

DOES THE QUALITY OF FINANCIAL ADVICE AFFECT PRICES?

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Using a large data sample of 58,562 new municipal issues covering the period from 1984 to 2002, we examine whether the quality of advice provided by a financial advisor affects new issue interest costs. We find that higher quality financial advisors are associated with statistically significant decreases in new issue yields. The effect of advisor quality on yields is more pronounced for revenue, negotiated, and opaque bond issues than for general obligation and competitively sold issues. However, issuers of revenue or negotiated bonds are more likely to choose a low quality advisor.

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1. Introduction

In 2007, \$429 billion in new long-term municipal bonds were issued, and local government debt outstanding at the end of 2007 totaled \$1.8 trillion (Bond Buyer Online). Despite the large volume of issues, the municipal market is often characterized by unsophisticated issuers. Municipal issuers rarely have staff positions devoted to the issuance and management of debt. There is also generally less depth of knowledge in municipal settings, particularly when appointed or elected officials can change with the outcome of elections. For many local governments, the issuance of municipal debt is an infrequent occurrence. Even for frequent issuers, changes in tax-exempt financing regulations, increases in the complexity of municipal financing structures, and the increasing role of institutional investors in the municipal marketplace make it difficult to keep abreast of changing market conditions. Given the relative infrequency of issues and the complexity of the market, it is often more cost-effective for issuers to hire outside expertise to assist with the issuance process than to rely on in-house staff (Cobbs, Hough, and DeLara, 1993). Because of the relative lack of financial sophistication, the quality of financial advice is particularly important in this market, however, political pressures, existing relationships, or an undue emphasis on cost considerations potentially impede an issuer's ability to choose the optimal quality of advisor services.

Vijayakumar and Daniels (2006) find that the use of an external financial advisor is associated with lower yields on primary market municipal bonds. Vijayakumar and Daniels attribute their findings to the monitoring and information asymmetry reduction roles that financial advisors play in the issuance process and also argue that financial advisors can mitigate

underwriter monopsony power. Vijayakumar and Daniels, however, did not examine the effect of financial advisor quality on yields. This study examines the effect of financial advisor quality on new issue pricing in the municipal bond market and studies whether quality effects on yield are related to issue complexity and sales method.

Only about half of municipal issuers choose an external financial advisor. We find that issues with financial advisors have lower interest costs and that interest costs decrease as the quality of the advisor increases. Interest cost savings are particularly large for more opaque and complex issues (low or no ratings proxy for opacity, while negotiated and revenue issues proxy for complexity.) On an average-sized negotiated issue, the use of a high quality financial advisor instead of a low quality advisor results in present value interest cost savings more than twice that of competitive issues. Issuers of revenue and negotiated issues are LESS likely, however, to choose a high quality financial advisor. Our results suggest that issuers could be making suboptimal selections with regard to their choice to obtain a financial advisor and the quality of the financial advisor chosen.

The yield benefit of using a high quality financial advisor is economically significant, ranging from approximately three to eight basis points for our full sample, depending on the model. For a 20-year term bond issue with the mean size in our sample (\$16,800,000), an eight basis point yield benefit translates into present value interest cost savings of \$157,981. Savings are higher for revenue, negotiated, and opaque bonds, ranging from approximately five to nine basis points.

2. The role and importance of financial advisors

In the corporate equity and bond markets, virtually all issues are sold on a negotiated basis, with the underwriter providing advisory as well as underwriting services. In contrast, the

municipal market is characterized by a substantial portion (49% in our data set covering the period from 1984 to 2002) of issues with an external financial advisor.¹ The financial advisor is chosen before the underwriter, then the method of sale is chosen; and in the case of negotiated sales, the underwriter is chosen. For issues utilizing a financial advisor, the role of the underwriter is limited primarily to marketing the bonds, especially for competitively sold issues. For these issues, the financial advisor structures the issue and supervises the preparation of offering and legal documents. Underwriters then are invited to submit a bid on the issue (generally within a four- to six-day period), with the issue awarded to the underwriter with the lowest interest costs to the issuer. For negotiated issues, the financial advisor frequently completes the preliminary financial structuring and due diligence on an issue and assists the issuer with the underwriter selection. The underwriter generally is involved at an earlier stage in negotiated issues and often assists with the preparation of final offering documents and issue structuring. The financial advisor represents the issuer in negotiations with the underwriter on terms such as interest rates, call features, issue timing, and, for negotiated issues, underwriter compensation.²

Financial advisor contracts are far from standard, and the method of selecting advisors spans the spectrum from a competitive request-for-proposals process to rotating advisor appointments among key advisory firms in the issuer's state, with occasional hirings based solely on political connections. Formal statistics on the length of financial advisor contracts, and the method of selecting advisors are unavailable. Based on anecdotal evidence from discussions with

¹ The greater use of financial advisors in the municipal market probably is related to two factors. First, competitive bidding of new issues is uncommon in the corporate bond market but is common in the municipal market (43% in our sample.) Second, some municipal issuers find it economical to hire financial advisory services instead of maintaining in-house staff with financial expertise in the bond issuance process.

² For both negotiated and competitively sold issues, financial advisors offer guidance to issuers on whether to obtain a bond rating or insurance. If a bond rating is recommended, the advisor prepares materials requested by the rating agencies and provides advice on how to obtain a favorable rating.

financial advisors and issuers, we believe that most financial advisor selection processes attempt to take into account the competency and quality of prospective advisors.³ The bigger problem with the selection process is that financial competence is seldom the primary skill set of the elected and appointed officials making the selection, and experience and continuity are often limited by changes in personnel associated with the outcome of elections.⁴

We measure advisor quality using a market share measure. We argue that financial advisors gain competence as their experience level increases. Competence results in superior financing structures and issue timing. We expect more experienced advisors to prepare higher quality offering and rating materials. For competitively sold municipal issues, we expect experienced advisors to solicit greater underwriter interest. For negotiated issues, we expect more experienced advisors to better assist issuers in the issue timing and underwriter selection process and to successfully bargain for more favorable issue terms or lower interest rates. Experienced advisors bring issues to market frequently; therefore, they know market participants' current demands for yields, call features, and security provisions. By hiring a financial advisor, an issuer can tap into this knowledge and use it to reduce or eliminate information asymmetry that generally occurs between underwriters and issuers. Underwriters are knowledgeable about the market. For negotiated issues, however, underwriters have a fundamental conflict of interest – they have an incentive to negotiate high yields (low prices)

³ Although the SEC and the Municipal Securities Rule Making Board (MSRB) have no jurisdiction over issuers, they both prohibit underwriters and financial advisors from making campaign contributions to local officials that have the discretion to hire them. The SEC recently lobbied Congress for the ability to strengthen oversight of the municipal bond market (Scannel, 2007). The SEC also announced that it will review brokerage firms to ensure that they are following the pay-to-play rules which prohibit donations to politicians who are in the position to influence the selection of an advisor.

⁴ According to Monique Moyer, public finance director for the City and County of San Francisco, "Institutional knowledge [of debt issues] is vested in one, maybe two, individuals – individuals, by the way, who are not compensated or rewarded or even valued as the repository of this knowledge. In all likelihood, financial advisors will know more about their municipal clients' debt portfolio and bond covenants than their clients know" (2003, p. 18).

because this makes the issue easier to sell. Because the advisor generally does not market the bonds to investors,⁵ the advisor's fiduciary responsibility to the issuer is not tainted by conflicting pricing incentives. Underwriters must walk the fine line of pleasing the issuer, their bond salesmen, and municipal bond investors; the advisor's incentives are much more closely aligned with the issuer's incentives to reduce borrowing costs.

We examine whether the value of quality financial advice depends on the type of issue, the sales method used to market the issue, or the issue's transparency. For example, revenue-backed issues are typically more complex to structure than general obligation issues because the revenue stream is less predictable and the timing of cash flows is tied to completion of the project funded from bond proceeds. Debt service must be tailored to the projected revenue stream, and trust indenture covenants must provide adequate security for bondholders while maintaining issuer flexibility in managing the revenue stream. In addition, rating agencies or bond insurers must be convinced of the quality of the revenue stream. Plain vanilla general obligation bonds are more straightforward than revenue bonds; thus, the marginal value of financial advisor quality could be smaller.

