frequency for the full model. Moreover, the direction of bidding frequency variable is not uniform across large and small audit markets. In another regression not reported, we found that bidding frequency becomes positive and significant if combined with population and debt per capita variables. Thus, the higher correlation of bidding frequency with revenue but not population may explain the insignificant result.

As previously described, it is assumed that small cities purchase audits in a competitive market. For the indicator variables used to measure the joint effect of auditor size and city size, I find that the Big6 large city variable is positively significant (pvalue < 0.05), while the other two indicator variables (i.e., non Big6 large city and Big6 small city) are negatively insignificant. This result indicates that Big6 auditors are able to earn fee premiums in large city market, but they fail to do so in small cities. The combination of these coefficients together indicates that the big city audit market is less competitive.

According to the regression results, LOWBALL is negative but not significant. It seems that initial audit engagement discount disappear in Texas municipality audit market. However, the divergent results of the sub groups will be fully addressed in the additional analysis.

Additional Analyses

To provide additional information on the effects of municipal size on the determinants of audit fees, I partition the sample into two size groups, one for municipalities with populations above and one for those with population less than 25,409 (median population of the sample). Differences are likely to exist in the relationship between municipalities and their constituents, auditor, and the financial markets based on the size of the municipality. Municipality size had potential ramifications in the previous municipal studies on audit fees.

Examination of the OLS regression results indicates both models for large and small cities have statistically significant F values. As a size variable, log of revenue is consistently significant with the expected sign across the two city groups. Financial volatility has opposite signs in the two audit markets, insignificantly positive in larger cities and significantly negative in small cities. The coefficients of CAFR also have opposite signs in the two sum-markets, though statistically insignificant. CLIENTS as an industry specialization proxy is consistently negative but only significant in large cities. This result indicates that the industry experience impact is more prominent with larger auditee size. Auditor report time lag is uniformly positive and significant as expected. The agency cost variable, city manager, takes on a negative sign in big cities and a positive sign in small cities. Both of the coefficients are insignificant so that no conclusive interpretation is made regarding the effect of agency cost on audit fees.
The internal control proxy, web budget, is significantly negative in large cities but not in small cities. It is noteworthy that the percentage of web page budget disclosure in large cities is 30 percent, while this number is only 5 percent in small cities. This difference shows that larger municipalities are more likely to be committed to effective internal control. Regarding the coefficient on bidding frequency, it is positive as predicted in the small city setting. However, a reverse relationship was found in large cities. Based on the statistic reports discussed earlier, small city governments appear to be more active in bidding for audit contract (every 3.8 years) as compared with large cities (every 4.6 years). This result is in line with the conclusion that the audit market in small cities is more competitive.

As shown in the descriptive statistics, large municipalities tend to hire Big6 firms (30 percent) to perform audit service, while only 5 percent of small cities chooses a Big6 firm. Based on the regression results, the Big6 factors in the two sub samples are both positive as predicted, but only significant in big cities. Combined with results from the full model, this evidence suggests that Big6 firms are associated with significantly higher audit fees in large cities rather than in small cities. Using the framework suggested by Rubin (1988), the result is indicative of the presence of monopoly pricing by large audit firms in large cities, and provides additional evidence that the Texas large city audit market is not as contestable as in the small cities.

Lastly, in large and small cities the auditor change percentages in the sample year are very close, 15 and 16 percent respectively. The regression results indicate that the low-balling coefficient in small cities is significantly negative (p value < 0.05), implying that low-balling effect does exist in the small governmental audit market in Texas. The equation is in logarithms, so the antilog of LOWBALL’s coefficient minus 1 represents the percentage effect of an initial engagement on audit fees. The -0.22 coefficient of LOWBALL translates into a 22 percent reduce of audit fee for municipalities that switch auditors. Given the median audit fee of the sample is $61,154.25, the absolute audit fee reduction would be $13,453.94. This decrease in audit fees suggests that audit firms set up a substantially lower fee schedule for new clients in small Texas cities. In contrast, our results show that audit fees in larger cities associated with an initial engagement exhibit no significant difference as compared with fees on continuous audits. The different results of low-balling in large and small Texas cities provides evidence to support Chan’s (1999) proposition that low-balling effect is inevitable when the competition of audit firms is keen. Given the competitive nature of the small city audit market in our study, that low-balling effect is only observable in small cities is not a surprise.

**DISCUSSION AND CONCLUSION**

This study provides additional evidence of the low-balling phenomenon in municipal audit market following the policy of banning low-balling in Texas. We do not observe initial engagement discount for the overall market. However, the indicator variables of the joint effect of auditor size and city size, suggest that the competition in the small city audit market is significantly higher than the competition in large cities. Moreover, the empirical evidence shows that within small municipalities, cities that change auditors pay significant lower audit fees in the year after the change than cities that do not change auditors. These results corroborate prior research by showing that low-balling factor still exists within audit market in small cities. We interpret these results using Chan’s (1999) theoretical framework that low-balling occurs only in a certain market segment where audit firms compete fiercely. In accordance with Dye (1991) and Chan (1999), the potential approach to eliminate low-balling may rest upon mandatory auditor rotation and making audit fee information publicly available for the municipalities.

Noticeably, in this study no formal results are derived on any potential effect of audit pricing on auditor independence, which has received considerable attention from academics as well as the accounting profession. While the link between low-balling and impaired auditor independence has led to calls for closer regulations of auditing, Chan’s (1999) analysis suggests that banning low-balling actually raises rather than lowers the quasi-rents of incumbents. In evaluating the Texas Act of banning low-balling, he concludes that it might have an effect contrary to what was originally intended if large quasi-rents comprise auditor independence. The rationale is that eliminating losses in the initial audit engagement will not necessarily eliminate future profits. Therefore, two related future research questions will be of importance. One is a time serious study to investigate whether the audit pricing after the initial engagement will increase, decrease or remain stable in Texas cities. The other one is to examine the magnitude of the
low-balling effect in Texas cities and determine whether auditor’s independence has been impaired in the year of switching auditors. Texas Act specifies that only audit fees lower than audit firm’s direct labor cost is judged as illegal business solicitation. A premise of doing this research is to obtain the cost structure information from auditing firms. The results will be of Texas regulator’s interest for potential policy enhancement and adjustment.

REFERENCES