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AMIRA BEN HASSOUN*
Tunis El Manar University

AUDITOR CHOICE AND PEER FIRMS SIMILARITY: THE CASE OF TUNISIAN FIRMS

Keywords: auditor choice, product similarity, knowledge transfer, emergent market.

J E L Classification: M42, L11, G38.

Abstract: The aim of this study is to offer novel factor perceived by firms to select an external auditor in developing countries, like Tunisia, given their unique cultural, economic and institutional context. Specifically, we examine how peer firms' product similarity affects their decision to engage the same auditor. The data sample of this study covers the period between 2014 and 2021, across 36 firms and 1297 firm-peer-year observations. Using a novel measure for industry product similarity, results of logistic regression show that the likelihood of sharing auditor by peer firms increases when their product offering are more similar. This study finding provide evidence that Tunisian firm's auditor selection decision focus more on knowledge and expertise of external auditor than exercising caution to protect their proprietary information. In additional test, we evaluate whether our primary result remains when we isolate Big4 and Non-Big 4 clienteles and we find a supportive evidence that the likelihood of choosing the same auditor is greater for firm pairs that are audited by a Big N. Overall, this study extends the literature on auditor choice determinant in developing country by highlighting the importance of peer firms' product similarity in choosing external auditor and provide important evidence for investors and practitioners whether it is

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* Contact information: benhassoune.amira@yahoo.fr, Faculty of Economic Sciences and Management of Tunis, Tunis University, IFGT, Manar University, Tunisia, phone: +216 98 943 478; ORCID ID: <https://orcid.org/0009-0004-8893-666X>.

important for the external auditor to invest in industry specialization and build a reputation as a specialist.

■■■ INTRODUCTION

Auditor choice decision continues to attract considerable attention in the literature (Bedford, Bugeja & Czernkowski, 2023; Ben Hassoun, Aloui & Ben-Nasr, 2018; Bills, Cobabe, Pittman & Stein, 2020). This may reflect the importance that clients place on external auditing. The process by which a firm selects an auditor that best suits their needs can be complex and can be influenced by several factors, especially, when decide to choose the same auditor as a close competitor (e.g, expertise, cost, social link, location, etc.). The firm's decision reflects a trade-off between benefiting from informational advantages supplied by auditors with greater knowledge provided from comparable clients against protecting its proprietary information (Bills et al., 2020). These competing incentives are increasingly being viewed as a key source of sharing auditor choice.

In this paper, we seek to advance understanding of the extent of auditor choice between two firms exhibiting a high degree of similarity and expect that the higher this similarity, the greater the tension underlying these competing incentives. Based on this perspective, we focus, particularly, on firms operating in the same product market and examine whether these competing incentives affect their willingness to share the same audit office. Particularly, we assume that peer firms offering comparable products will exhibit corresponding similarities in their business processes, internal controls, and accounting methods and we posit that product similarity enables knowledge transfer that can improve audit efficiency.

Extending the analysis, we examine factors that should enhance or decrease the association between peer firms similarity and sharing auditor in an emerging economy. To determine how often pairs of firms share the same auditor, we construct a measure of product similarity using textual analysis of firms' business descriptions from their annual reports. In doing so, we follow the same procedures as Hoberg and Phillips (2016), to identify unique words used in firms' business descriptions and also follow their assumption that these unique words represent unique products. We construct a measure of product similarity, which capture the cosine similarity between two firms' product descriptions in their annual reports and refer to this measure as Industry Product Sim-

ilarity (IPS). The IPS of focal firm includes all other firms with similarity scores available in a given year. IPS is a number between zero and one and a higher number indicates that, on average, the products offered by the firms in an industry are more similar. The advantages of this approach include its ability to take into account the changing nature of firms' business models as annual reports are updated annually. However, Standard industry classifications fail to capture these dynamic aspects of product markets.