We expect to see a stronger financial advisor quality effect for negotiated versus competitive issues because complex revenue issues are more often sold on a negotiated rather than a competitive basis, and advisors have more control over the timing of negotiated issues.⁶ Sale dates of competitive issues must be set in advance to allow time for underwriters to submit bids. Once set, a sale date is not easily changed. In contrast, the sale dates of negotiated issues

⁵ In some cases (2.88% of the issues in our sample), a financial advisor also can serve as underwriter on an issue. In these instances, the financial advisor also is responsible for marketing the issue to investors. Standard best practice guidelines issued by the Government Finance Officers' Association, however, recommend that financial advisory contracts include a provision prohibiting a financial advisory firm from underwriting bonds of the issuer for the term of the advisory contract. It should be noted that advisory firms generally are not prohibited from underwriting bonds of other issuers, and many financial advisory firms also offer underwriting services to non-advisory clients.

⁶ In our sample, 22.2 % of the revenue issues are sold competitively, compared to 57.2% of the general obligation issues.

are set by the financial advisor and underwriter and can easily be accelerated or delayed in response to changes in market conditions. If an advisor has timing expertise, it is expected to be reflected in the yields of negotiated issues.

We also expect the effect of financial advisor quality to be greater when an issue is opaque rather than transparent. We describe issues as “opaque” if relatively little information is available to investors. Opacity is difficult to measure, but we believe that because insurers and raters demand transparency, insured and highly rated issues are likely to be relatively transparent. We expect unrated and low rated bonds to be relatively opaque. Opaqueness reduces liquidity and increases transaction costs. Municipal bond transaction costs have been found to be particularly high when credit risk is high (Harris and Piwowar, 2006), which is consistent with our expectation that low-rated and unrated bonds are opaque. Because investors face greater uncertainty with opaque bonds, there is a greater need to optimize the issue’s terms and covenants to minimize opacity and maximize the issue’s marketability.

In summary, we expect that quality financial advice will be negatively associated with new issue municipal bond yields. We also expect that quality financial advice will be especially important when the issue is more complex or risky, and the issue is offered on a negotiated rather than a competitive basis. We investigate these issues using a sample of 58,562 primary market municipal bonds issued between 1984 and 2002. In addition to OLS models, we use three additional models to address concerns of potential endogeneity of the issuer’s choice of financial advisor quality. First, we use a fixed effects model to control for unobserved issuer characteristics which could influence both the issuer’s choice of an advisor and interest costs. Second, we use a Heckman two-step model with treatment effects where the first stage models the issuer’s choice to utilize an external financial advisor. Third, we use a two-stage least squares

model where the first stage models the issuer's choice of advisor quality. We also verify the results of prior research (Clarke, 1997) by showing increases in new issue yields when financial advisors also serve as underwriters on the same issue. The result is expected given the conflicts of interest present in the advisor-turned-underwriter scenario.

3. Description of data and econometric methods

We initially include all primary market municipal bond issues included on the Thomson Financial SDC Platinum (SDC) Public Finance database from 1984 to 2002. We exclude putable issues, issues with variable interest rates, issues with sinking fund provisions, and issues missing yield data.⁷ To ensure that our results are not due to a few very frequent issuers, we exclude issues that are within a year of another issue by that issuer. Because some of our models have fixed effects, we require at least two issues from each issuer. This allows us to examine the effects of changes in advisor quality within each issuer. The results are generally robust to the exclusion of issuers with only one issue.⁸ Our final sample includes 58,562 issues.

Municipal bond issues are generally structured with serial maturities (i.e., principal amounts maturing in each year). Coupon rates often vary by maturity. Our dependent variable is the reoffering yield (we use the available reoffering yield closest to ten years), which refers to the implicit interest rate at which the bonds are reoffered by the underwriter to investors. We use the term "issue" or "bond issue" to denote the entire package of maturities purchased by the

⁷ We exclude variable rate bonds because the interest rates are not comparable to fixed rate bonds, and our data source rarely records an interest rate for these bonds. We exclude sinking fund and putable bonds because we have no information on these features other than their existence. Less than 0.35% of the sample are excluded because of putable or sinking fund provisions.

⁸ The excluded firms have only one issue with valid data in the entire sample period (1984-2002), and therefore they tend to be much smaller. There are 11,383 excluded firms and 58,562 firms included in the sample. The excluded firms have lower mean advisor reputation, are smaller, and have other differences (e.g., no rating) related to issuer size. We cannot compare the fixed effect results of the reported results to the results of models that included the 11,383 firms.

underwriter. In general, an issue's features (e.g., revenue vs. general obligation, fixed vs. variable interest rates, security and call provisions, etc.) apply to all maturities in an issue.

To test our hypothesis that high quality financial advisors affect yields to a greater extent than their lower-quality counterparts, we regress measures of financial advisor quality, advisor independence, and control variables on the reoffering yield of new issues. For robustness, we use several model specifications, including a regression model with standard errors clustered at the issuer level,⁹ a fixed effects model, and a self-selection with treatment effects model.

After establishing that advisor quality does affect new issue yields, we use a split sample analysis to examine whether the yield effect is greater for more complex issues, using bond type and sales method as proxies for complexity. We separately analyze revenue and general obligation bonds, competitively sold and negotiated bonds, as well as opaque vs. transparent bonds.

Clarke (1997) found that higher interest costs are associated with issues underwritten by the financial advisor and attributed this result to the inherent conflicts of interest present in this scenario. We include an indicator variable coded as one if the financial advisor also serves as underwriter on an issue. This variable controls for the effect of advisors serving dual roles and also allows us to validate Clarke's findings.

In summary, our key hypotheses are:

- 1) New issues with higher quality financial advisors are associated with lower yields.
- 2) The relation between financial advisor quality and yields is more pronounced for revenue bond issues than for general obligation issues.
- 3) The relation between financial advisor quality and yields is more pronounced for negotiated bond issues than for competitively sold issues.

⁹ We also run a regression model with standard errors clustered at the state level. Results from this model (not tabulated) are similar to the results from the model with standard errors clustered at the issuer level.

- 4) The relation between financial advisor quality and yields is more pronounced for opaque issues than for transparent issues.
- 5) New issue yields are higher when the financial advisor also serves as the underwriter on an issue.

3.1 *Financial advisor variables*

Prior studies focusing on underwriter reputation frequently measure reputation by examining relative underwriter placement on tombstones advertising an issue. If the underwriter is in a higher bracket on a tombstone, the underwriter is more prestigious. Use of this method to examine financial advisor quality is problematic. First, typically only one financial advisor is used per issue so relative placement on a tombstone has no meaning. Second, financial advisors tend to be employed locally or regionally in the municipal market so national rankings of financial advisors poorly reflect regional preferences.

For all long-term local government issues from 1984 to 2002, the median (average) number of clients served by each financial advisor nationally was eight (45).¹⁰ The median (average) number of states each financial advisor covers is 2.0 (4.5), and the 90th (95th) percentiles are 12 (19) states.¹¹ A few financial advisors provide services nationally, with one advisor covering 36 states. The states covered by each regional financial advisor tend to be

¹⁰ The following statistics were calculated by the authors using a database that includes all long-term issues for the period 1984 to 2002. The analysis presented in the remainder of the paper is based on a sample. See the methods section for additional descriptions.

¹¹ Our sample includes 2,276 observations with a financial advisor in 1997, a typical year. There are 317 unique advisors, and of these, 251 have a presence in only one state, 36 advisors have a presence in two different states, 12 in three states, six in four states, four in five states, two each in six and seven states, one each in nine, ten, 18, and 21 states. This pattern suggests that there are a large number of local advisors, but some advisors could operate regionally or nationally, especially the two advisors covering the largest number of states. To explore this issue further, we look at the advisor with a presence in the largest number of states (21). Of the 114 issues handled by this advisor in 1997, 86 are concentrated in five states. Instead of a national firm, they appear to be a firm with four or five large offices, each focusing on serving a single state but with some ability to handle issues in surrounding states. We can identify the primary state for each FA (the state in which the FA handled the most issues). Of the 2,276 issues with an FA, 80.5% are handled by a Financial Advisor in its primary state. While we do not believe the FA market is purely within-state, we believe that it is reasonable to characterize the market as in-state and unreasonable to classify it as a national market. One possibility is to view the market as regional. However, the most common pattern of advisor coverage is to concentrate in a single state with a few advisors providing services to surrounding states.

contiguous. Only about 3% of issues use the same firm as both financial advisor and underwriter. However, underwriters often serve in the role of financial advisor on other municipal issues with 43% of underwriters also serving as financial advisor on at least one other municipal issue.

