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Benchmarking External Audit Fees to Lower Audit Costs: Data from *Fortune* 1000 Companies

By Richard J. Palmer, Ph.D., CMA, CPA; Kristi Brucker; and Halley Olveda

EXECUTIVE SUMMARY

As audit fees consistently increase, companies often use numerous approaches to reduce costs. This study reveals a ratio that enables the reader to estimate what an audit should cost based on company size and industry. With this information, companies can greatly improve their success in the negotiation process.

Fees paid to public accounting firms for audits, audit-related matters, taxes, and other accounting services are a significant and unavoidable expense that has increased consistently since 2012. According to Audit Analytics, accelerated filers in 2016 paid $611 in audit fees for every $1 million of revenue, which translates into approximately 6.11 cents per $100 of revenue.[1] Financial Executives International determined that the average annual median fee increase from 2012 to 2015 for large accelerated and nonaccelerated filers was 4.75% (3.8%).[2] Hence, businesses naturally want to reduce this cost, the savings from which drop directly to the bottom line.

Companies use many tactics to reduce external audit costs. Practical ways such as the following reduce the external audit's staff workload and translate into a lower fee:

- Negotiate multiyear fixed-fee contracts;
- Work with the auditor to ensure the proper mix of junior and senior staff assigned to the audit;
- Optimize the role of internal audit support;
- Improve and automate internal controls, particularly in areas of high inherent audit risk;
- Obtain and provide auditor access to tools that automate and standardize account reconciliations; and
- Give auditors access to cloud-based internal controls documentary evidence.[3]

Beyond alterations to the auditor workload, the negotiation process with the CPA firm is critical to reducing fees. To discover the CPA firm's minimum acceptable price, a company can employ numerous negotiating strategies, and, in most cases, success is vastly improved by—if not contingent upon—knowledge of audit fees for similar-sized companies in the same industry. Much like the benchmark data that has been invaluable to improving business processes over the past 30 years, benchmark data on CPA fees can immeasurably strengthen the organization's negotiating position with its auditor.

We have three objectives with this article. First, we provide insight into CPA audit and total fee norms and how those norms have changed between 2015 and 2016 based on a benchmark database of 957 of the 1,000 largest companies in the United States.[4] Second, we examine the ratio of the total fee, which includes audit, audit-related, tax, and other charges as a percentage of annual corporate revenue. This ratio varies by nine industry groupings based on the North American Industry Classification System (NAICS) and enables the reader to estimate what an audit *should* cost for a company of a certain size in an industry. Because ratios do not change dramatically over time, the information has reasonable longevity as an evaluative tool. Finally, to put benchmark data in its market context, we identify CPA firms that are market leaders in an industry based on number of clients and revenue. Identifying market leaders should enable a company to better evaluate the suitability of an auditor vis-à-vis its leadership role within an industry both to conduct the work and maintain or lower costs by virtue of economies of scale.

For our analysis, we used U.S. Securities & Exchange Commission (SEC) Def 14(a) data that includes audit fees, audit-related fees, tax fees, and others collected for the 1,000 largest companies based on revenue in the United States in 2016. We removed 23 mutually owned companies: nine for which Def 14(a) information was unavailable or the Def 14(a) documents did not specify fees, two included in mergers, and nine with ratios that were outliers to the sample. Thus, our sample includes 957 companies.

THE SCOPE OF AUDIT AND TOTAL FEE SPENDING BY COMPANY SIZE

We already discussed the magnitude and upward trend of audit fees. Based on our source data, Table 1 summarizes average and median audit and audit-related fees (hereafter, simply audit) and total fees for *Fortune* 1000 companies broken down by revenue (*Fortune* 100, *Fortune* 101 to 500, and *Fortune* 501 to 1000). Table 1 shows that the average audit fees are $27.3 million, $7.8 million, and $3.6 million for companies the size of the *Fortune* 100, *Fortune* 101 to 500, and *Fortune* 501 to 1000, respectively. Total fees are between 9% and 14% higher than audit fees.

Further, Table 1 shows the median change in audit (total) fees between 2015 and 2016 to be 2.64% (2.85%). The increase in audit and total fees in 2016 grows larger with decreases in company size. Thus, audit (total) fees paid to CPA firms increased by the following: 1.86% (1.61%) for companies the size of the *Fortune* 100; 2.07% (2.89%) for *Fortune* 101 to 500 size; and 3.19% (2.91%) for *Fortune* 501 to 1000 size in 2016. Approximately 60% of the total sample experienced an increase.

Finally, we find the median audit (total client) fees per $1 million in corporate revenue to be the following: $313 ($334) for companies the size of the *Fortune* 100; $664 ($764) for *Fortune* 101 to 500 size; and $1,053 ($1,190) for *Fortune* 501 to 1000 size. Across all corporations, the median audit (total) fees are $493 ($545) per $1 million of corporate revenue.

Managing audit and other CPA firm fees requires a company to assess a variety of factors that may raise or lower the fee above or below the average charge. Besides company size, other issues that may influence audit fees are the number of related-party transactions, financial statement complexity, regulations, changes in the organization's structure, the auditor's specialization within an industry, and auditor market concentration. Any of these and other factors may explain differences between market norms and a company's actual audit fee, but, as we will show, the extant market data at the margins can provide a solid estimate of the benchmark fee. Then a company can make adjustments to control for other considerations.