Our study contributes to the existing literature on auditor choice in several ways. First, this study offers a novel factor perceived by firms to select an external auditor in developing countries. This study aims to investigate the association between peer firms similarity and the likelihood of sharing auditor. Indeed, previous researches have examined characteristics of the firm itself (Guedhami, Pittman & Saffar, 2009; Ben Hassoun et al., 2018). However, none of these studies investigated the impact of clients' product characteristics. We posit that it is opportune to bridge this gap by examining the impact of client-client relationships on choosing same auditor. Second, our study has selected a critical sample from the world economy such as companies from a developing country, like Tunisia, which remains an under researched area. It is especially important to investigate sharing auditor in developing countries whose cultural, economic and institutional context is very different from most previously analyzed countries context. To the best of our knowledge, this study is considered one of the first to provide empirical evidence on auditor sharing in an emerging economy. Most of the studies investigating this area have been conducted in developed countries as US (Bills et al., 2020). Lastly, to measure product similarity, we follow the methodology of Hoberg and Phillips (2010, 2016) and develop a novel pairwise measure specific to Tunisian context. It would be interesting to provide a contribution to the literature by releasing new ultimate product similarity data for firms' sample listed on emerging market such as the Tunisian Stock Exchange (TSE). The value of the findings may, however, be extended to other countries with similar economic and institutional environment.

The remainder of this paper is organized as follows. The next section outlines related literature. Section 3 describes our research design and sample. Finally, section 4 presents our empirical results on the effect of industry product similarity on shared auditor.

THE RESEARCH METHODOLOGY AND THE COURSE OF THE RESEARCH PROCESS

Literature Review

The research on auditor sharing may be viewed as an extension of the specialization literature. Auditor industry specialization refers to the auditor who has deep understanding and long experience in a particular industry (Arens, Best, Shailer, Fidler, Elder & Beasley, 2011). According to Khaksar, Salehi and Dashtbayaz (2021), industry expertise can provide excellent opportunities to perform high-quality audits of many firms with similar product. Dunn and Mayhew (2004) argued that industry specialization provides benefits to client firms through improved accounting transparency and audit quality. To differentiate themselves from competitors in fulfilling clients' demands, audit firms adopt industry specialization as a product differentiation strategy allowing them to compete on characteristics other than price alone.

Mayhew and Wilkins (2003) argued that client's industry affiliation is an important dimension with which audit firms can use to align themselves with specific client characteristics and related demand. Experimental auditing research provides evidence that auditors with industry expertise are better at detecting errors (Owhoso, Messier & Lynch, 2002; Chaari, Belanès & Lajmi, 2022), offers a higher level of assurance within their industry specialization than outside their specialization (Beasley & Petroni, 2001), generate cost-based competitive advantages without compromising service quality (Bills, Jeter & Stein, 2015), associate with better client investment efficiency (Bae, Choi, Dhaliwal & Lamoreaux, 2017). Taken together, these results support the conclusion that auditors' industry-specific knowledge is related to audit effectiveness and the client's preference for a particular level of cost will lead them to engage an auditor with the structural characteristics that best suit their needs. The higher quality of specialist auditors displays their in-depth understanding of the industry and experience applying authoritative industry-specific accounting and auditing guidance (Bills et al., 2015).

Early work by Eichenseher and Danos (1981) and Danos and Eichenseher (1982) argued that the industry specialization of auditors could be explained by cost savings from economies of scale. They recommend that industry specialists spread the costs of knowledge acquisition and training over a larger

number of clients, and that the knowledge requirements of regulated industries are higher. Extending this line of research, Cahan, Godfrey, Hamilton and Jeter (2008) suggest that scale economies exist in industries with greater homogeneity. Client firms can also benefit from the information benefits that auditors gain from the greater knowledge gained by working with similar peers; for example, specialist auditors can reduce the cost of finding information for important internal decisions such as investments (Bae et al., 2017). Such informational advantages may come from investments in industry databases and knowledge management systems to compare client information as audit firms adopt new methods such as corporate risk assessment.

Extensive research has investigated the determinants of choosing auditor with greater knowledge by similar clientele. This literature generally has shown that client firms with higher agency costs (DeFond, 1992; Godfrey & Hamilton, 2005) and executive board capacity (Beasley & Petroni, 2001) tend to hire specialist auditors. Research also has shown that auditor market share is more concentrated in industries with faster growth, greater homogeneity, and more investment opportunities (Hogan & Jeter, 1999; Cahan et al., 2008). In the same vein, Brown and Knechel (2016) report evidence that increased similarity in financial disclosures is related to auditor tenure, and find that the similarity scores generally associated with stable client-auditor relationships. Furthermore, examining how similarity scores relate to the specific event of auditor-client switching reveals that “the poorer the fit with an existing auditor, the greater the probability the client will choose to switch to a new auditor” (Brown & Knechel 2016). Moreover, using American data, Bills et al. (2020) hypothesize that firms with long tenure with their auditors are less likely to share the same auditors with another firm offering a similar product.