There are several reasons why financial advisors tend to serve only a few states. First, most municipal bond investors are local because the majority of states offer double tax exemptions (state and federal) on coupon payments to investors who are residents of the state where a bond is issued. Second, prior municipal bond research shows that investment banks with a local presence are better able to assess “soft” information which could be useful in marketing issues (Butler, 2008). In addition, local investors tend to have greater access to soft information about issuer quality. We expect that advantages from access to soft information will be particularly acute in the municipal market for three reasons. First, state and local laws and local economic climate have a greater effect on municipalities than on corporations because municipalities cannot geographically diversify economic and legal risks. Second, several additional factors affect local governments, and information about them is more easily accessed locally. These factors include demographics, political stability, political will to repay debt, condition of infrastructure, etc. Third, the paucity of local government financial information requires investors to place greater reliance on their local knowledge. Municipalities are generally exempt from many of the Securities and Exchange Commission (SEC) disclosure requirements commonly required of corporations (e.g., filing of 10-K or 10-Q reports). Financial advisors in the municipal market focus their attention locally or regionally. Advisors’ local focus is motivated by the importance of local knowledge in providing high quality advice and completing due diligence on issuers and by the need to understand local investors so the terms of the issue can be structured to appeal to these investors.

An advisor's quality reputation is built through performance on a substantial number of issues, especially larger issues that are more visible to issuers. Firms are not rehired if performance is poor so over time, "good" financial advisors will attract more issuers than "bad" financial advisors. Therefore, there should be a high correlation between financial advisor quality and success in generating clients. To measure financial advisor quality, we use a variation of the market share used by Megginson and Weiss (1991), but we measure market share within each state. Because states are not homogenous, market shares are not directly comparable across states. To control for cross-state heterogeneity, we use state or issuer fixed effects in all models. Our state-based market share measure is valid only because we include these fixed effects.¹²

For each advisor, we calculate the number of issues handled by that advisor in that state in a particular year divided by the total number of issues handled by any financial advisor in that state in that same year. This measure, FA quality–issues, has the advantage of being state-specific and is less prone to outlier distortion than volume-based measures. We also use a similar measure of advisor quality (FA quality–volume) that is based on volume rather than number of issues. The results are similar when the natural logarithm of the variables is used (not tabulated).

We also construct measures of financial advisor quality on a national basis (untabulated), but these measures are not highly correlated with our state measures of advisor quality and exhibit little, if any, correlation with reoffering yields. We argue that national measures do not adequately capture the local and regional concentrations of almost all financial advisory firms. In 1997 (a typical year), there are 371 unique advisors in our sample. Of this total, 251 advisors have a presence in only one state, and only eight operate in more than five states. While the

¹² There are many differences across states, but one obvious difference is size. Our state-based measure is likely to be upwardly biased in states with small numbers of issues and a small pool of financial advisors. In the extreme, if only one financial advisor offers services, the advisor's market share is 100%, the highest possible score. State or issuer fixed effects are necessary to have a market share measure that is valid across states. Because government issuers do not move across state lines, issuer fixed effects can be used in place of state fixed effects.

financial advisor market is not purely a state market, the most common pattern of advisor coverage is to concentrate in a single state with a few advisors providing services to surrounding states.

In addition to our continuous measures of advisor quality, we also rank the advisor quality variable from highest to lowest and use this ranking to create indicator variables in a separate regression analysis. The low quality financial advisor is coded as one if the continuous quality measure for the advisor falls into the bottom quartile of the ranking. The medium quality financial advisor is coded as one if the continuous quality measure falls in the second or third quartile, while the high quality financial advisor variable is coded as one if the continuous quality measure falls in the top quartile. The excluded group is comprised of issues without an advisor.

Financial advisor/underwriter is an indicator variable coded as one if the financial advisor also serves as the underwriter on an issue. This variable is included to control for issues where the financial advisor also markets bonds to investors and to verify earlier findings (Clarke, 1997) that this practice is associated with higher new issue yields for revenue bonds.

3.2 Control variables

Most of the control variables were suggested by prior research. Interest rates are measured with the Bond Buyer's index of local government bond yields as of the week of the bond sale for a particular issue. It is important to use local government bond yields because the spreads between local government yields and corporate (or Treasury) yields vary substantially over time. Maturity is defined as the years to maturity associated with the reoffering yield chosen. Although the municipal yield curve is never downward sloping, it becomes flat at longer maturities. Therefore, the maturity variable is truncated at 20 years. Results are similar when the

maturity variable is not truncated or is truncated at 15 or 30 years. We also include the natural log of issue size as a continuous control variable in the model.

A measure of underwriter quality is included in the model to control for the possible impact of underwriter reputation on yields (e.g., Roden and Bassler, 1996). Underwriter quality is coded as one if the underwriter is one of the top ten underwriters by market share in that year (Daniels and Vijayakumar, 2007). We model underwriter quality as an exogenous variable because the underwriter choice is made after the financial advisor choice. In a competitive sale, the underwriter is selected based on the lowest bid of true interest cost; therefore, the “choice” of underwriter cannot be made jointly with that of advisor. For negotiated issues, the advisor helps guide the issuer in the underwriter selection process.¹³ While choosing a high quality underwriter might reduce yields on average, there could be a specific “low quality” underwriter who minimizes interest cost for a particular issue (e.g., an underwriter who specializes in particular bond types or issuers). While these underwriters may not appear to be “high quality,” they could be the best choice for a particular issue. If financial advisors are able to guide issuers to make such a choice, the effect of choosing such an underwriter is captured by the financial advisor quality variable rather than the underwriter variable.

Indicator variables are used to control for many factors, including negotiated offerings, private placements, the presence of a state tax preference (coded as one for states that tax interest on out-of-state bonds only), bank qualified bonds, callable issues, issues subject to the alternative minimum tax (AMT), state guaranteed issues, insured issues, bonds backed by letters of credit, bonds with two managing underwriters, certificates of participation, taxable bonds, tax increment

¹³ There are several issue characteristics that advisors influence, and we treat all such variables as exogenous. While these variables are not truly exogenous, it is not practical to model all such choices. We interpret the coefficients on the advisor quality variables as the impact of issue characteristics, both measured and unmeasured, which minimize yields.

bonds, revenue bonds, and zero coupon bonds. We also include entity-type indicator variables [state, county, school district, college, and other (e.g., housing authorities), with city being the excluded group] and whether the issuer is a frequent issuer. The frequent issuer variable is coded as one if the issuer has at least six issues in the last five years, which is the upper quartile for the number of issues.

Because bond ratings have been found to be a key determinant of yields (e.g., Reiter and Ziebart, 1993), separate indicator variables are included to control for credit rating differences between issues. Bonds with Aaa ratings from both agencies are the excluded group. There are five variables for bonds with identical ratings from both of the major agencies: Aa, A, Baa, Ba, and B bonds. Because split-rated bonds have differential yields (e.g., Liu and Moore, 1987; Thompson and Vaz, 1990), we also include four split rating variables: AAA/Aa or Aaa/AA; AA/A or Aa/A; A/Baa or A/BBB; and BBB/Ba or Baa/BB. Additional indicator variables are included for non-rated bonds and bonds with only one rating.

4. Results

4.1 Descriptive results and results on control variables

Table 1 presents the descriptive statistics of the continuous variables for the full sample in Panel A. About half (49.73%) of the sample chose an external financial advisor. The average issue size is \$16,811,000 (median of \$4,966,000). Because issues with no financial advisor are coded as zero for both advisor quality variables, Panel B of Table 1 presents descriptive statistics for the issues with an advisor. Of the issues with a financial advisor, the average market share in number (volume) of issues for a financial advisor is 20.8% (14.6%) of the bonds issued in a particular state in a particular year.

Issue characteristics for bonds with a financial advisor were also compared to characteristics of bonds without an advisor (not tabulated). Bonds with a financial advisor are larger (mean of \$19,127,895 compared to \$14,518,209 for bonds without an advisor), are less likely to be revenue bonds (32.55% of advisor sample compared to 47.01% of no advisor sample), and are much less likely to be negotiated bonds (30.7% of the advisor sample compared to 82.5% of the no advisor sample).

