

EFFECTS OF SERVICE INNOVATION ON FINANCIAL PERFORMANCE OF SMALL AUDIT FIRMS IN TAIWAN

Yi-Fang Yang, Chang Jung Christian University
Lee-Wen Yang, Chaoyang University of Technology
Yahn-Shir Chen, National Yunlin University of Science and Technology

ABSTRACT

This study examines the effects of service innovation on financial performance of proprietorship audit firms in Taiwan. This study divides total sample into three business strategy categories, including conventional, non-conventional, and general firms. Non-conventional firms have the highest degree of service innovation followed by general firms. Conventional firms have the lowest degree of service innovation. Empirical results indicate that non-conventional firms financially outperform general firms, and the latter outperforms conventional firms.

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KEYWORDS: Service Innovation, Financial Performance, Audit Firms

INTRODUCTION

When society becomes more complex, the investing public needs reliable information to make economic decisions, including whether to invest in an organization. Reliable accounting and financial reporting aid society in allocating resources in an efficient manner. Independent auditors provide credibility to the information, reducing information risk. Auditors practice by establishing audit firms in the forms of proprietorships, partnerships, or corporations (Elder, Beasley and Arens, 2008). A dual market structure exists in the audit market with a few larger audit firms and a large number of smaller firms (Bröcheler, Maijoor and Witteloostuijn, 2004). Most prior studies explore topics relating to large audit firms, especially big international audit firms (e.g., Iyer and Iyer, 1996; McMeeking, Peasnell and Pope, 2007; Minyard and Tabor, 1991). Small audit firms, such as proprietorship firms, experience less investigation due primarily to limited data availability. A study of proprietorship audit firms appears warranted.

To fulfill their social role, audit firms traditionally provide audit and non-audit services. Audit related services include audits of financial statements and income tax returns, corporate registration, and accounting and bookkeeping. Non-audit related services typically refer to management advisory services (MAS). As an innovative service, MAS range from a simple suggestion for improving the clients' accounting system to advising in risk management, information technology, e-commerce system design, mergers and acquisitions, and actuarial benefit consulting (Elder et al., 2008). Audit firms provide audit services for years but their clients increasingly demand MAS due to global competition and rapid technological changes in recent years. Prior studies designate audit related services as traditional practices and MAS non-traditional practices (Banker, Chang and Natarajan, 2005; Rescho, 1987).

The environment-strategy-performance (ESP) perspective posits that specific environmental conditions have a corresponding preferred strategic response (e.g. Luo, Tan and Shenkar, 1998; Tan and Tan, 2005). In terms of a resource-based view of the firm, audit firms provide different services to satisfy clients' demands and thereby adopt different business strategies. Some audit firms adopt a conservative business strategy to provide traditional practices. Some take an aggressive business strategy and focus on providing MAS practices, which have the highest degree of service innovation. Furthermore, more audit firms adopt a strategy to offer both traditional and MAS practices, the moderate innovative service

provision firms. Of interest is whether the financial performance of proprietorship audit firms taking varied degree of service innovation differs? To answer the question constitutes our motivation. This study obtains empirical data of proprietorship audit firms from the 1989-2009 Survey Report of Audit Firms in Taiwan. Focusing the research on proprietorship audit firms adds research homogeneity (Fasci and Valdez, 1998). In terms of the degree of service innovation audit firms take, this study divides total sample firms into three categories: conventional, non-conventional, and general firms.

Conventional firms are defined as proprietorship audit firms which adopt a conservative business strategy to provide traditional practices only. In contrast, non-conventional firms refer to proprietorship audit firms which take an aggressive business strategy and focus on providing MAS practices. If audit firms adopt a moderate strategy to offer both traditional and MAS practices, they are general firms. The main results indicate that non-conventional firms financially outperform general firms, and the latter outperforms conventional firms. In short, service innovations have positive effects on financial performance, the higher the service innovation degree, the better the operating results of audit firms. Findings of this study add knowledge to service business-related literatures. The rest of this paper proceeds as follows. The next section presents a literature review and hypothesis development, followed by the depiction of research methodology. The subsequent section reports empirical results. Finally, this study concludes in the last section.