Among other ways, our contribution to this area of research is to analyze similarity between client products, instead of focusing on one client’s specific characteristics or compatibility with an auditor’s existing portfolios in a specific context like developing countries. Thus far, our arguments have focused on why clients would be prepared to share the same auditor. While, some research document the reluctance of firms with similar products to choose the same auditor.

Following a line of argument developed in Danos and Eichenseher (1982), Kwon (1996) argued that client run the risk of proprietary information spillover from appointing the same auditors as their competitors. He finds this impact to be more pronounced for firms in concentrated industries. From the cli-

ent's perspective, a major disadvantage is that auditors are often exceptionally sensitive to the acquisition of expected future cash flows through confidential communications with management and boards, reviews of private contracts, and assessments of expected future cash flows when testing valuations and going concern assumptions (Dhaliwal, Lamoreaux, Litov & Neyland, 2016). Extending this line of research, Cahan et al. (2008) recognize that in a highly competitive industries, clients may be reluctant to hire the same auditors as their competitors out of fear that proprietary information will be transferred directly or indirectly (e.g. through client's financial statements for benchmarking against theirs). When firms and their competitors face similar opportunities, they will pay more attention to sharing protected information. Similarly, Aobdia (2015) document that same industry rivals become less likely to share the same auditor when the costs of information spillovers increase. Auditors have access to a wide variety of client proprietary information that peers can use to the detriment of the client. Client firms should therefore be careful when sharing auditors with competitors as there may be informal or institutional channels for auditors to communicate information. To choose the auditor that best meets their needs, the firm must balance the benefits of the auditor's knowledge and expertise against the threat of leaking information to a competitor. Based on those findings, we expect the tension behind these competing incentives to be greater when analyzing auditor choices between two highly similar firms. Bills et al. (2020) suggest that peer firms offering similar product will exhibit corresponding similarities in business processes, internal controls, and accounting methods allowing them to develop subspecialty knowledge and experience, leading to more effective and efficient audits. Similarly, we expect in this study a unique environment based on client-to-client product similarity to analyze how these competitive incentives influence auditors' choice among competing firms. Importantly, we deepen our analysis by examining the conditions that might moderate or enhance this relationship, in order to gain insight into the factors behind the auditor-client alliance. While the need for specialists may be limited in some cases as competitive firms avoid sharing auditor due to concerns about the transfer of proprietary information. Prior specialization research like Cahan et al. (2008) study, assumes that information spillover poses a more serious threat between peer firms offering similar product. This research emphasize that the cost of this information is higher when competitors are in a better position to use it to the detriment of the client. Accordingly, a firm may be reluctant to share the same auditor with a peer firm that

offers the same products for fear to reveal proprietary information to their competitors. Given that the observed auditor choice is, in equilibrium, driven by these two trades-offs, increased competition risk due to proprietary information leakage and enhanced audit quality due to audit synergies. Thus, all of the above points make the effect of product similarity on auditor choice an empirical question. Consistent with this, we propose the following null hypothesis:

H1: Peer to peer product similarity has no effect on sharing the same auditor.

DATA AND METHODOLOGY

Sample selection

To examine the importance of peer firm similarity on auditor choice, we use data from Tunisia, a developing country. The sample period covers from 2014 to 2021. We begin by including all Tunisian firms listed in Tunisian stock exchange securities. Next we delete observations of financial firms, such as banks, firms operating in extractive sector, investment trust and funds, leasing firms, given that they are governed by a special legislation in the preparation of their financial statements. We finally delete observations with missing data on auditor name and financial accounting necessary data to calculate control variables in the main regression model. Our procedure results in a total number of 1297 pairwise observations in the full sample and 36 unique firms.