Table 1: Audit and Audit-Related Fees and Total Fees Paid to CPA Firm by *Fortune* 1000 Corporations in 2016

	2016 Audit and Audit-Related Fees	2016 Total Fees
***Fortune* 100-Size Corporations**		
Average audit fee	$27,324,208	$29,820,922
Median audit fee	$21,343,000	$23,196,000
Median change from 2015 to 2016	1.86%	1.61%
Percent of corporations with fee increase in 2016	59.1%	54.1%
Median fee per $1 million of revenue	$313	$334
***Fortune* 101- to 500-Size Corporations**		
Average audit fee	$7,848,486	$8,958,766
Median audit fee	$6,470,641	$7,241,500
Median fee change from 2015 to 2016	2.07%	2.89%
Percent of corporations with fee increase in 2016	56.7%	59.3%
Median fee per $1 million of revenue	$664	$764
***Fortune* 501- to 1000-Size Corporations**		
Average audit fee	$3,614,509	$4,128,007
Median audit fee	$3,053,781	$3,419,636
Median change from 2015 to 2016	3.19%	2.91%
Percent of corporations with fee increase in 2016	61.1%	60.0%
Median fee per $1 million of revenue	$1,053	$1,190
***Fortune* 1000 (All)**		
Average audit fee	$7,560,858	$8,485,079
Median audit fee	$4,432,821	$5,030,000
Median change from 2015 to 2016	2.64%	2.85%
Percent of corporations with fee increase in 2016	59.2%	59.3%
Median fee per $1 million of revenue	$493	$545

AUDIT AND TOTAL FEE BENCHMARK NORMS BY INDUSTRY

Table 2 reports quartile data on audit and audit-related as well as total-fees-to-corporate-revenue ratios for nine industries. The information industry has the highest of both ratios, while the retail and wholesale sales segment has the lowest. The table shows industry riskiness from left to right based on average and median fees-to-corporate-revenue ratios with information being the riskiest and retail and wholesale sales the least risky.

FEE RATIOS BY INDUSTRY: A CLOSER LOOK

As Table 2 indicates, the total-fees-to-corporate-revenue ratio differs notably by industry segment. Although quartiles give a general sense of audit pricing norms, the total-fees-to-corporate-revenue ratio is likely to change based on revenue fluctuations. Thus, Figure 1 presents the hypothetical model of the relationship between total fees and corporate revenue. Outliers such as unusually low total-fees-to-corporate-revenue ratios appear in the lower-left corner where, for example, a smaller company has a very low total-fees-to-corporate-revenue ratio. Conversely, unusually high total-fees-to-corporate-revenue ratios appear in the upper-right corner where, for instance, a larger company has a very high total-fees-to-

Figure 1: Hypothetical Model of the Relationship between Total Fees and Annual Corporate Revenue

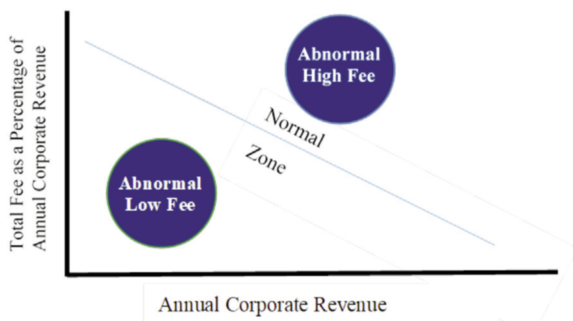


Table 2: Quartile Data on Audit/Audit-Related and Total-Fees-to-Corporate-Revenue Ratios for *Fortune* 1000 Companies

Audit Fees and Total Fees as a Percent of Corporate Revenue for 2016

	Information (n=101)	Banking, Finance, Insurance, and Real Estate (n=130)	Manufacturing (n=315)	Professional, Scientific, and Technical Services (n=69)	Accommodations, Food Service, and Entertainment (n=28)	Agriculture, Mining, and Construction (n=54)	Energy and Utilities (n=65)	Transportation, Warehousing, and Delivery Services (n=41)	Retail and Wholesale Sales (n=154)
Audit Fees-to-Corporate Revenue									
Top Quartile Fee/ Corporate Revenue	0.158%	0.156%	0.140%	0.129%	0.148%	0.117%	0.092%	0.069%	0.064%
Avg. Fee/Corporate Revenue	0.126%	0.123%	0.112%	0.099%	0.096%	0.083%	0.076%	0.054%	0.051%
Median Fee/Corporate Revenue	0.103%	0.100%	0.099%	0.073%	0.065%	0.072%	0.078%	0.043%	0.043%
Bottom Quartile Fee/ Corporate Revenue	0.071%	0.071%	0.067%	0.045%	0.035%	0.038%	0.055%	0.027%	0.021%
Total Fees-to-Corporate Revenue									
Top Quartile Fee/Corporate Revenue	0.168%	0.163%	0.163%	0.144%	0.199%	0.123%	0.102%	0.078%	0.071%
Avg. Fee/Corporate Revenue	0.144%	0.137%	0.132%	0.108%	0.117%	0.090%	0.080%	0.061%	0.057%
Median Fee/Corporate Revenue	0.115%	0.115%	0.112%	0.083%	0.070%	0.082%	0.081%	0.045%	0.048%
Bottom Quartile Fee/ Corporate Revenue	0.079%	0.075%	0.079%	0.049%	0.039%	0.042%	0.057%	0.027%	0.023%

corporate-revenue ratio.

Figures 2a to 2i show a relationship between total fees and annual corporate revenue by industry sectors broken into those with low, moderate, and high average total fees to revenue. We overlaid on each graph an Excel power curve to express a fitted mathematical relationship between total fees to revenue and corporate revenue itself. At the top right-hand side of each figure, a mathematical model predicts the total-fees-to-corporate-revenue ratio based on corporation revenue. As the figures display, a consistent size effect exists in every industry category where the total-fees-to-corporate-revenue ratio decreases with increases in annual revenue. Thus, for evaluating pricing norms in any industry segment, the corporation size proves to be an important consideration.