Literature Review and Hypothesis Development

The environment-strategy-performance (ESP) perspective posits that specific environmental conditions have a corresponding preferred strategic response (e.g. Tan and Tan, 2005; Tang and Tang, 2012; Volberda and Lewin, 2003). Companies seek to respond to the external environment effectively to gain competitive forces (Porter, 1990). Strategies serve to exploit the companies' capability as a weapon to achieve their missions and objectives. A clear strategy can play an important role in the companies' success. Strategies link external market requirements with internal organizational and technological resources, and capabilities (Sun and Hong, 2002). Discussions on strategies at different levels include corporate, business, and functional strategies. Corporate strategies describe a company's overall direction. Business strategies occur at a business unit level. Functional strategies develop a distinctive competence to provide a company or a business unit with a competitive advantage (Hunger and Wheelen, 2001). The three strategies are not mutually exclusive, and link in implementing a particular strategy (Miles, Kastrinos, Flanagan, Bilderbeek, Hertog, Huntink and Bouman, 1995). Business strategies are a set of decisions about the direction of a company. Companies select a business strategy according to evaluations the companies make about their distinctive competencies and the competing environment (Mintzberg, 1990). Because audit firms take different strategies as a means of organizational adaptation, a strong relationship exists between strategy type and performance (Rescho, 1987). Facing varied degrees of market competition and regulation, proprietorship audit firms provide different services to fulfill the business strategies they adopt.

A typical proprietorship audit firm may provide different practices, including auditing financial statements of privately held companies, auditing financial statements for granting a bank loan, auditing financial statements for other purposes, auditing an income tax return, corporate registration, accounting, and MAS (Elder et al., 2008). For long, audit firms have provided the preceding four audit services, corporate registration, and accounting services. Prior studies thus designate them as traditional practices, and MAS as non-traditional practices (Banker et al., 2005; Rescho, 1987). Traditional practices are law-protected and statutory and regulated by the Generally Accepted Auditing Standard (GAAS). Specifically, audit services are required by the Company Act, Business Accounting Act, and the Securities and Exchange Act. However, MAS practices require a diverse product line, customization, and service innovation. As the traditional practices are a long-standing service, auditors offer them with standardized procedures to relatively stable clients.

Audit firms offer MAS such as personal financial planning, integrated tax planning, information technology (IT) and electrical commerce advisory services, mergers and acquisitions (M&A), budgeting

and forecasting services, business valuation, and pension funds actuarial advisory services (Arens, Elder and Mark, 2012). MAS practices require a diverse product line, customization, and service innovations. Proprietorship audit firms adopt varied business strategies according to their capacity and proprietors' distinctive competencies, such as academic background, professional experience and expertise, and the customer network. Audit firms may adopt a conservative business strategy to provide traditional practices only. In contrast, audit firms can adopt an aggressive business strategy and focus on providing MAS practices. The third type of business strategy audit firms take falls between aggressive and conservative business strategies, a moderate strategy with which audit firms offer both traditional and MAS practices. In terms of service innovations, this study defines proprietorship audit firms only providing traditional practices as conventional firms. In contrast, this study terms proprietorship audit firms focusing on MAS practices as non-conventional firms. When proprietorship audit firms offer both traditional and MAS practices, this study names them general firms.

In Taiwan, related laws and regulations require companies' financial statements to be audited by audit firms, resulting in law-protected and statutory traditional practices. Because traditional services are a general requirement by various governmental agencies, some accounting educators and accounting practitioners view them as services that clients need but do not necessarily want (Istvan, 1984). Early entrants gain competitive advantage more easily than subsequent ones. However, beginning in 1988, Taiwanese authorities have raised the passing rate of the Certified Public Accountant (CPA) uniform examination, leading to substantial increases in the number of qualified CPAs and in market competition. In 1998, the authorities abolished the long-standing audit fee standard to ensure fair audit market competition. Cancelling the audit fee standard adversely impacts the traditional practice market.