Panels C and D of Table 1 present descriptive statistics for issues with low quality and high quality financial advisors, respectively. The reoffering yields, interest rate index, and maturities are similar between the issues with low and high quality advisors. The first quartile of issue size is smaller for issues with a low quality advisor (\$2,000,000) than for issues with high quality advisors (\$2,410,000); the median is the same (\$5,000,000); and the third quartile, mean, and standard deviation of issue size is much larger for issues with a high quality advisor. Larger issuers are expected to be associated with greater benefits of financial advice than smaller issues, but smaller issuers are believed to possess less expertise in bond issuance.

Table 2 presents the definitions of the indicator variables used in the regressions, and Table 3 provides descriptive statistics of the indicator variables for the full sample, for issues with a low quality advisor, and for issues with a high quality advisor. For the full sample, about 40% of the issues are revenue bonds and 56.73% are negotiated offerings. Almost 30% of the full sample issues are not rated, while another 36.63% obtained credit insurance. Issues with high quality advisors have higher ratings but are less likely to have credit insurance or to obtain a rating. The result is consistent with our expectation that high quality financial advisors can help issuers obtain better ratings.

Issues with high quality advisors are more likely to be callable and have two managing underwriters. Issuers with high quality advisors are more likely to be state or school district issuers, frequent issuers, or in a tax-preferenced state. Negotiated and revenue bonds tend to be associated with low quality financial advisors. This is somewhat surprising because we expect high quality financial advisors to provide the greatest benefits to negotiated and revenue bonds. The negotiated structure of the issue is strongly influenced by a financial advisor's recommendations. A low quality advisor might suggest a negotiated issue because less is demanded of the financial advisor. The responsibility for structuring and timing the issue can be shared with the underwriter in a negotiated issue. If a low quality advisor doubts his or her ability to generate sufficient interest among potential underwriters in a competitive bid situation, he or she could recommend that the issuer use a negotiated sale method for more complex issues. Although the advisor is selected before the underwriter, it is also possible that underwriters who have continuing relationships with the issuer could influence the issuer to select a low quality advisor, believing that a low quality advisor will be easier to negotiate with and will be more likely to agree to terms favorable to the underwriter.

Table 4 presents the results of the separate regression models using the two continuous measures of financial advisor quality. FA quality–issues (FA quality–volume) is based on the number (volume) of issues handled by that financial advisor in that state/year. The model appears to be well-specified ($R^2 = 0.881$), and collinearity diagnostics do not indicate a problem. Standard errors are clustered at the issuer level, but the results (not tabulated) are similar when standard errors are clustered by state or financial advisor. Robust models are used to correct for heteroskedasticity. State and year dummies are also included in the model but are not tabulated

in Table 4. The coefficients for control variables are generally significant and have the expected signs. No expectations are formed about the sign of some control variables.

Consistent with the findings of Clarke (1997), we observe that issues underwritten by the financial advisor have higher interest costs (1.8 to 2.1 basis points), but the statistical significance is marginal. Larger issues are associated with higher interest costs, consistent with Kidwell and Rogowski (1983) but opposite than that reported by Braswell, Nosari, and Summers (1983). The coefficient on frequent issuer is significantly positive, indicating that these issuers pay about three basis points higher interest costs.¹⁴ Frequent issuers have the advantage of investor familiarity. However, because local investors have information and tax advantages, municipal bond investors tend to be local. Issuers that saturate their local market must market their bonds nationally at a yield premium. If issuer frequency is a proxy for the saturation of its local market, issuer frequency could be positively associated with yields.

4.2 Results on financial advisor variables – primary models

Both measures of financial advisor quality are significantly negatively associated with interest costs after controlling for other factors. The coefficient on FA quality–issues is -0.098. An issuer choosing a financial advisor at the lower quartile of advisor quality pays an additional 2.9 basis points of interest costs compared to an issuer choosing a financial advisor at the upper quartile. For a \$16.8 million face value issue (the mean issue size in our sample), this translates to an average annual savings of \$4,872 per year, a present value savings of \$57,268 for a 20-year term bond issue or \$36,374 for a 10-year term issue, assuming a discount rate of 5.70% (the mean new issue reoffering yield for bonds in our sample). The coefficient on the FA quality–volume variable is -0.127. An issuer choosing a financial advisor at the third quartile of this

¹⁴ Alternative measures of issuer frequency include continuous measures and measures based on the most recent three and ten years. Similar results (not tabulated) are found when the alternative measures of issuer frequency are substituted for our frequent issuer variable.

variable incurs an additional 2.6 basis points of interest costs relative to an issuer that chooses a financial advisor at the first quartile. For a \$16.8 million face value issue, this translates to an average annual savings of \$4,368 per year or a present value savings of \$51,344 for a 20-year term bond issue (\$32,611 for a 10-year issue).

We also measure financial advisor quality utilizing indicator variables instead of the continuous quality measure. The results are reported in Panel B of Table 4. For parsimony, the results in the remaining tables report only the results related to financial advisor. The signs and significance of the control variables in these models are similar to the models reported in Table 4. Using indicator variables allows us to interpret the coefficient on the indicator variable as the average decrease in yield associated with a particular quality level, holding other factors constant. In addition, it seems plausible that investors, underwriters, and issuers classify advisors into rough quality groups instead evaluating advisors using a continuous quality scale. Low (high) advisor quality is defined as an advisor in the lower (upper) quartile of the continuous advisor quality measure. Advisors in the second and third quartiles of the continuous advisor quality measure are coded as medium quality.

When the advisor quality metric is based on the number of issues, the coefficients on the low, medium, and high quality advisor variables are -0.041, -0.057, and -0.076, respectively, and all coefficients are statistically significant. The results are consistent with the continuous measures of advisor quality (FA quality–issues). Choosing a high quality advisor instead of a low quality advisor saves the issuer 3.5 (-0.076 minus -0.041) basis points of interest cost. This is comparable to the estimated 2.9 basis points when the continuous advisor quality measure is used. For the # of Issues model, the coefficient for medium quality advisor (-0.057) is

significantly different from the coefficients for both the low quality (-0.041) and high quality (-0.076) advisor variables at the 0.014 level or higher.

When the advisor quality measure is based on the volume of issues, the coefficients on the low, medium, and high quality advisor variables are -0.039, -0.065, and -0.059, respectively, and all coefficients are statistically significant. Issuers choosing a medium (high) quality advisor save an estimated 2.6 (2.0) basis points relative to choosing a low quality advisor. The difference in the coefficients between the low and medium quality advisor is significant (p -value = 0.001), but the difference is not statistically significant for the coefficients of the medium and high quality advisor (p -value = 0.354). In summary, the use of indicator variables as measures of quality suggests that (a) issuers choosing low quality investors save an average of 3.9 to 4.1 basis points of interest relative to issuers who forgo an advisor, (b) issuers choosing a medium quality advisor save an additional 1.6 to 2.6 basis points relative to issuers choosing a low quality advisor, and (c) the evidence is mixed on whether issuers pay lower interest cost when they choose a high quality advisor rather than a medium quality advisor.

4.3 Results on financial advisor variables – issuer fixed effects models

Our sample is restricted to issuers with at least two issues. To check whether the above models adequately control for unobserved heterogeneity that is constant across issuers and time, we use a two-way fixed effects approach with issuer and year effects. In Panel C of Table 4), the independent variables are identical to those shown in the clustered regression models reported in Panels A and B. The coefficient on FA quality–issues is larger in the fixed effects model (-0.143) than in the clustered regression model (-0.098). The coefficient on FA quality–volume is also substantially larger in the fixed effects model (-0.198) than in the clustered regression model (-0.127). The fixed effect models control for issuer-specific characteristics, regardless of whether

the characteristics are explicitly included in the model. Therefore, the fixed effect models provide some assurance that the effect of financial advisor quality on interest costs is driven by variations in advisor quality across issues for the same issuer. One limitation of the fixed effect models is that they are unable to control for cross-time changes in an issuer's characteristics.