RESEARCH DESIGN

Construction of Industry Product Similarity

The methodology we use to create Industry Product Similarity (IPS) follows Hoberg and Phillips (2016). In first step, we download annual reports of firms listed on the Stock Exchange Securities of Tunisia and manually collect their product descriptions. We exclude any firms from the sample that do not have product description section in their annual report or the length of the product description is less than 250 characters. Next, we parse, for each fiscal year, the product description section of Tunisian listed firms into a set of unique words. Following Hoberg and Phillips (2010, 2016), we discard common, non-descriptive words, which include words appeared in more than 25% of Tunisian

firms annual reports. We also discard words that are neither nouns nor proper nouns, which include words appeared in 90% of the cases with the first letter capitalized.

Among extracted words, the rest of the description keeps only nouns and proper nouns that capture our set of unique words. To estimate the product similarity scores, we use the cosine similarity of unique words used in product description between two firms. For each year, we create a vector P_i using the list of n - alphabetically unique words. This vector, P_i , get a value one if firm i uses a word in describing its products, and zero otherwise. As a result, each firm is represented by its vector P_i . Subsequently, we measure the Product cosine similarity between two word vectors on a unit sphere, which shows the degree of similarity between two firms' product descriptions. Cosine similarity is the dot product of n -vectors V for firm i et j , defined as:

$$\text{Cosine Similarity}_{i,j} = (V_i \cdot V_j) \text{ where: } V_i = \frac{P_i}{\sqrt{P_i \cdot P_i}} \forall i, j$$

The value returned by the cosine similarity scores generally ranges in interval $[0, 1]$. A score closer to one indicates greater similarity between two firms' product descriptions.

Finally, we follow Horberg and Phillips (2016) and construct IPSs which are unique to each firm-year. We use a simple minimum similarity threshold. The IPS of a particular firm includes all peer firms that have pairwise cosine similarities relative to focal firm. A higher threshold will result in an industry group with fewer rival firms, while, a lower threshold will result in more rival firms in an industry group. So the role of the IPS groups is to assemble a peer firm.

Model specification

Our empirical investigation in this section addresses whether firms are more or less likely to share the same auditor when they operate in the same product market. We turn to multivariate analysis to examine the relationship between our dependent variable, *Same Auditor*, and the independent variable of interest, *Product Similarity*, and a set of control variables. Following the extant literature

(Bills et al., 2020; Francis, Pinnuck & Watanabe, 2014), we use a logistic regression specified as follows:

$$\text{Same Auditor}_{ijt} = \theta_0 + \theta_1 \text{Product Similarity}_{ijt} + \theta_2 \text{Controls}_{ijt} + \text{Year Fixed Effects} + \varepsilon_{ijt}$$

Following Bills et al. (2020) and Cameron, Gelbach and Miller (2011), logistic regression model uses z-statistics on robust standard errors clusters by peer firms. The main explanatory variable, *Same Auditor*, is a dummy variable equal to one if focal firm *i* shares the same external auditor with peer firm *j*, and zero otherwise. Our focus in this analysis is on the coefficient θ_1 , which measures the direction between sharing same auditor and offering similar product by peer firms in the same IPS. A significantly positive coefficient suggests that firms operated in same product market prefer to appoint the same auditor. In contrast, a significantly negative coefficient suggests that firms are more concerned about information spillover than about benefiting of auditor specialization.

Following prior research, we control for other factors that are likely to affect a firm's decision to share same auditor. Since the dependent variable is calculated each year *t* for a pair of firms *i* and *j*, we must include control variables that capture the yearly levels characteristics of pairs firms. According to past pairwise models, we calculate average of the focal firm and the peer firm (Bills et al., 2020; Francis et al., 2014). First, we control for firm size (*Size_Sim*), measured as the natural logarithm of total assets to proxy for audit complexity. Second, we include the ratio of net income over total assets (*ROA_Sim*), and sales growth (*Growth_Sim*), calculated as the change in sales divided by sales from the prior year to control for firm profitability (e.g; Ben-Hassoun, 2018; Bills et al., 2020). On the other hand, to control for client financial risk factors, we include leverage (*Lev_Sim*) which is coded as the ratio of total current and long-term debt divided by average total assets and the Current ratio (*Curr_Sim*) which is calculated as total current assets divided by total current liabilities. Moreover, in line with Bills et al. (2020) and Guedhami et al. (2014), we control for firm assets turnover (*Turn_Sim*), calculated as total sales divided by total assets at the beginning of the year, and capital intensity (*Capint_Sim*) which is measured as gross property, plant, and equipment divided by total assets.