Since then, a rumor of price-cutting strategy for client solicitation has prevailed in the industry and the audit market competition has enhanced. Furthermore, the tax authorities established a tax agent system and legalized the provision of corporate registration and accounting services by tax agents to small and medium-sized entities (SMEs) in 2004. Proprietorship audit firms have provided the same traditional practices to the SMEs for years. Tax agent legalization negatively affects proprietorship audit firms because of the competitive advantages the tax agents possess for a relatively lower service fees and easy service access by the clients. Facing recent worldwide competition and business globalization, companies consult with a professional management advisor concerning business administration and information technology to advance their international competitiveness. In practice, auditors have provided services to the same clients for years and are familiar with the clients' daily operation and financial condition. Under the situation of long-term partnership and close client relations, audit firms gain a more favorable position in providing MAS than an ordinary professional consulting firm, such as McKinsey & Company. Further, joint provisions of audit services and non-audit (MAS) theoretically create synergy and knowledge spillover effects for audit firms (Beck, Frecka and Solomon, 1988; Simunic, 1984). Auditors devote more involvements and communications in providing MAS to meet clients' demand for specific services, resulting in more flexible service provisions in format, timing, and place. As a tailor-made and innovative practice, MAS generally brings higher profits, higher growth potential and industry expansion rather than predatory competition (Rescho, 1987).

Beginning in the 1990s, auditors have begun shifting their human resources from traditional, low-margin revenue product areas of auditing and accounting into relatively new, high-margin revenue product areas of MAS (Banker et al., 2005). In public accounting profession, different business strategies adopted by auditors lead to provision of varied services. A typical proprietorship audit firm provides either audit or non-audit services or both. Audit services include, but not limited to, attestation of financial statements for granting a bank loan, and attestation of an income tax return. Non-audit services comprise provisions of tax planning, administrative remedy of internal taxation, other tax operations, consultation, corporate registration, bookkeeping and accounting services. In practice, attestation, corporate registration, bookkeeping and accounting services have been provided for years. These services are referred to as traditional businesses, which are offered to relatively stable customers with standardized serving procedures. Auditors providing traditional services adopt a relatively conservative and moderate business strategy. In contrast, tax planning, administrative remedy of internal taxation, other tax

operations, and consulting services are referred to as non-traditional businesses, which require diverse product line, customization, and service innovation. Auditors focusing on non-traditional business tend to adopt service differentiation as their business strategy.

Porter (1990) utilizes methods of gaining or sustaining competitive advantages to develop three general business strategies: low-cost producer, product differentiator and focused operation. Miles and Snow (1984) identify three types of strategies, including prospector, defender, and analyzer. The prospector pursues market expansion and innovation, the defender strives to maintain market position, and the analyzer seeks some combination of market expansion/innovation while endeavoring to preserve stability in existing markets. Although the classifications of business strategies differ, underlying concepts in Miles, Snow, Meyer and Coleman (1978) and Porter (1990) are qualitatively the same. The defender, prospector, and analyzer business strategies in Miles et al. (1978) essentially equate the low-cost producer, product differentiator and focused operation in Porter (1990) in terms of the overall strategic orientations (Miles and Snow, 1984). A typical proprietorship audit firm may provide traditional services only, non-traditional services only, or both. Following Miles et al. (1978) and based on auditing industrial peculiarity, we define proprietorship audit firms providing traditional services only, non-traditional services only, and both services as conventional firms, non-conventional firms, and general firms, respectively. In sum, the traditional practice market is saturated and increasingly competitive but MAS practice market exists potentially unlimited opportunities, resulting in low-margin profits for conventional firms but high-margin profits for non-conventional firms. Because general firms situate between traditional and MAS practice markets, they have moderate-margin profits. As a result, this study establishes the following hypotheses to distinguish the financial performance effects of proprietorship audit firms taking varied business strategies.

H₁: Financial performance of non-conventional audit firms is better than that of general audit firms

H₂: Financial performance of general audit firms is better than that of conventional audit firms

H₃: Financial performance of non-conventional audit firms is better than that of conventional audit firms.

METHODOLOGY

Data

Empirical data are from the 1989-2009 Survey Report of Audit Firms in Taiwan, published by the Financial Supervisory Commission (FSC) annually except in 1991 due to the year's inseparable data from other industries' statistics. To collect business information on the public accounting profession for macro-economic analysis and industrial policy formation, the FSC administers the survey over all registered audit firms annually. Contents of the survey include quantitative information of total revenues and their compositions, total expenses and their compositions, demographics of various levels of employees, and ending amounts of and changes in fixed assets. An open questionnaire collects qualitative information by asking about operating difficulties audit firms encounter and future business orientation audit firms take. Because the FSC administers the survey pursuant to the Statistics Act, it requires audit firms surveyed to fill out the questionnaire correctly within the due time. Thus, the Survey Report reveals an annual response rate of over eighty percent. As the sample period of this study is 20 years, this study deflates all monetary variables by the yearly Consumer Price Index to account for inflation. This study deletes firm-year observations that newly established in the survey year and that with dependent variables having values more or less than three standard deviations away from their means. The final number of observations is 9,220, including 123 non-conventional firms, 5,016 general firms and 4,081 conventional firms. This information indicates that most proprietorship audit firms, 54.40 percent (5,016/9,220), provide both traditional practices and MAS.