4.4 Results on financial advisor variables – self-selection models with treatment effects

As supplemental analysis, we examine treatment effects models and two-stage least squares models (not tabulated). The first stage is a probit model used to create an Inverse Mills Ratio (IMR) to be used in subsequent models. The instrumental variables in the first model are the portion of issues in that state/year which used an advisor, and whether the issuer used an advisor on his/her previous issue. The second stage of the treatment effects models is similar to the primary models but with the IMR included. The coefficient on FA quality—issues is -0.109, similar to the primary models. The coefficient on FA quality—volume is -0.056, about half of that in the primary models (-0.127).

The first stage of the two-stage least squares (2SLS) models predicts FA quality—issues or FA quality-volume. Our two instrumental variables are mean advisor quality (MAQ) in the state/year of issue and whether the issue used the same advisor on the previous issue (SAPI). MAQ controls for the size of the state, the advisor choices available to the issuer, and the propensity of issuers to choose a high quality advisor in the state. MAQ and SAPI are appropriate instrumental variables because they are highly correlated with our measures of financial advisor quality and yet unrelated to interest costs.¹⁵

¹⁵ When MAQ and SAPI are added to our primary models (untabulated), MAQ is unrelated to interest costs. SAPI is statistically significant, but the partial R-squared is very low (0.00009 to 0.0002). If SAPI is omitted from the analysis, the estimated coefficients on the advisor quality variables are somewhat larger, but otherwise the results are similar to those reported.

The second stage of the 2SLS models uses interest cost as the dependent variable. The coefficient on FA quality–issues is -0.234, which is much larger than the -0.098 of the primary model and -0.109 of the fixed effects model. The coefficient on FA quality–volume is -0.330, which is also much larger than the -0.127 of the primary model and the -0.056 in the fixed effects model. The two-stage least squares models confirm the results from the OLS models; financial advisor quality is negatively associated with issuer interest costs.

The results on the financial advisor quality variables are somewhat surprising, given the market share variable used to measure quality can also be thought of as a measure of monopoly power of the advisor. Advisors with high quality ratings could possess some degree of monopoly power and would be expected to exercise that power to extract rents from the issuer or marketplace. However, maintaining a monopoly position in the long term requires barriers to entry or a low threat of entry. There are few barriers to entry in the financial advisor industry, and competing firms generally have access to pricing information on new issues. Competitors are quick to point out above-market terms to issuers; thus, the threat of competition could limit the exercise of monopoly power.

Of course, high quality financial advisors should be able to command higher advisory fees than their low quality counterparts so monopoly rents could be obtained through higher fees. Financial advisor fees are difficult to obtain, as they are usually reported in combination with bond counsel and trustee fees in official statements. We contacted John Bonow, managing director at Public Financial Management (PFM), the top financial advisor in the nation based on number of issues from 1984 to 2005, to obtain estimates of financial advisor fees for various types and sizes of issues. According to Mr. Bonow, total financial advisor fees for municipal revenue issues with a par value up to \$10 million, range from \$7,500 to \$20,000 depending on

complexity.¹⁶ The difference in fees charged by high quality advisors versus low quality advisors will be less than the total fees quoted above so it is unlikely that the incremental cost of hiring a higher quality financial advisor will be greater than the incremental economic benefits indicated by our results.

4.5 Results on financial advisor quality – split samples

We hypothesize that the financial advisor quality effect on yields is more pronounced for revenue bonds, negotiated bonds, and opaque bonds. We split the sample into revenue vs. general obligation issues, competitive vs. negotiated issues, and opaque vs. transparent issues. Regressions are run separately on each subsample. The models are identical to our primary models reported in Table 4.

Table 5 shows the results of the split samples for revenue vs. general obligation bonds (Panel A), competitive vs. negotiated bonds (Panel B), and opaque vs. transparent bonds (Panel C). The revenue sample includes 23,320 issues, while the general obligation sample includes 32,542 issues. The coefficients for FA quality–issues are -0.291 and -0.063 for the revenue and general obligation samples, respectively. The coefficients for FA quality—volume are -0.215 and -0.023, respectively.

To confirm that financial advisor quality is associated with lower yields to a significantly greater extent for revenue issues, we pool the sample and interact revenue issues with FA quality–issues (FA quality–volume) and find that the coefficient of the interaction variable (see Table 6) is significant with a *t*-value of -15.53 (-12.81). The finding supports our expectation that the value of quality financial advice should increase with the complexity of a transaction.

¹⁶ Total financial advisory fees for revenue issues, with par values between \$10 million and \$50 million, range from \$15,000 to \$45,000 depending on the complexity of the issue. For revenue issues with par values greater than \$50 million, advisory fees range from \$40,000 to \$75,000. Financial advisory fees for general obligation issues are approximately 80% of the amounts quoted for revenue issues, and advisory fees in excess of \$100,000 are rare, regardless of the size of the issue.

However, these findings are surprising in light of the fact that revenue issues are *less* likely to utilize a high quality financial advisor. An advisor is used on 40.7% of the revenue issues, but on 55.7% of the general obligation issues.

We also split the sample into negotiated and competitive issues. Panel B of Table 5 shows the results of regressions run separately on each subsample. The coefficients on FA quality–issues are -0.074 and -0.197 for competitive and negotiated issues, respectively. The coefficients on FA quality–volume are -0.041 and -0.161 for competitive and negotiated issues, respectively. The effect of financial advisor quality appears to be much stronger for negotiated issues. To confirm that financial advisor quality is associated with lower yields to a significantly greater extent when an issue is negotiated, we pool the sample and interact negotiated issues with FA quality–issues (FA quality–volume) and find that the coefficient (shown in Table 6) of the interaction variable is significant with a *t*-value of -7.32 (-6.75).

The finding supports our expectation that the value of quality financial advice should increase with the complexity of a transaction. Underwriters have a fundamental conflict of interest – they have an incentive to recommend marketing bonds at higher yields to make the bonds easier to sell. Financial advisors do not market bonds so they do not have this conflict. Mitigation of this underwriter conflict of interest could explain why the use of quality financial advisors results in higher yield savings for negotiated bonds compared to competitively sold bonds. Although our results indicate that the effect of financial advisor quality is higher for negotiated issues, negotiated issues are *less* likely to utilize a high quality financial advisor. An advisor was used on 26.9% of negotiated issues but on 79.6% of competitive issues.

Finally, we split the sample into opaque and transparent issues, where an issue is defined as transparent if it is insured or rated A or higher; opaque issues are unrated or have ratings of

less than A.¹⁷ Panel C of Table 5 shows the results of regressions run separately for each sample. The coefficient on FA quality–issues (FA quality–volume) is 0.190 (0.113) larger in the opaque sample. To confirm that financial advisor quality is associated with lower yields to a significantly greater extent when an issue is opaque, we pool the sample and interact opaque with FA quality–issues (FA quality–volume) and find that the coefficient of the interaction variable is significant with a *t*-value of -12.86 (-7.21). The finding supports our expectation that the value of quality financial advice should increase with the opaqueness of a transaction.

4.6 Results on financial advisor/underwriter – split samples

The coefficients on *Financial advisor/underwriter* (Table 5) are insignificant in both models in the revenue bonds sample, but consistent with the primary models, are positive and significant in the general obligation bond sample. We do not find evidence that revenue bond interest costs increase when the same firm serves as both financial advisor and underwriter. This is counter to the findings of Clarke (1997) who found a 6.0 basis point yield penalty for revenue bonds. If a financial advisor has also developed a substantial network of local investors, the network could allow the advisor to market bonds with more complex structures (i.e., “story bonds”) to these investors at yields that are lower than those that could be achieved by other underwriters.

Contrary to the findings for the full sample, for negotiated issues the coefficient on financial advisor/underwriter exhibits an unexpected negative sign and is statistically significant. In contrast, the coefficients on financial advisor/underwriter in the competitive sample exhibit the expected sign and are statistically significant with coefficients much larger than the comparable coefficients in the primary models. However, coefficients for financial

¹⁷ Based on this definition, 44% (56%) of the sample is opaque (transparent). If opaque bonds are defined as those with an A or lower rating, 59% (41%) of the sample is opaque (transparent). Using this alternative definition of opaque does not materially alter the results.

advisor/underwriter in the negotiated sample are always positive when the models employed are fixed effect or self-selection models. Unlike the results for the FA quality variables in the full sample and each split sample, the results for financial advisor/underwriter are sensitive to model specification when the sample is limited to negotiated issues. The coefficients on financial advisor/underwriter are insignificant in both the opaque and transparent samples. Again, the results for financial advisor/underwriter are sensitive to model specification.