The sidebar "How to Use the Total Fees and Corporate Revenue to Negotiate Pricing with Auditors" on p. 38 demonstrates how an organization can use the data in Figures 2a to 2i to estimate the normal ratio of total fees to corporate revenue in a given industry and for a given company size based on revenue. With this information, the company can build a model of expected total fees based on corporate revenue. Because the model is built on cost/revenue relationships rather than current dollars, its accuracy should endure until market dynamics alter the ratios.

LOW FEE-TO-CORPORATE-REVENUE RATIO

Figures 2a through 2c report the

How to Use the Total Fees and Corporate Revenue to Negotiate Pricing with Auditors

Suppose your organization is a rapidly growing $10 billion company in the retail and wholesale sales industry. According to the data in Table 2, the range of total fees to expect based on quartile data in this sector is quite large—from $2.3 million to $7.1 million.

Total Fees-to-Corporate Revenue	**(a) Retail and Wholesale Sales (n=154)**	**(b) Price Based on Different Quartiles $10B ∗ (a)**
Top Quartile Fee/Corporate Revenue	0.071%	$7,100,000
Avg. Fee/Corporate Revenue	0.057%	$5,700,000
Median Fee/Corporate Revenue	0.048%	$4,800,000
Bottom Quartile Fee/Corporate Revenue	0.023%	$2,300,000

Using the mathematical analysis in Figure 2a, you can generate a better ballpark estimate of what the total fee *should* be based on the total-fees-to-corporate-revenue relationships:

Total Fees/Corporate Revenue Norm = 0.0013 ∗ (Annual Sales Revenue in $ billions)$^{-0.578}$

Thus, for the requested quote, the calculation of the normal fees/revenue ratio would be:

Total Fees/Corporate Revenue Norm = 0.0013 ∗ 10^{-0.578}$, which yields 0.034%

Using simple algebra: If Total Fees/Corporate Revenue = Ratio, then Ratio ∗ Revenue = Estimated Fee

Thus: 0.034% ∗ $10 billion = $3,435,131

If the company doubles in size to $20 billion in annual revenue, the estimated total fees would be calculated using the same steps as follows:

Total Fees/Corporate Revenue Norm = 0.0013 ∗ ($20)$^{-0.578}$, which yields 0.023%

Using simple algebra: If Total Fees/Corporate Revenue Norm = Ratio, then Ratio ∗ Revenue = Fees

Thus: 0.023% ∗ $20 billion = $4,602,333

If the company's annual sales revenue falls to $2 billion, the estimated total fees would be:

Total Fees/Corporate Revenue Norm = 0.0013 * ($2)-0.578 , which yields 0.087%

Thus: 0.087% * $2 billion = $1,741,719

Working through the ratios for companies from $1 billion to $60 billion in size and extending to the total fee pricing that would apply at the sales revenue levels, you can create a total fee pricing template to accommodate changes in company growth as follows:

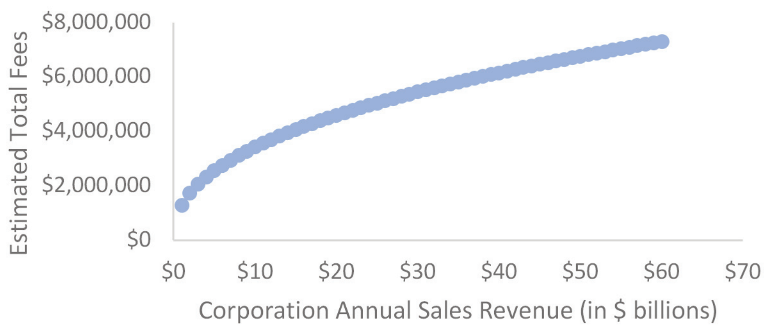


Figure 2a: Total Fees to Corporate Revenue and Annual Corporate Revenue in Retail and Wholesale Sales

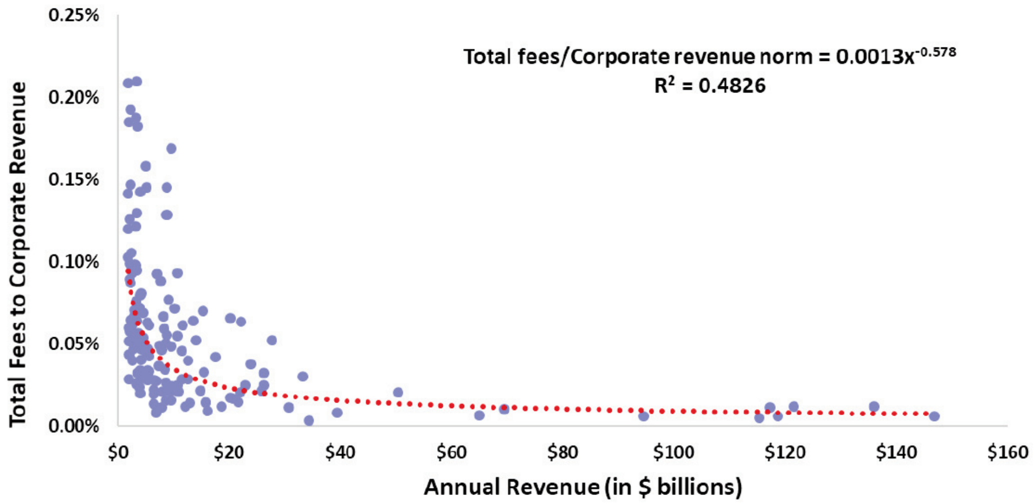


Figure 2b: Total Fees to Corporate Revenue and Annual Corporate Revenue in Transportation, Warehousing, and Delivery Services