We also follow previous studies that have used pairs of firms (Bills et al., 2020), by controlling the difference of the size of the two firms composing the pair (*Diff_Size*), calculated as the difference between *size* for focal firm *i* and peer firm *j* in year *t*.

Finally, in addition to client firm characteristics, we consider auditor characteristics by including the natural logarithm of the number of companies that are in the focal firm's IPS (*Num_IPS*). In our analyses, we include year-fixed effects and we adjust standard errors for heteroskedasticity and clustering by both firm and year.

THE OUTCOME OF THE RESEARCH PROCESS AND CONCLUSIONS

Empirical results and comments

Descriptive statistics

We perform univariate tests to investigate the importance of peer firm's product similarity on sharing same auditor. Descriptive statistics for the whole sample and various different subsamples are reported in Table 1. Column (1) provides the descriptive statistics of pairwise similarity sample. Among all pairwise observations, we find that 13.1% of the mean of same auditor is 0.131, indicating that 13.1% of pairs share the same auditor. The mean value of same product Market is 0.184, which means that 18.4% of pairs operate in the same product market.

Columns (2) and (3) split the pairwise samples according to whether they are audited by a Big 4 auditor. As we note, among Big 4 auditor, on average, 35.3% of the sample is audited by the same auditors. For non-Big 4 auditors, on average, only 6.1% of the sample is audited by the same auditor. Furthermore, for the sub-sample of firms with a Big 4 auditor, on average 24% of the sample operate in the same product market.

Tables 1. Descriptive Statistics

	The whole Sample (N=1297)		Big 4 Sample (N=314)		Non-Big4 Sample (N=982)	
	Mean	Std .Dev.	Mean	Std .Dev.	Mean	Std .Dev.
Same Auditor	0.131	0.338	0.353	0.478	0.061	0.239
Product Similarity	0.184	0.124	0.240	0.139	0.166	0.114
Num-IPS	2.35	0.400	0.153	1.237	2.322	0.407

Tables 1. Descriptive...

	The whole Sample (N=1297)		Big 4 Sample (N=314)		Non-Big4 Sample (N=982)	
	Mean	Std .Dev.	Mean	Std .Dev.	Mean	Std .Dev.
Size_Sim	18.35	0.750	18.849	0.388	18.196	0.734
Lev_Sim	1.425	0.911	0.634	0.999	1.359	0.871
Growth_Sim	0.071	0.152	-0.013	0.072	0.071	0.150
Roa_Sim	0.041	0.116	0.028	0.127	0.459	0.112
Turn_Sim	0.905	0.387	1.048	0.407	0.859	0.368
Curr_Sim	1.965	1.673	1.313	0.601	2.174	1.844
Capint_Sim	0.574	0.339	0.324	0.497	0.581	0.322
Diff_Size	0.175	1.499	-0.729	0.133	1.182	1.575
All variables (except the dummy variables) are winsorized at the 1st and 99th percentiles each year						

Source: own elaboration.

Regarding potential problems related to multicollinearity, we have calculated the Pearson correlation coefficient for the final pairwise sample in Table 2. We observe that there is a significantly positive correlation between *Product Similarity* and *Same Auditor*, which supports the view that firms with more similar products are more likely to appoint the same auditor.

Table 2. Variable Correlation

	1	2	3	4	5	6	7	8	9	10
Product Similarity	0.18*									
Num-IPS	0.02	-0.00								
Size_Sim	0.26*	0.08*	-0.07*							
Lev_Sim	-0.08*	0.03	0.21*	-0.11*						
Growth_Sim	0.01	-0.06	0.04	0.12*	-0.10					
Roa_Sim	0.08*	-0.02	-0.00	0.15*	-0.44	0.24*				
Turn_Sim	0.13*	0.02	0.39*	0.12*	0.05	0.01	0.10*			

Table 2. Variable...

	1	2	3	4	5	6	7	8	9	10
Curr_Sim	-0.05	-0.10*	-0.20	-0.20*	-0.35*	0.00	0.24*	-0.27*		
Capint_Sim	-0.07*	-0.02*	0.04	0.11*	0.42	0.02	-0.06	-0.12*	-0.18*	
Diff Size	-0.02	-0.02	0.04	0.06	-0.00	0.00	-0.02	0.09*	-0.01	0.04
The superscript asterisk* indicates statistical significance at the 1 percent level.										