4.7 Results on underwriter quality – split samples

Confirming the results of Daniels and Vijaykumar (2007), we find that underwriter quality is associated with reduced interest costs in the negotiated sample but not the competitively bid sample (Panel B of Table 5). We extend their research by examining the effect of underwriter quality for revenue bonds vs. GO (general obligation) bonds and opaque vs. transparent bonds. We find that underwriter quality is significantly negatively associated with interest costs for revenue bonds but not GO bonds (Panel A of Table 5). Panel C of Table 5 shows that the coefficients for underwriter quality (-0.131) are much larger in the opaque sample than in the transparent sample (-0.010).

Although our results suggest that opaque and more complex (negotiated revenue) bonds realize greater yield savings from the use of quality financial advisors, in practice financial advisors are much less likely to be used for these issues. We suggest at least three possible explanations for this result. First, our analysis does not include financial advisory fees. It could be that the fees charged by lower quality advisors are substantially lower than fees charged by higher quality advisors. If the difference in fees is large, the reduction in fees could offset the interest cost savings. We are not able to gather information on advisory fees, as these fees are not separately reported but are instead often lumped with trustee, legal, and other issuance fees in the

official statement. However, conversations with financial advisors lead us to believe that fee differences between low and high advisors would not be sufficient enough to offset the interest savings from using a quality advisor. It is more likely that relatively unsophisticated issuers are unable to adequately evaluate financial advisor quality and could mistakenly choose the lowest-priced advisory firm because they underestimate the value of a higher quality firm. It is also possible that cronyism or corruption results in the selection of lower quality advisors.

5. Conclusions and implications

This study examines the effect of financial advisor quality on municipal new issue yields. We use continuous and indicator variables to measure local government financial advisor quality. Our measures are based on the market share of each advisor relative to the market share of all advisors in the state, where market share is measured with both the number and volume of issues. We regress the measures of financial advisor quality and a set of control variables on reoffering yields using robust models and standard error clustering by issuer. We find that higher quality advisors are associated with lower interest costs. To examine the sensitivity of our results to model specification, we also used fixed effect and self-selection models. The results for the self-selection models are similar to the main results. The estimates of interest cost savings are 40% to 50% larger when fixed effect models are used.

Because we expect advisor quality to be particularly helpful for more complex and opaque issues, we split the sample into revenue vs. general obligation issues, negotiated vs. competitive issues, and opaque vs. transparent issues. Consistent with our expectations, we find that the interest cost benefits to issuers are much greater for revenue, negotiated, and opaque issues. For the \$16.8 million mean issue size in our sample, the present value benefits of

choosing a high quality advisor for negotiated issues are estimated to be \$63,193 to \$116,511 for 20-year term issues (\$40,136 to \$74,001 for 10-year term issues), depending on the measure of advisor quality used, and \$84,915 to \$171,805 for revenue issues (\$53,933 to \$109,121 for 10-year term issues). These findings are surprising in light of the fact that negotiated and revenue issues are *less* likely to utilize a high quality financial advisor. The forbearance of quality advisors when the benefits are greatest appears to be inconsistent with issuer rationality. Perhaps the result can be explained in part by the lack of sophistication of local government officials. If officials are unable to accurately ascertain financial advisor quality at the time of advisor selection, they could place an unwarranted emphasis on advisor fees, particularly if the financial advisor is selected through a bid process. Issuers could perceive fees as excessive for complex issues because they do not appreciate the extra advisory services provided for the issues.

The results of this study have implications for issuers in the municipal bond market. Cost savings can be achieved by acquiring the services of a high quality financial advisor, particularly for more complex municipal issues. This implication is important to issuers in part because they appear to be under-utilizing advisors when the benefits are greatest.

Only a small percentage of issuers in our sample (2.88%) employ a financial advisor in the dual role as underwriter. Although it was not the focus of our study, our results for the effect of a financial advisor serving a dual role as advisor and underwriter confirm prior studies that issuers, on average, pay an interest cost penalty. However, our results are not consistent across subsamples. Prior research has cited issuer naiveté or political cronyism as explanations for issuers' choice to utilize an advisor in this dual role. Future research could investigate the types of issuers and issues that maximize the conflict of interest inherent in the advisor serving the dual role of underwriter.

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Table 1**Descriptive statistics – financial advisor quality and other continuous variables**

FA quality–issues is a measure of the quality of the financial advisor. It is a market share measure computed as the number of issues handled by that advisor in that state in a particular year, divided by the total number of issues handled by any financial advisor in that state in that same year. FA quality–volume is an alternative measure of financial advisor quality that is based on the volume of issues rather than the number of issues. Reoffering yields is the implied interest rate at which the underwriter offers the bonds to investors for the serial issue chosen from the package of serial maturities in that issue. The maturity is the number of years to maturity for the chosen serial issue. The interest rate index is the Bond Buyer’s weekly index of municipal bond interest rates. Issue size is dollar volume of all serial maturities for that issue.

Panel A: Full sample (n=58,562)

<u>Variable</u>	<u>Mean</u>	<u>Standard deviation</u>	<u>5th percentile</u>	<u>1st Quartile</u>	<u>Median</u>	<u>3rd quartile</u>	<u>95th percentile</u>
Reoffering yield	5.700	1.322	4.000	4.750	5.400	6.600	8.100
Interest rate index	6.290	1.064	5.030	5.420	6.040	7.010	7.970
Maturity (years)	9.532	3.150	1.910	9.600	9.978	10.181	12.984
Size (000,000)	16.811	49.658	0.520	2.300	4.999	12.160	64.650
Mean advisor quality (MAQ) in state–issues	0.206	0.122	0.056	-0.121	0.186	0.270	0.429
Mean advisor quality (MAQ) in state –volume	0.158	0.120	0.380	0.077	0.130	0.200	0.382
Percent of issues in state using an advisor	0.430	0.210	0.091	0.251	0.422	0.591	0.760

Panel B: Issues with a financial advisor (n=29,123)

<u>Variable</u>	<u>Mean</u>	<u>Standard deviation</u>	<u>5th percentile</u>	<u>1st Quartile</u>	<u>Median</u>	<u>3rd quartile</u>	<u>95th percentile</u>
Reoffering yield	5.553	1.229	4.000	4.700	5.250	6.450	7.700
Interest rate	6.263	1.039	5.030	5.410	5.980	7.010	7.900
Maturity	9.420	2.885	1.540	9.611	9.978	10.175	10.975
Size (000,000)	19.128	53.363	0.625	2.225	5.000	13.749	78.658
Financial advisor quality–issues	0.208	0.182	0.002	0.054	0.156	0.352	0.491
Financial advisor quality–volume	0.146	0.178	0.008	0.020	0.071	0.221	0.546

Mean advisor quality in state (MAQ)–issues	0.210	0.113	0.056	0.133	0.120	0.271	0.394
Mean advisor quality in state (MAQ)–volume	0.155	0.113	0.037	0.073	0.131	0.209	0.359
Percent of issues in state using an advisor	0.526	0.186	0.203	0.384	0.538	0.693	0.782

Panel C: Issues with a low quality advisor (n=7,281)

<u>Variable</u>	<u>Mean</u>	<u>Standard deviation</u>	<u>5th percentile</u>	<u>1st Quartile</u>	<u>Median</u>	<u>3rd quartile</u>	<u>95th percentile</u>
Reoffering yield	5.556	1.218	3.900	4.700	5.300	6.400	7.700
Interest rate index	6.217	0.982	5.070	5.400	5.970	6.940	7.850
Maturity (years)	9.399	3.053	1.090	9.597	10.156	10.156	11.011
Size (000,000)	12.980	27.547	0.730	2.410	5.000	11.770	50.000
Financial advisor quality–issues	0.008	0.006	0.001	0.008	0.003	0.013	0.019
Financial advisor quality–volume	0.046	0.051	0.003	0.016	0.029	0.059	0.173
Mean advisor quality in state (MAQ)–issues	0.162	0.092	0.052	0.075	0.152	0.228	0.316
Mean advisor quality in state (MAQ)–volume	0.110	0.081	0.032	0.047	0.083	0.150	0.265
Percent of issues in state using an advisor	0.522	0.184	0.201	0.384	0.524	0.682	0.788

Panel D: Issues with a high quality advisor (n=7,281)

<u>Variable</u>	<u>Mean</u>	<u>Standard deviation</u>	<u>5th percentile</u>	<u>1st Quartile</u>	<u>Median</u>	<u>3rd quartile</u>	<u>95th Percentile</u>
Reoffering yield	5.508	1.202	4.050	4.650	5.200	6.350	7.600
Interest rate index	6.225	1.047	5.030	5.380	5.940	6.960	7.900
Maturity (years)	9.526	2.670	3.121	9.662	9.973	10.214	10.953
Size (000,000)	22.716	70.669	0.510	2.000	5.000	14.240	99.110
Financial advisor quality–issues	0.405	0.164	0.236	0.288	0.368	0.441	0.797
Financial advisor quality–volume	0.397	0.171	0.121	0.400	0.400	0.512	0.667
Mean advisor quality in state (MAQ)–issues	0.294	0.124	0.137	0.224	0.270	0.352	0.503
Mean advisor quality in state (MAQ)–volume	0.250	0.131	0.116	0.149	0.220	0.288	0.459
Percent of issues in state using an advisor	0.556	0.187	0.215	0.438	0.588	0.707	0.760

Table 2
Definitions of indicator variables

The following variables are coded as one unless indicated otherwise.