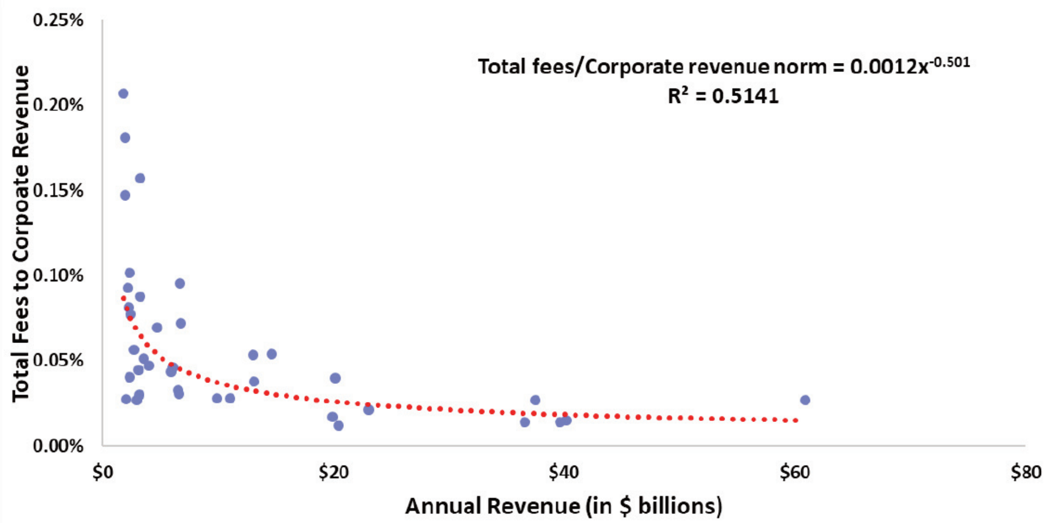
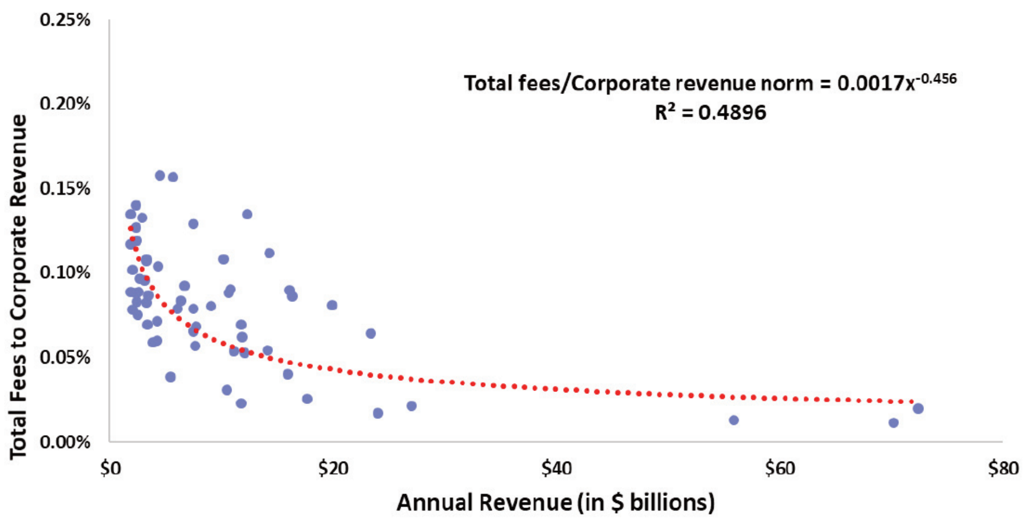


Figure 2c: Total Fees to Corporate Revenue and Annual Corporate Revenue in Energy and Utilities



industry sectors with low total-fees-to-corporate-revenue ratios, including retail and wholesale sales; transportation, warehousing, and delivery services; and energy and utilities. In these three sectors, all ratios are below 0.25%.

Total-fees-to-corporate-revenue ratios for certain companies appeared outside the normal range for Figures 2a through 2i, so we removed these total fees from our analysis. For Figure 2a, we removed companies with abnormally low total-fees-to-corporate-revenue ratios.[5] For Figures 2b and 2c, we removed companies with either abnormally high or abnormally low total-fees-to-corporate-revenue ratios.[6]

MODERATE FEE-TO-CORPORATE-REVENUE RATIO

Figures 2d through 2f report on the industry sectors with moderate total-fees-to-corporate-revenue ratios, including accommodations, food service, and entertainment; agriculture, mining, and construction; and professional, scientific, and technical services. In these three sectors, all ratios are below 0.35%. For these figures we removed companies with either abnormally high or abnormally low total-fees-to-corporate-revenue ratios.[7]

HIGH FEE-TO-CORPORATE-REVENUE RATIO

Figures 2g through 2i show the three industry sectors with relatively high total-fees-to-corporate-revenue ratios, including banking, finance, insurance, and real estate; manufacturing; and information. In these three sectors, all ratios of total fees to corporate revenue are below 0.50%. For Figures 2g through 2i, we removed companies with either abnormally high or abnormally low total-fees-to-corporate-revenue ratios.[8]

UNDERSTANDING THE AUDITOR AND THE $8 BILLION CORPORATE MARKET

As we noted, identifying audit industry market leaders should enable the company to better evaluate the auditor's footprint within an industry and, by extension, its inherent advantage with respect to economies of scale and other offerings. Figure 3a shows total fees paid to audit firms amounted to more than $8 billion in 2016. PricewaterhouseCoopers (PwC) garnered the most fees from *Fortune* 1000 companies in 2016 ($2.6 billion), followed by Ernst & Young (EY) ($2.2 billion), Deloitte ($1.8 billion), KPMG ($1.4 billion), and other firms (less than $100 million).