Source : own elaboration.

Multivariate results

Table 3 reports fixed-effect results for the multivariate analysis of product similarity on sharing same auditor in Tunisian firms. Given the binary nature of our dependent variable, *Same Auditor*, we estimate our model using logistic regression. Consistent with the univariate evidence of Table 2, we find the coefficient for product similarity is positive and highly significant at the 1% level, suggesting that Tunisian firms are more attracted to appointing an auditor who has knowledge and experience in auditing a similar company than having concerns surrounding information leakage in shaping auditor choice. This result aligns with evidence from American context, which was investigated by Bills et al. (2020), confirming that the benefits of engaging an auditor based on their knowledge and experience of serving comparable clients outweighed the concerns about cost of proprietary information spillover. In addition, this finding aligns also with evidence from MENA context, which was investigated by Hegazy and Hegazy (2018), supporting that auditor industry specialization in Egyptian market can better retain their clients than their non-expert counterparts. Moreover, this result is in line with a recent Turkish evidence in Ocak, Kablan and Dursun (2021), who also reported that auditing multiple clients affiliated with the same business group in Big4 affect positively the timeliness of audits reports. Overall, our results indicate a rejection of the null hypothesis.

Regarding the control variables at their average values, we find that the likelihood of hiring the same auditor is greater for largest pair firms (*Size_Sim*) and asset turnover (*Turn_Sim*), evidenced by a significantly positive parameter estimate at the 1% and 5% levels respectively. The results also show that pair

firms with larger leverage (*Lev_Sim*) are less likely to hire the same auditors, evidenced by a significantly negative parameter estimate at the 1% level.

To provide further support for this finding, we conduct an additional test to examine the robustness of our primary findings. We extend our main analysis by re-estimating the model for two sub-samples in which both peers engage a Big 4 or Non-Big4 auditors in the IPS pair. Bills and Stephens (2016) provide evidence suggesting that, although Big 4 and non-Big 4 generally operate under two distinct markets, there is an overlap with competition between Big 4 and non-Big 4. We create an indicator variable *Big4* which is coded 1 if firm pairs are audited by a Big4 and zero otherwise. Columns (2) and (3) in Table 3 report our findings involving the separate sub-samples. Corroborating our earlier results, we find the coefficient for the same product is positive and significant at the 1% level. For the second sub-sample (Non-Big4), the coefficient in column (3) remains positive and significant at the 10% level.

Table 3. Auditor Choice and Product Similarity

Dependent Variable: <i>Same Auditor</i>			
Independent Variables	Whole Sample	Big 4 Only Sample	Non-Big4 Only Sample
	(1)	(2)	(3)
Product Similarity	3.721*** (4.93)	2.67*** (3.30)	1.83* (1.73)
Num-IPS	0.026 (0.314)	0.818** (1.99)	-0.109 (0.763)
Size_Sim	1.168*** (8.02)	0.160 (0.36)	0.976*** (5.81)
Lev_Sim	-0.492*** (-2.79)	-0.99*** (-3.08)	-0.825** (-2.34)
Growth_Sim	-0.41*** (-0.55)	0.511 (0.67)	-1.042 (-1.13)
Roa_Sim	0.618 (0.48)	0.759 (0.75)	0.426 (0.17)
Turn_Sim	0.657** (2.30)	0.925* (1.80)	0.241 (0.46)
Curr_Sim	-0.027 (-0.46)	0.539* (1.90)	-0.173 (-0.25)
Capint_Sim	-0.153 (-0.39)	1.458*** (3.26)	-0.481 (-0.77)

Table 3. Auditor...

Dependent Variable: <i>Same Auditor</i>			
Independent Variables	Whole Sample	Big 4 Only Sample	Non-Big4 Only Sample
	(1)	(2)	(3)
Diff_Size	-0.044 (-0.91)	0.066 (0.65)	-0.056 (-0.96)
Intercept	-78.541	-324.738*** (-3.63)	-176.791 (-1.49)
N	1296	314	982
Chi-Squared	154.07	75.96	87.94
Pseudo R-Squared	0.161	0.131	0.100
***, **, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, based on two-tailed tests. Coefficients on year fixed effects are not reported for brevity.			