External financial advisor	Financial advisor is retained.
Financial advisor as underwriter	Financial advisor also serves the role of underwriter.
Underwriter quality	Underwriter is one of top ten underwriters by market share in that year.
Opaque issue	Issue is insured or rated A or higher; zero if issue is unrated or rated lower than A.
AAA/Aa or Aaa/AA rating	Uninsured dual-rated bonds with split ratings between Moody's and Standard & Poor's of AAA/Aa or Aaa/AA.
Aa or AA rating	Issue is either rated by one agency and receives Aa or AA rating or if received Aa/AA rating from both agencies. Similar codings are used for the other ratings variables.
Insured	Issue receives credit insurance.
Not rated	Issue is uninsured and did not receive a rating.
Single rated	Issue receives rating from only one agency.
Letter of credit	The issue receives letter of credit from a bank.
Tax preference	Issue is in a state in which investors are not taxed for in-state bonds but are taxed for out-of-state bonds.
Two managing underwriters	Two managing underwriters.
Bank-qualified	Issue qualifies bank investors to avoid partial federal taxation.
Callable issues	Issue is callable.
Alternative minimum tax	Coupon payments potentially subject investors to pay federal alternative minimum taxes.
Taxable bonds	Investors must pay federal income taxes on coupon payments.
State issuer	Bonds are issued by state government.
County issuer	Bonds are issued by county.
College issuer	Bonds are issued by college or university.
School district issuer	Bonds are issued by a school district.
Other issuer	Bonds are issued by a governmental organization other than a city, county, state, school district, or state.
Certificates of participation	Issue is a certificate of participation, certificates of obligation, certificates of appreciation, etc.
Zero coupon bonds	Issue does not pay coupon interest.
Private placement bonds	Bonds are privately sold to investors.
Negotiated	Issue is sold on a negotiated basis to the underwriter rather than sold competitively.
Revenue bonds	Source of funds for repayment is exclusively tied to a single revenue source.
Frequent issuers	Issuer marketed at least 6 issues within five years of the current issue.
Used an advisor on previous issue	Issuer used any financial advisor on their previous issue.
Same advisor as previous issue	Issuer used the same advisor on this issue as the last issue.

Table 3
Descriptive statistics – indicator variables

<u>Variable</u>	Full sample (n=58,562)		Low quality advisor (n=7,286)		High quality advisor (n=7,294)	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
External financial advisor	29,123	49.73	7,286	100.00	7,294	100.00
Financial advisor also serves as underwriter	1,688	2.88	403	5.53	425	5.83
Underwriter quality	10,056	17.17	1,618	22.21	1,605	22.00
Opaque issue	26,040	44.47	2,803	38.47	3,079	42.21
AAA/Aa or Aaa/AA	200	0.34	19	0.26	32	0.44
AA or Aa	5,261	8.98	597	8.19	881	12.08
AA/A or Aa/A	1,103	1.88	106	1.45	281	3.85
A	8,428	14.39	1,065	14.62	1,246	17.08
A/BBB or Baa/A	225	0.38	28	0.38	28	0.38
BBB or Baa	2,338	3.99	319	4.38	364	4.99
BBB/Ba, Baa/BB, BB, Ba	81	0.14	11	0.15	6	0.08
Insured	21,450	36.63	3,060	42.00	2,571	35.25
Not rated	17,440	29.78	1,726	23.69	1,451	19.89
Single-rated	12,506	21.36	1,744	23.94	1,885	25.84
Letter of credit	665	1.14	45	0.62	26	0.36
Tax preference	40,113	68.50	4,738	65.03	5,079	69.63
Two managing undwriters	24,634	42.06	3,810	52.29	4,191	57.46
Bank-qualified	26,414	45.10	3,324	45.62	3,622	49.66
Callable	44,513	76.01	5,354	73.48	5,967	81.81
Alternative minimum tax	1,617	2.76	143	1.96	143	1.96
Taxable	1,115	1.90	122	1.67	119	1.63
State issuer	503	0.86	15	0.21	149	2.04
Certificates of participation	362	0.62	63	0.86	14	0.19
Zero coupon bonds	2,146	3.66	241	3.31	299	4.10
County issuer	5,571	9.51	635	8.72	550	7.54
College issuer	883	1.51	67	0.92	94	1.29
School district issuer	20,790	35.50	2,804	38.48	3,173	43.50
Other issuer	2,847	4.86	172	2.36	464	6.36
Private placement	389	0.66	33	0.45	11	0.15
Negotiated issue	33,223	56.73	2,691	36.93	2,201	30.18
Revenue bonds	23,320	39.82	2,642	36.26	2,123	29.11
Frequent issuer	15,418	26.33	1,942	26.65	2,237	30.67
Advisor on previous issue	23,272	39.74	4,163	47.14	5,078	69.62
Same advisor as previous	13,700	23.99	2,544	34.92	4,072	55.83

Table 4
Regression of the effect of financial advisor quality on new issue local government reoffering yields

The dependent variable is reoffering yields – the implied interest rate at which the underwriter offers the bonds to investors. FA quality–issues is measure of the quality of the financial advisor. It is a market share measure computed as the number of issues handled by that advisor in that state in a particular year, divided by the total number of issues handled by any financial advisor in that state in that same year. FA quality–volume is an alternative measure of financial advisor quality that is based on the volume of issue rather than the number of issues. Financial advisor also serves as underwriter is coded one if the financial advisor also serves the role of underwriter. The sample size is 58,562 covering the period 1984-2002. Both models' adjusted R^2 is 0.881 Both models are robust regressions to adjust for heteroskedasticity. Error terms are clustered at the issuer level. Indicator variables for period and state have been suppressed. In Panel B, low quality financial advisor is coded one if the advisor falls in the bottom quartile of our continuous measures of advisor quality. Medium quality financial advisor is coded one if the advisor chosen falls in the second or third quartile of our continuous measures of advisor quality. High quality financial advisor is coded one if the advisor chosen falls in the top quartile of our continuous measure of advisor quality. In Panel C, indicator variables are included for firm fixed effects (not tabulated) rather than state. Period indicator variables are also included in the fixed effects models.