Figure 2d: Total Fees to Corporate Revenue and Annual Corporate Revenue in Accommodations, Food Service, and Entertainment

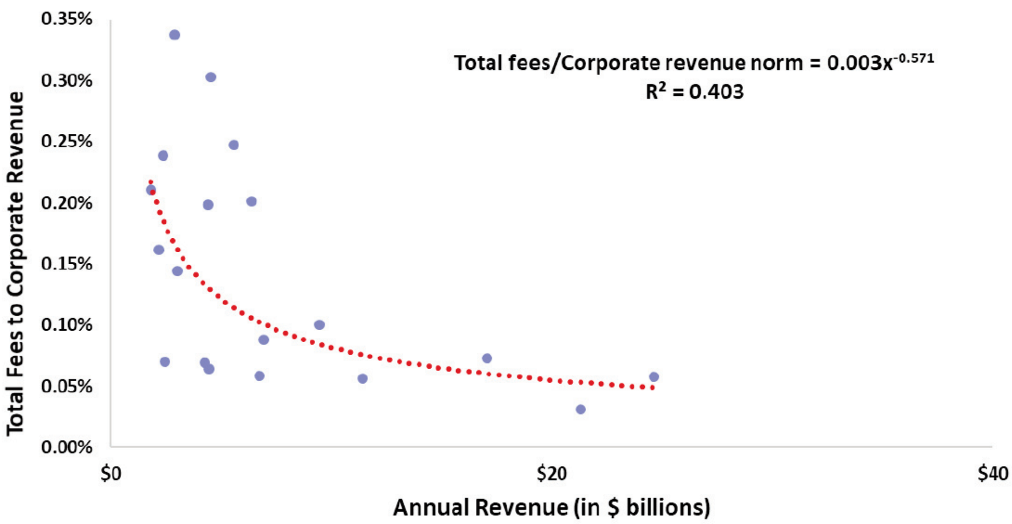


Figure 2e: Total Fees to Corporate Revenue and Annual Corporate Revenue in Agriculture, Mining, and Construction

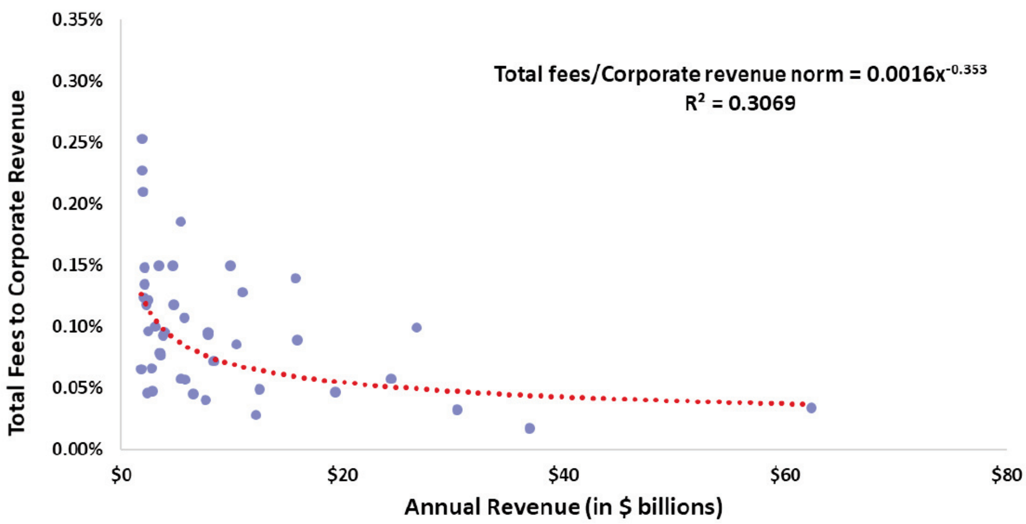


Figure 2f: Total Fees to Corporate Revenue and Annual Corporate Revenue in Professional, Scientific, and Technical Services

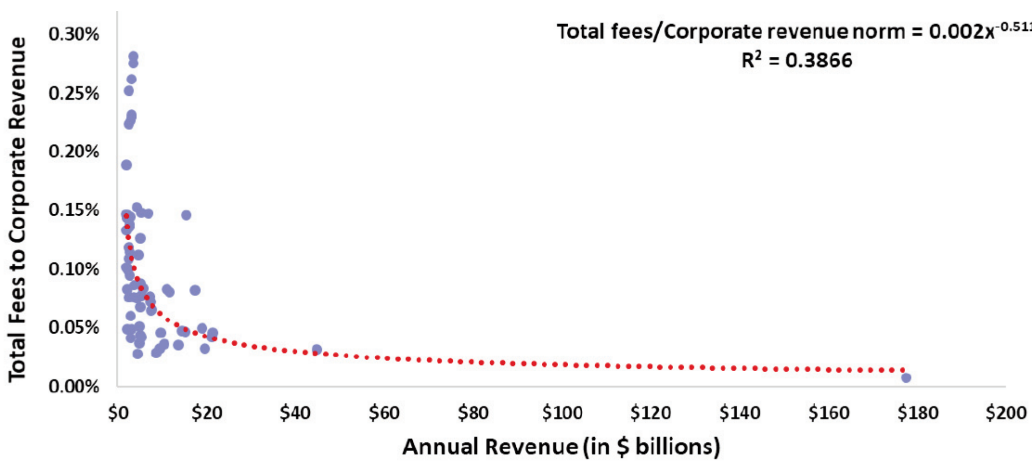


Figure 3b presents the number of *Fortune* 1000 corporations in our study audited by CPA firms in 2016. EY had the most *Fortune* 1000 audit clients at 289, followed by PwC (234), Deloitte (227), KPMG (182), and other firms (25).