The percent of audit firms only providing traditional services is 44.26 percent (4,081/9,220) and that of firms exclusively focusing on MAS is 1.33 percent (123/9,220). Taken together, over half of the proprietorship audit firms, 55.74 percent (5,139/9,220), render MAS.

Model Specification

This study obtains empirical data of registered audit firms from Taiwanese public accounting industry. From the perspective of industrial economics and based on the structure-conduct-performance theoretical framework (Cowling and Waterson, 1976), this study establishes the following linear regression equation to test our hypotheses.

$$PERFORM = \alpha_0 + \alpha_1 DV_strategy + \alpha_2 EXPERIENCE + \alpha_3 EDUCATION + \alpha_4 CPE + \alpha_5 SIZE + \alpha_6 INDEX + e \quad (1)$$

Definitions of Variable

Accounting defines financial performance as total revenues minus total expenses, net income or net profit. Sole proprietors are the owner and residual interest claimant of proprietorship audit firms and their annual income comprises salaries received from the firms and share of operating profit of the firms. Salaries of the sole proprietors, weekly or monthly, are a part of total expenses. The more the salaries of the sole proprietors, the less the operating profit of the firms. It makes no difference to the sole proprietors whether they receive salaries or not in terms of their total annual income. In addition, the criteria for salary payments to the sole proprietors vary across firms. Based on prior studies (Chen, Chang and Lee, 2008), this study adds their salaries back to net income to reduce such an artificial noise and has the following operational definition. Hence, the financial performance is net profit of the audit firms.

$$PERFORM = Total\ Revenue\ of\ Audit\ Firms - Total\ Expenses\ of\ Audity\ Firms + Salaries\ Paid\ to\ their\ Sole\ Proprietors \quad (2)$$

One of the research variables in this study is a dummy variable of business strategy (*DV_strategy*). In terms of the business strategies audit firms take, this study classifies total sample into three categories: conventional, non-conventional, and general firms. This study defines conventional firms as audit firms that have positive revenues from traditional practices but have no revenue from MAS. In contrast, if audit firms have positive revenues from MAS but have no revenue from traditional practices, this study term them as non-conventional firms. General firms refer to audit firms that have positive revenues from both traditional practices and MAS. This study employs the dummy variable of business strategy (*DV_strategy*) to distinguish among the conventional, non-conventional, and general firms.

Apart from the research variables, this study includes other influences on financial performance as control variables. After acquiring academic qualifications in accounting, most professionals enter their careers as assistants in audit firms. They continue to learn and gain experience and expertise through learning by doing. The average years of experience for partners, managers, seniors, in-charge auditors, and assistants are over 10 years, 5-10 years, 2-5 years and 0-2 years, respectively (Elder et al., 2008). Previous studies find a positive association between employee experience and job performance (e.g., Schmidt, Hunter and Outerbridge, 1986), and point out that work experience relates positively to the performance of proprietorship audit firms (Fasci and Valdez, 1998; Collins-Dodd, Gordon and Smart, 2004; Chen et al., 2008). Therefore, this study expects a positive association between work experience of auditors and financial performance. Practitioners note that auditors older than 35 years have worked in audit firms for more than 5 years and have accumulated much practical experience. Thus, this study defines work experience of auditors (*EXPERIENCE*) as number of auditors older than 35 years as a percent of number of total auditors. Adequate technical training and proficiency as auditors require a

college or university education in accounting and auditing. Presumably, auditors with higher academic education level possess more and better knowledge, and have higher intellectual potential in learning and accumulating skills and expertise. Some prior studies report that auditors with a higher level of education improve audit firm performance (Bröcheler et al., 2004), but some find insignificant association between educational level of auditors and performance (Collins-Dodd et al., 2004; Fasci and Valdez, 1998). Hence, this study does not specify a directional prediction on the relationship between education level of auditors and financial performance. This study measures education level of auditors (*EDUCATION*) by a mean number of years auditors need to obtain an academic qualification.