Panel A: Continuous measure of financial advisor quality

Variable	Expected sign	Model 1		Model 2	
		Parameter estimate	<i>p</i> -value	Parameter estimate	<i>p</i> -value
Financial advisor quality – # of issues	-	-0.098	0.001		
Financial advisor quality – issue volume	-			-0.127	0.001
Financial advisor also serves as underwriter	+	0.018	0.129	0.021	0.082
Underwriter quality	-	-0.047	0.001	-0.048	0.001
Interest rate index	+	0.959	0.001	0.959	0.001
Log of average maturity	+	0.821	0.001	0.821	0.001
Log of issue size	?	0.022	0.001	0.022	0.001
AAA/Aa or Aaa/AA Rating	+	-0.002	0.948	-0.002	0.981
AA or Aa Rating	+	0.097	0.001	0.098	0.001
AA/A or Aa/A Rating	+	0.159	0.001	0.161	0.001
A Rating	+	0.215	0.001	0.216	0.001
A/BBB or Baa/A Rating	+	0.479	0.001	0.479	0.001
BBB or Baa Rating	+	0.594	0.001	0.595	0.001
BBB/Ba or Baa/BB Rating or BB or Ba	+	1.283	0.001	1.282	0.001
Insured	+	0.096	0.001	0.098	0.001
Not rated	+	0.693	0.001	0.694	0.001
Single-rated	+	0.057	0.001	0.058	0.001
Letter of credit	-	-0.226	0.001	-0.226	0.001
Tax preference	-	-0.186	0.001	-0.187	0.001
Two managing underwriters	?	-0.018	0.001	-0.017	0.001

Bank-qualified	-	-0.125	0.001	-0.125	0.001
Callable	+	0.052	0.001	0.052	0.001
Alternative minimum tax	+	0.248	0.001	0.248	0.001
Taxable	+	1.825	0.001	1.825	0.001
State issuer	?	-0.023	0.297	-0.031	0.147
Certificates of participation	?	-0.068	0.006	-0.067	0.006
Zero coupon bonds	+	0.081	0.001	0.081	0.001
County issuer	?	-0.027	0.001	-0.027	0.001
College issuer	?	-0.121	0.001	-0.123	0.001
School district issuer	?	0.001	0.804	0.001	0.772
Other issuer	?	-0.003	0.001	-0.003	0.001
Private placement	+	0.338	0.001	0.332	0.001
Negotiated issue	+	0.171	0.001	0.163	0.001
Revenue bonds	+	0.191	0.001	0.190	0.001
Frequent issuer	?	0.036	0.001	0.037	0.001
Adjusted R ²		0.881		0.881	

Panel B: Indicator variable measures of advisor quality

Variable	Financial advisor quality measured with			
		<u># of issues</u>		<u>Issue volume</u>
Low quality advisor – # of issues	-	-0.041	0.001	
Medium quality advisor – # of issues		-0.057	0.001	
High quality advisor – # of issues	-	-0.076	0.001	
Low quality advisor – issue volume				-0.039 0.001
Medium quality advisor – issue volume	-			-0.065 0.001
High quality advisor – issue volume				-0.059 0.001
Financial advisor also serves as underwriter	+	0.034	0.005	0.033 0.005
Adjusted R ²		0.881		0.881

Tests of differences across coefficients

Low quality advisor = medium quality advisor	<i>p</i> -value = 0.014	<i>p</i> -value = 0.001
Low quality advisor = high quality advisor	<i>p</i> -value = 0.001	<i>p</i> -value = 0.017
Medium quality advisor = high quality advisor	<i>p</i> -value = 0.008	<i>p</i> -value = 0.354

Panel C: Fixed effects models

Variable	Financial advisor quality measured with			
		<u># of Issues</u>		<u>Issue Volume</u>
Financial advisor quality – # of issues	-	-0.143	0.001	
Financial advisor quality – issue volume	-			-0.198 0.001
Financial advisor also serves as underwriter	-	0.035	0.005	0.018 0.202

Table 5**Regression of the effect of financial advisor quality on new issue local government reoffering yields – revenue vs. general obligation samples and negotiated vs. competitively bid samples**

The dependent variable is reoffering yields – the implied interest rate at which the underwriter offers the bonds to investors. FA quality–issues is measure of the quality of the financial advisor. It is a market share measure computed as the number of issues handled by that advisor in that state in a particular year, divided by the total number of issues handled by any financial advisor in that state in that same year. FA quality–volume is an alternative measure of financial advisor quality that is based on the volume of issue rather than the number of issues. All models are robust regressions to adjust for heteroskedasticity. Error terms are clustered at the issuer level. Control variables are identical to the prior models but have been suppressed.

Panel A: Revenue bonds vs. general obligation bonds

		Revenue bonds n=23,320		GO bonds n=35,242	
	Expected <u>sign</u>	Parameter <u>estimate</u>	<i>t</i>	Parameter <u>estimate</u>	<i>t</i>
<u>Model 1:</u>					
Financial advisor quality – # of issues	-	-0.291	-8.94	-0.063	-5.11
Financial advisor also serves as underwriter	+	-0.010	-0.42	0.054	5.14
Underwriter quality	-	-0.061	-5.96	-0.001	-0.21
Adjusted R ²		0.838		0.921	
<u>Model 2:</u>					
Financial advisor quality – volume of issues	-	-0.215	-6.63	-0.023	-1.64
Financial advisor also serves as underwriter	+	-0.021	-0.83	0.052	4.94
Underwriter quality		-0.059	-5.83	-0.001	-0.22
Adjusted R ²		0.838		0.921	

Panel B: Competitively bid vs. negotiated issues

		Competitively bid		Negotiated	
		n=25,339		n=33,223	
	<u>Expected sign</u>	<u>Parameter estimate</u>	<u>t</u>	<u>Parameter estimate</u>	<u>t</u>
Model 1:					
Financial advisor quality – # of issues	-	-0.074	-5.45	-0.197	-7.52
Financial advisor also serves as underwriter	+	0.081	7.89	-0.081	-3.23
Underwriter quality	-	-0.006	-1.01	-0.089	-9.47
Adjusted R ²		0.929		0.857	
Model 2:					
Financial advisor quality – volume of issues	-	-0.041	-2.68	-0.161	-5.76
Financial advisor also serves as underwriter	+	0.080	7.80	-0.093	-3.74
Underwriter quality		-0.006	-0.97	-0.088	-9.33
Adjusted R ²		0.929		0.857	

Panel C: Opaque vs. transparent issues

		Opaque		Transparent	
		n=26,040		n=32,522	
	<u>Expected sign</u>	<u>Parameter estimate</u>	<u>t</u>	<u>Parameter estimate</u>	<u>t</u>
Model 1:					
Financial advisor quality – # of issues	-	-0.346	-13.22	-0.156	0.001
Financial advisor also serves as underwriter	+	0.015	0.66	-0.001	0.901
Underwriter quality	-	-0.131	-10.62	-0.010	0.034
Adjusted R ²		0.8348		0.9433	
Model 2:					
Financial advisor quality – volume of issues	-	-0.249	-8.63	-0.136	-10.43
Financial advisor also serves as underwriter	+	0.003	0.14	-0.004	-0.43
Underwriter quality		-0.131	-10.59	-0.010	-2.13
Adjusted R ²		0.8348		0.9431	

Table 6**Regression of the effect of financial advisor quality on new issue local government reoffering yields – interaction effects with revenue bonds, negotiated bonds, and opaque bonds**

The dependent variable is reoffering yields – the implied interest rate at which the underwriter offers the bonds to investors. FA quality–issues is measure of the quality of the financial advisor. It is a market share measure computed as the number of issues handled by that advisor in that state in a particular year, divided by the total number of issues handled by any financial advisor in that state in that same year. FA quality–volume is an alternative measure of financial advisor quality that is based on the volume of issue rather than the number of issues. All models are robust regressions to adjust for heteroskedasticity. Error terms are clustered at the issuer level. Control variables are identical to the prior models but have been suppressed.

	Expected sign	Financial advisor quality measured with			
		# of issues		issue volume	
		Parameter estimate	t	Parameter estimate	t
<u>Panel A: Negotiated interaction variable</u>					
Financial advisor quality	-	-0.047	-2.76	-0.016	-0.83
Negotiated issue	+	0.107	8.63	0.105	8.57
Financial advisor quality * negotiated issue	-	-0.201	-7.32	-0.201	-6.75
Inverse Mills ratio	?	0.091	7.40	0.096	7.77
Adjusted R ²		0.8811		0.8810	
<u>Panel B: Revenue issues interaction variable</u>					
Financial advisor quality	-	-0.007	-0.42	0.030	1.65
Revenue issue	+	0.234	40.09	0.223	39.22
Financial advisor quality * negotiated issue	-	-4.237	-15.53	-0.370	-12.81
Inverse Mills ratio	?	0.103	8.41	0.106	8.67
Adjusted R ²		0.8815		0.8813	
<u>Panel C: Opaque issues interaction variable</u>					
Financial advisor quality	-	0.007	0.42	-0.008	-0.39
Financial advisor quality * opaque issue	-	-0.307	-12.86	-0.195	-7.21
Inverse Mills ratio	?	0.091	7.44	0.101	8.29
Adjusted R ²		0.8813		0.8810	