AUDIT FIRM LEADERSHIP WITHIN INDUSTRIES

Depending on the industry, different Big 4 firms hold a market leadership position. When looking at number of clients, Table 3 shows that EY has the market leadership position in six segments, while Deloitte and PwC each hold leadership positions in two. Based on fee

Figure 2g: Total Fees to Corporate Revenue and Annual Corporate Revenue in Banking, Finance, Insurance, and Real Estate

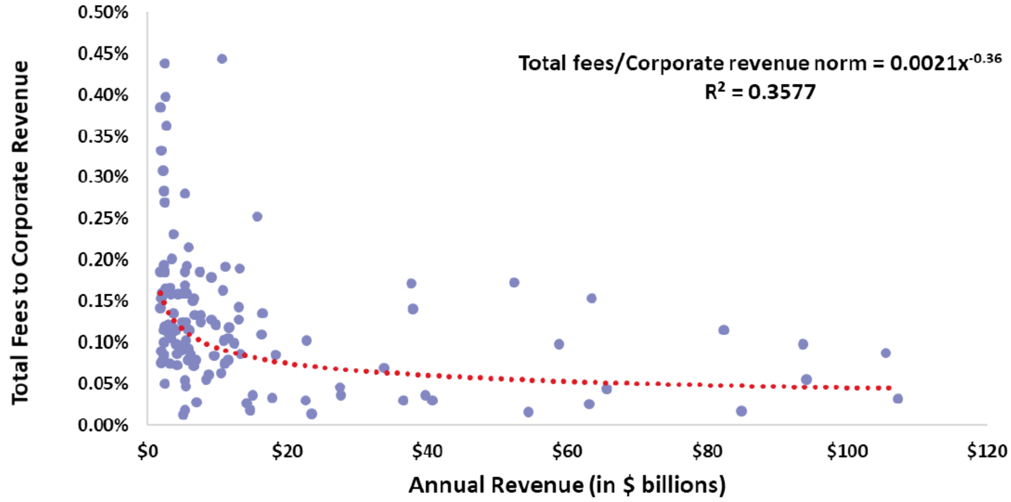


Figure 2h: Total Fees to Corporate Revenue and Annual Corporate Revenue in Manufacturing

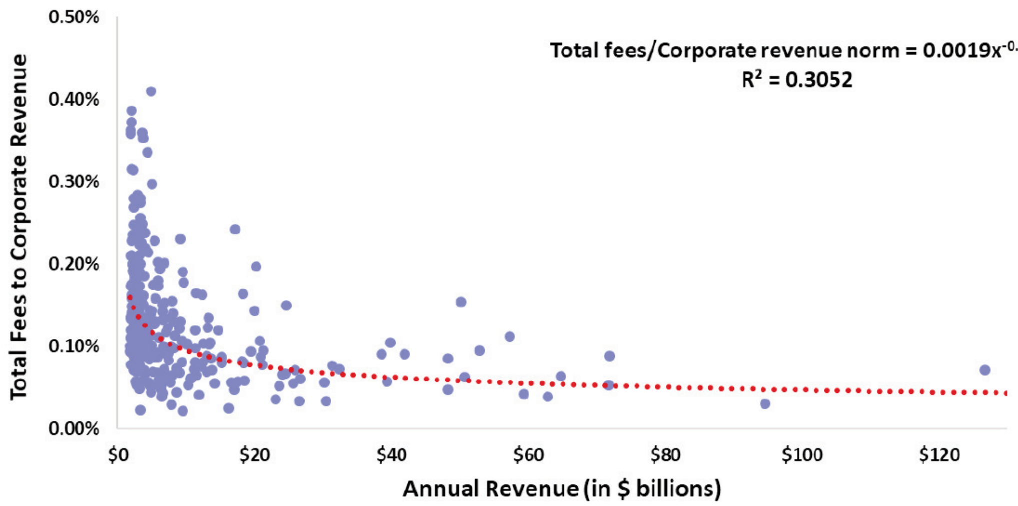


Figure 2i: Total Fees to Corporate Revenue and Annual Corporate Revenue in Information

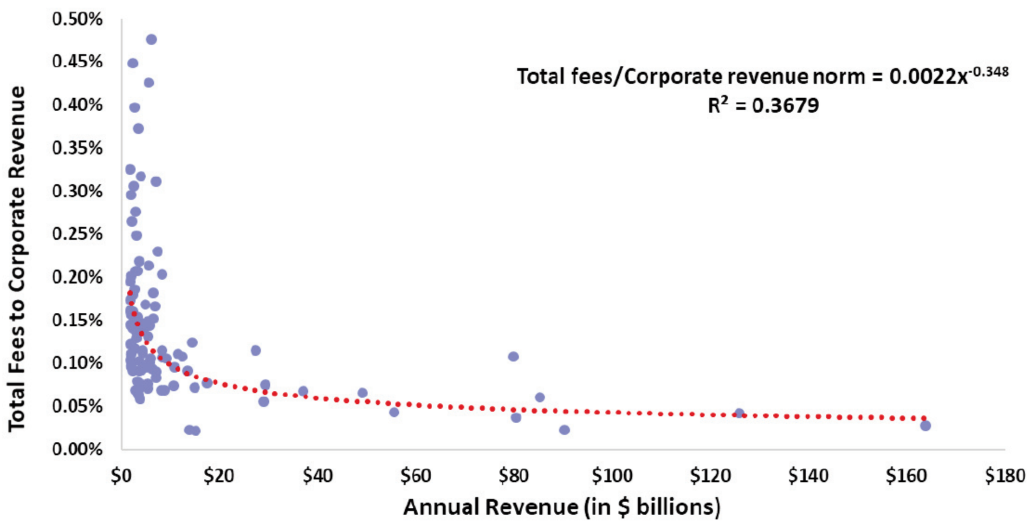


Table 3: Total Fee Revenue and Number of *Fortune* 1000 Clients within Industry by Audit Firm