To remain knowledgeable about the endless stream of changes in accounting and auditing standards, tax laws, information technology, and consulting skills, auditors must comply with a requirement of taking part in continuing professional education. Prior researches on training for public accounting industry indicate that professional training enhances auditors' competency and audit performance (Bonner and Pennington 1991; Grotelueschen, 1990; Thomas, Davis and Seaman, 1998). Further, continuing professional education positively relates to financial performance of audit firms (Chen, Chen and Lee, 2002; Chen et al., 2008). This study expects a positive association between financial performance and continuing professional education of auditors (*CPE*) which is defined as expenditures on professional training of audit firms. Size of a company might substitute for many omitted variables and its inclusion as a control variable enhances the accuracy of model specification (Becker, DeFond, Jiambalvo and Subramanyam, 1998). Prior studies estimate audit firm size by either the number of full-time employees (Collins-Dodd et al., 2004) or market share of the individual firms (Chen et al., 2002; Chen et al., 2008), and report a positive relationship between audit firm size and performance (Chen et al., 2002; Chen et al., 2008; Collins-Dodd et al., 2004; Rescho, 1987).

This study defines audit firm size (*SIZE*) as natural logarithm of total revenues of the firms and expects a positive relationship to financial performance. The sample period of this study is 20 years and spans over two centuries. As a professional organization, audit firms are affected by the local economy or environment factors (e.g., Reynolds and Francis, 2001). Economic indicator, Taiwan Gross Domestic Product, is included to control for local economy effects. However, auditors provide services to the same clients for years and most of their practices are statutory, making the effects of environment factors on financial performance limited. Accordingly, this study does not specify a directional prediction on the relationship between economic indicator (*INDEX*) and financial performance.

RESULTS

Descriptive Statistics

Table 1 displays the descriptive statistics for variables used in regression model. Panel A of Table 1 shows descriptive statistics for non-conventional firms. Mean financial performance (*PERFORM*) is \$590,761. Work experience of auditors (*EXPERIENCE*), on average, is 0.700 which represents that 70 percent auditors are older than 35 years. Education level of auditors (*EDUCATION*) is 15.569, meaning that average education level of auditors lies between junior college degree and bachelor degree. Average expenditures on professional training of non-conventional firms (*CPE*) are \$3,768. Mean non-conventional firm size (*SIZE*) is 13.116. Panel B presents the descriptive statistics of general firms. Mean financial performance (*PERFORM*) is \$841,549. Work experience of auditors (*EXPERIENCE*) indicates that 45.8 percent auditors are older than 35 years. Education level of auditors (*EDUCATION*) of general firms is 15.539. Average expenditures on professional training of general firms (*CPE*) are \$21,582. Mean general firm size (*SIZE*) is 14.903. Panel C indicates the descriptive statistics of conventional firms. Mean financial performance (*PERFORM*) is \$553,822. Mean experience of auditors (*EXPERIENCE*) represents that 49.8 percent auditors are older than 35 years. Average education level of auditors (*EDUCATION*) is 15.187. Average expenditures on professional training of conventional firms (*CPE*) are \$12,556. Mean conventional firm size (*SIZE*) is 14.423. The untransformed figure indicates that average total revenues of the firms are between \$9,390,321 and 9,773,998.

Table 1: Descriptive Statistics

	mean	std. dev.	mini.	maxi.	q1	median	q3
panel a descriptive statistics of non-conventional firms (n=123)							
perform	590,761	1,522,701	-1,053,259	7,375,596	5,081	73,940	425,019
experience	0.700	0.394	0	1	0.364	1	1
education	15.569	2.983	9	34	14.333	16	17
cpe	3,768	12,225	0	76,938	0	0	275
size	13.116	1.513	8.294	16.119	12.300	13.305	14.046
index	9,547,341	2,473,120	4,974,759	13,070,681	7,536,283	9,570,584	11,612,093
panel b descriptive statistics of general firms (n=5,016)							
perform	841,549	929,706	-2,926,033	16,216,676	242,007	642,899	1,213,963
experience	0.458	0.293	0	1	0.235	0.400	0.667
education	15.539	6.738	0	154	14	14.667	15.500
cpe	21,582	94,738	0	5,097,905	0	2,000	9,500
size	14.903	0.932	5.687	17.182	14.408	15.025	15.521
index	9,773,998	2,357,859	4,974,759	13,070,681	7,953,510	9,731,208	12,243,471
panel c descriptive statistics of conventional firms (n=4,081)							
perform	553,822	720,160	-2,697,432	8,791,606	83,898	387,778	812,748
experience	0.498	0.325	0	1	0.250	0.429	0.750
education	15.187	4.812	7	198	14	14.667	15.500
cpe	12,556	41,804	0	862,400	0	0	6,000
size	14.423	1.127	6.234	16.968	13.845	14.615	15.202
index	9,390,321	2,398,608	4,974,759	13,070,681	7,536,283	9,570,584	11,612,093