Source: own elaboration.

■■■ CONCLUSION

To some extent, the review of extant literature on sharing auditor in a developing country, Tunisia, shows how little we know about its determinants and outcomes in this specific setting whose cultural, economic and institutional context is very different from most previously analyzed countries context (i.e. the Anglo-Saxon countries). To resolve this ambiguity in the literature, we follow Hoberg and Phillips (2016)'s methodology and develop a pairwise measure to examine the effect of industry product similarity on Tunisian peer firm's likelihood of sharing same external auditor. Auditor selection decision reflects for firms a trade-off between benefiting of auditor expertise and the importance of protecting their proprietary information. Our results suggest that the likelihood of sharing an auditor with a similar peer rises with the similarity of their product offerings, implying that the benefits of auditor knowledge and expertise dominates the importance of protecting their proprietary information.

■■■ REFERENCES

- Aobdia, D., (2015). Proprietary information spillovers and supplier choice: Evidence from auditors. *Review of Accounting Studies*, 20(4), 1504-1539. <http://dx.doi.org/10.1007/s11142-015-9327-x>.
- Arens, A.A., Best, P., Shailer, G., Fidler, B., Elder, R.J., & Beasley, M.S., (2011). *Auditing Assurance Services in Australia: An Integrated Approach*. 8th edition. Pearson Australia, NSW 2086.
- Bae, G.S., Choi, U.S., Dhaliwal, D.S., & Lamoreaux, P.T. (2017). Auditors and client investment efficiency. *The Accounting Review*, 92(2), 19-40. <http://dx.doi.org/10.2308/accr-51530>.
- Beasley, M., & Petroni, K.R. (2001). Board independence and audit-firm type. *Auditing: A Journal of Practice and Theory*, 20(1), 97-114. <http://dx.doi.org/10.2308/aud.2001.20.1.97>.
- Bedford, A., Bugeja, M., & Czernkowski, R. (2023). Is the effect of shared auditors driven by shred audit patterns? The case of M&As. *The British Accounting Review*, 55(2), Article 101100. <https://dx.doi.org/10.1016/j.bar.2022.101100>.
- Ben-Hassoun, A., Aloui, C., & Ben-Nasr, H. (2018). Demand for audit quality in newly privatized firms in MENA region: Role of internal corporate governance mechanisms. *Research in International Business and Finance*, 45 (C), 334-348. <https://dx.doi.org/10.1016/j.ribaf.2017.07.167>.
- Bills, K., & Stephens, N. (2016). Spatial competition at the intersection of the large and small audit firm markets. *Auditing: A Journal of Practice & Theory*, 35(1), 23-45. <http://dx.doi.org/10.2308/ajpt-51159>.
- Bills, K., Cobabe, M., Pittman, J. & Stein, S.E. (2020). To share or not to share: The importance of peer firm similarity to auditor choice. *Accounting, Organizations and Society*, 83, Article 101115. <http://dx.doi.org/10.1016/j.aos.2020.101115>.
- Bills, K., Jeter, D., & Stein, S. (2015). Auditor industry specialization and evidence of cost efficiencies in homogenous industries. *The Accounting Review*, 90(5), 1721-1754. <http://dx.doi.org/10.2308/accr-51003>.
- Brown, S.V., & Knechel, R. (2016). Auditor-client compatibility and audit firm selection. *Journal of Accounting Research*, 54(3), 725-775. <http://dx.doi.org/10.1111/1475-679X.12105>.
- Cahan, S.F., Godfrey, J.M., Hamilton, J., & Jeter, D.C. (2008). Auditor specialization, auditor dominance, and audit fees: The role of investment opportunities. *The Accounting Review*, 83(6), 1393-1423. <http://dx.doi.org/10.2308/accr.2008.83.6.1393>.
- Cameron, A.C., Gelbach, J.B., & Miller, D.L. (2011). Robust inference with multiway clustering. *Journal of Business & Economic Statistics*, 29(2), 238-249. <http://dx.doi.org/10.1198/jbes.2010.07136>.
- Chaari, H.F., Belanès, A., & Lajmi, A. (2022). Fraud Risk and Audit Quality: The Case of US Public Firms. *Copernican Journal of Finance & Accounting*, 11(1), 29-47. <http://dx.doi.org/10.12775/CJFA.2022.002>.