	Accommodations, Food Service, and Entertainment (n=28)	Agriculture, Mining, and Construction (n=54)	Energy and Utilities (n=65)	Banking, Finance, Insurance, and Real Estate (n=130)	Information (n=101)	Manufacturing (n=315)	Professional, Scientific, and Technical Services (n=69)	Transportation, Warehousing, and Delivery Services (n=41)	Retail and Wholesale Sales (n=154)
Number of Clients Audited by:									
Deloitte	9	11	29	30	21	70	14	8	35
PwC	4	7	17	28	27	107	19	7	18
EY	8	23	12	38	28	90	19	14	57
KPMG	7	11	4	32	24	46	13	10	35
Other	-	2	3	2	1	2	4	2	9
Total CPA Firm Fee Revenue:									
Deloitte	$73,006,607	$60,159,117	$175,253,742	$474,170,036	$195,034,153	$567,135,851	$73,721,166	$49,973,166	$164,871,861
PwC	$6,606,871	$60,097,418	$174,310,314	$650,769,823	$325,979,002	$1,155,343,444	$94,446,997	$34,234,632	$91,839,745
EY	$79,353,490	$139,167,601	$77,643,713	$332,415,701	$368,681,138	$788,280,571	$124,346,035	$54,220,325	$283,811,315
KPMG	$26,747,380	$62,094,665	$29,414,369	$375,466,618	$173,825,200	$493,190,552	$79,698,834	$31,104,754	$110,618,490
Other	-	$1,050,161	$4,871,038	$25,162,260	$3,132,530	$4,799,000	$9,496,061	$13,076,000	$18,068,868

Figure 3a: Total Fees Paid by *Fortune* 1000 Corporations to Audit Firms in 2016

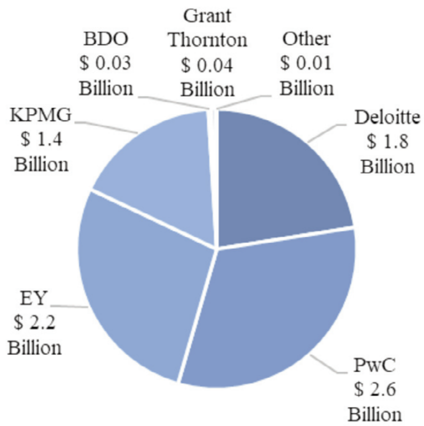
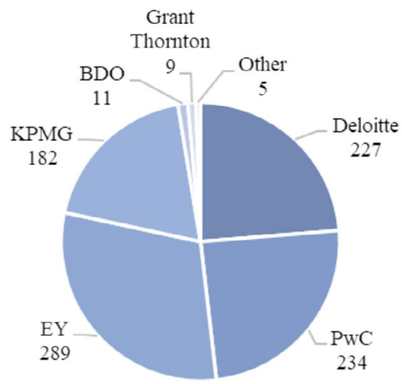


Figure 3b: Number of *Fortune* 1000 Corporations Serviced by Audit Firms in 2016



revenue, EY holds the leadership position in six industry segments, PwC in two, and Deloitte in one.

LIMITATIONS AND EXTENSIONS

Our analysis may not apply to companies below $2 billion in annual revenue or those in the middle market, widely defined as having sales revenue between $10 million and $1 billion. We tested the accuracy of the cost models by comparing actual total fees of 13 public companies in different industries with sales revenue between $252 million and $1.9 billion to the predicted costs based on their respective industries. In nine out of 13 cases, the estimated audit fee was plus or minus 12% of the actual total fees reported. In five of the nine cases, the estimated total fees were within +/- 5% of actual total fees. Thus, while the cost model is most appropriate for large companies, the cost estimations provide a ballpark estimate of auditor costs for companies beneath the *Fortune* 1000 range.

NEGOTIATIONS ARE NEXT

This article enables a large company to make more informed decisions regarding the auditor/corporate financial relationship. Using the relationships between total fees and corporate revenue shown here, the company can model expected CPA fees for an organization of its size within its industry. Anecdotally, many companies already compare their fee structure to one or two similar organizations, but relying on knowledge of audit fees paid by one or two competitors—if available (nonpublic company audit fees are not published)—can be misleading because special circumstances may apply.

A company can strengthen its corporate negotiating position by using the estimated fee norms across industries and organization size within those industries based on, in some cases, hundreds of observations. Armed with an understanding of what its CPA firm *should* be charging, the company can better negotiate fee structures and audit work demands to ensure that the firm's charges are in sync with industry norms after considering other factors that may influence auditor costs. Most important, this data should enable companies to recognize and avoid abnormally high pricing arrangements with auditors.

We also included a panoramic view of which audit firms have market leadership positions within nine industries. For most industries, market leadership should translate into inherent cost advantages to the CPA firm by virtue of economies of scale, allowing the leader to price the audit more aggressively. ■

Richard J. Palmer, Ph.D., CMA, CPA, is a senior lecturer at the Olin School of Business at Washington University in St. Louis, Mo. He also is a member of IMA's St. Louis Chapter. You can reach Richard at (618) 559-5137 and rjpalmer@wustl.edu.

Kristi Brucker is a member of IMA's St. Louis Chapter and an accounting graduate of Southeast Missouri State University. She can be reached at (573) 579-3240 and kristibrucker524@gmail.com.

Halley Olveda is a research associate at RPMG Research Corporation. You can reach Halley at (618) 313-0802 and halleymadison98@hotmail.com.

ENDNOTES

1 Terry Sheridan, "Audit Fees Continue Their Increase," January 18, 2018, www.accountingweb.com/aa/auditing/audit-fees-continue-their-increase (accessed 10/22/2019).

Accelerated filers are those whose public float is at least $75 million but less than $700 million at the end of their second quarter. More than $700 million makes the company a large accelerated filer.

Audit fees are those necessary to do the audit or review. This may include services that usually only the independent accountant provides, such as comfort letters, statutory audits, attest services, consents, and assistance with and review of documents filed with the SEC. Audit-related fees are the due diligence performed by the accountant. That would include employee benefit plan audits, mergers and acquisitions, consultations and audits linked to acquisitions, internal control reviews, attest services not required by statute or regulation, and consultations about accounting and reporting standards.

2 Financial Executives International, "Audit Fees Increases Hinge on Size and Situation," December 1, 2016, www.financialexecutives.org/Research/News/2016/Audit-Fees-Increase-by-Median-3-2-Percent-in-2015.aspx.

3 See Financial Executives Research Foundation, "Mitigating Increases in Audit Fees," 2016, for additional cost-saving steps at www.financialexecutives.org/ferf/download/2016%20Final/2016-001.pdf.

4 The full list of the *Fortune* 1000 corporations can be found at www.geolounge.com/fortune-1000-companies-list-2016/.

5 Figure 2a: We removed companies with abnormally low total-fees-to-corporate-revenue ratios, including Walmart Stores ($486 billion, 0.0045%) and McKesson ($192 billion, 0.0121%).

6 Figure 2b: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including Spectra Energy ($5 billion, 0.2116%) as well as those with abnormally low ratios, including Oneok ($9 billion, 0.0047%) and FedEx ($50 billion, 0.0461%).

Figure 2c: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including Calumet Specialty Product Partners ($4 billion, 0.1973%) and Exelon ($31 billion, 0.1002%) as well as those with abnormally low ratios, including United Refining ($2 billion, 0.0323%), Chevron ($108 billion, 0.0273%), and Exxon Mobil ($205 billion, 0.0177%).

7 Figure 2d: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including Hilton Worldwide Holdings ($12 billion, 0.2998%). We also removed those with abnormally low ratios, including Buffalo Wild Wings ($2 billion, 0.0362%), Texas Roadhouse ($2 billion, 0.0401%), Cheesecake Factory ($2 billion, 0.0315%), Panera Bread ($3 billion, 0.0434%), Cracker Barrel Old Country Store ($3 billion, 0.0278%), Regal Entertainment Group ($3 billion, 0.0358%), Brinker International ($3 billion, 0.0374%), and Chipotle Mexican Grill ($4 billion, 0.0244%).

Figure 2e: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including Hess ($5 billion, 0.2405%) and National Oilwell Varco ($7 billion, 0.1893%). We also removed companies with abnormally low ratios, including Cal-Maine Foods ($2 billion, 0.0143%), Alliance Holdings ($2 billion, 0.0137%), Continental Resources ($2 billion, 0.0392%), Meritage Homes ($3 billion, 0.0379%), KB Home ($4 billion, 0.0327%), Toll Brothers ($5 billion, 0.0278%), NVR ($6 billion, 0.0130%), PulteGroup ($8 billion, 0.0290%), and D.R. Horton ($12 billion, 0.0139%).

Figure 2f: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including Iron Mountain ($4 billion, 0.2815%), Stericycle ($4 billion, 0.2751%), Quintiles IMS Holdings ($7 billion, 0.1476%), and Omnicom Group ($15 billion, 0.1463%) as well as those with abnormally low ratios, including AECOM ($17 billion, 0.0818%) and Diplomat Pharmacy ($4 billion, 0.0279%).

8 Figure 2g: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including MetLife ($63 billion, 0.1534%), Goldman Sachs Group ($38 billion, 0.1713%), American International Group ($52 billion, 0.1728%), Bank of New York Mellon Corp. ($16 billion, 0.2528%), AmTrust Financial Services ($5 billion, 0.2808%), and State Street Corp. ($11 billion, 0.4438%). Those removed with abnormally low ratios included Blackstone Group ($5 billion, 0.0132%), Progressive ($23 billion, 0.0141%), INTL FCStone ($15 billion, 0.0184%), Western & Southern Financial Group ($5 billion, 0.0189%), and Erie Insurance Group ($7 billion, 0.0278%).

Figure 2h: Companies removed with abnormally high total-fees-to-corporate-revenue ratios included Zebra Technologies ($4 billion, 0.3597%), Dentsply Sirona ($4 billion, 0.3528%), Coty ($4 billion, 0.3360%), Zoetis ($5 billion, 0.4102%), Ashland Global Holdings ($5 billion, 0.2972%), Xerox ($17 billion, 0.2423%), Emerson Electric ($20 billion, 0.1974%), DuPont ($25 billion, 0.1492%), and Hewlett Packard Enterprise ($50 billion, 0.1540%). We also removed companies with abnormally low ratios, including General Electric ($127 billion, 0.0710%), Universal Forest Products ($3 billion, 0.0232%), CST Brands ($9 billion, 0.0218%), Ford Motor ($152 billion, 0.0303%), and General Motors ($166 billion, 0.0301%).

Figure 2i: We removed companies with abnormally high total-fees-to-corporate-revenue ratios, including iHeartMedia ($6 billion, 0.4766%) as well as ones with abnormally low ratios, including International Business Machines ($80 billion, 0.1081%), CDW ($14 billion, 0.0231%), AT&T ($164 billion, 0.0277%), and DISH Network ($15 billion, 0.0214%).