- Danos, P., & Eichenseher, J.W. (1982). Audit industry dynamics: Factors affecting changes in client industry market shares. *Journal of Accounting Research*, 20(2), 604–616. <http://dx.doi.org/10.2307/2490888>.
- DeFond, M. (1992) The association between changes in client firm agency costs and auditor switching. *Auditing: A Journal of Practice & Theory*, 11(1), 16-31.
- Dhaliwal, D., Lamoreaux, P., Litov, P., & Neyland, J. (2016). Shared auditors in mergers and acquisitions. *Journal of Accounting and Economics*, 61(1), 49-76. <http://dx.doi.org/10.1016/j.jacceco.2015.01.005>.
- Dunn, K.A., & Mayhew, B.W. (2004). Audit firm industry specialization and client disclosure quality. *Review of Accounting Studies*, 9, 35–58. <http://dx.doi.org/10.1023/B:RAST.0000013628.49401.69>.
- Eichenseher, J.W., & Danos, P. (1981). The analysis of industry-specific auditor concentration: Towards an explanatory model. *The Accounting Review*, 56 (July), 479–492.
- Francis, J.R., Pinnuck, M. & Watanabe, O. (2014). Auditor style and financial statement comparability. *The Accounting Review*, 89(2), 605-633. <http://dx.doi.org/10.2308/accr-50642>.
- Godfrey, J., & Hamilton, J. (2005). The impact of R&D intensity on demand for specialist auditor services. *Contemporary Accounting Research*, 22(1), 55-93. <http://dx.doi.org/10.1506/P9FJ-EKAL-FPJQ-CM9N>.
- Guedhami, O., Pittman, J., & Saffar, W. (2014). Auditor choice in politically connected firms. *Journal of Accounting Research*, 52(1), 107-162. <http://dx.doi.org/10.1111/1475-679X.12032>.
- Hegazy, K., & Hegazy, M. (2018). Audit firms and industry specialization in an emerging economy are we witnessing changing environments or a dominant market? *Journal of Accounting & Organizational Change*, 14(3), 338-362. <http://dx.doi.org/10.1108/JAOC-03-2017-0024>.
- Hoberg, G., & Phillips, G. (2010). Product market synergies and competition in mergers and acquisitions: A text-based analysis. *Review of Financial Studies*, 23(10), 3773-3811. <http://dx.doi.org/10.1093/rfs/hhq053>.
- Hoberg, G., & Phillips, G. (2016). Text-based network industries and endogenous product differentiation. *Journal of Political Economy*, 124(5), 1423-1465. <http://dx.doi.org/10.1086/688176>.
- Hogan, C.E., & Jeter, D.C. (1999). Industry specialization by auditors. *Auditing: A Journal of Practice & Theory*, 18(1), 1-17. <http://dx.doi.org/10.2308/aud.1999.18.1.1>.
- Khaksar, J., Salehi, M., & Dashtbayaz, M.L. (2021). The relationship between political relations with audit quality and auditor industry expertise. *Journal of Public Affairs*, 22(S1). <http://dx.doi.org/10.1002/pa.2780>.
- Kwon, S.Y. (1996). The impact of competition within the client's industry on the auditor selection decision. *Auditing: A Journal of Practice & Theory*, 15(1), 53-70.
- Mayhew, B., & Wilkins, M. (2003). Audit firm industry specialization as a differentiation strategy: Evidence from fees charged to firms going public. *Auditing: A Journal of Practice and Theory*, 22(2), 33-52. <http://dx.doi.org/10.2308/aud.2003.22.2.33>.

- Ocak, M., Kablan, A. & Dursun, G.D. (2021). Does auditing multiple clients affiliated with the same business group reduce audit quality? Evidence from an emerging market. *Borsa Istanbul Review*, 21(1), 1-22. <https://doi.org/10.1016/j.bir.2020.06.001>.
- Owhoso, V., Messier, J.W., & Lynch, J.J. (2002). Error detection by industry specialized teams during sequential audit review. *Journal of Accounting Research*, 40(3), 883-900. <https://dx.doi.org/10.1111/1475-679X.00075>.