Table 1 shows the descriptive statistics for variables used in regression model. *PERFORM* is equal to financial performance of audit firms. *DV_strategy* is a dummy variable of business strategy. *EXPERIENCE* represents the work experience of auditors. *EDUCATION* stands for the education level of auditors. *CPE* is continuing professional education of auditors. *SIZE* represents the audit firm size. *INDEX* is an economic indicator. *PERFORM*, *CPE*, and *INDEX* are expressed in new Taiwan dollars.

Correlation Analysis

This study analyzes the Pearson correlation coefficients between dependent and independent variables used in regression models. The empirical results show the high correlation coefficients between financial performance (*PERFORM*) and size of audit firm (*SIZE*). However, the variance inflation factors (VIFs) are less than 10 (un-tabulated), implying that no serious multi-collinearity exists among the independent variables.

Table 2: Correlation Matrix

variables	perform	experience	education	cpe	size	index
perform	1					
experience	-0.107	1				
education	0.009	0.028	1			
cpe	0.207	-0.044	0.031	1		
size	0.591	-0.283	-0.007	0.185	1	
index	0.041	0.257	0.125	0.046	0.093	1

Table 2 shows the correlation for variables used in regression model. The number of total observations is 9,220.

Regression Results

Table 3 displays the OLS regression results of financial performance comparisons between general and non-conventional firms, conventional and general firms, and conventional and non-conventional firms in Columns (A), (B), and (C). The three regression models have good model specification with explanatory power of model (adjusted R^2) lying between 0.332 and 0.394. This study uses White (1980) robust standard errors to calculate all t -statistics of coefficients to correct for heteroscedasticity. As a check on the multi-collinearity between independent variables, this study estimates the variance inflation factors (VIF). In econometrics, VIF greater than 10 implies serious multi-collinearity existing among independent variables. In the regression models of Table 3, the variable VIFs are less than 1.2. In addition, this study estimates the standardized regression coefficients (Beta) for each independent variable to ease comparison between variables. Standardized coefficients possess attributes similar to correlation coefficient with values lying between -1 and +1. Higher absolute value of standardized coefficients predicts more variations in dependent variable. In the OLS standardized regression model, no intercept exists. Column (A) shows that the coefficient on the dummy variable of business strategy (*DV_strategy*) is significantly positive ($t = 11.046$ and $p < 0.01$). Consistent with expectation, this

indicates that financial performance of non-conventional firms is better than that of general firms, which supports H₁. Column (B) displays a significantly positive coefficient on the dummy variable of business strategy (*DV_strategy*) ($t = 3.762$ and $p < 0.01$), indicating that general firms financially outperform conventional firms and H₂ receives a support. Column (C) reports a significantly positive coefficient on the dummy variable of business strategy (*DV_strategy*) ($t = 8.273$ and $p < 0.01$), indicating that non-conventional firms are superior in financial performance to conventional firms and H₃ receives a support. As a differentiated and less-competitive market exists for MAS, audit firms offering MAS are able to generate more revenues from their human resources than other firms that continue to focus on more labor-intensive audit and assurance engagements (Banker et al., 2005). The above findings document that audit firms adopting different business strategies lead to varied operating results. Specifically, both the non-conventional firms and general firms providing MAS outperform the conventional firms providing no MAS, an evidence of a natural extension of prior studies (e.g., Banker et al., 2005).

Table 3: Regression Results for Comparing Financial Performance between Audit Firms Adopting Different Business Strategies

Independent Variables	Dependent Variable : <i>PERFORM</i>		
	(A) Non-Conventional v.s. General Firms	(B) General v.s. Conventional Firms	(C) Non-Conventional v.s. Conventional Firms
(Predicted Sign)	Std. coef. (t-statistic)	Std. coef. (t-statistic)	Std. coef. (t-statistic)
<i>DV_strategy</i> (+)	0.125 (11.046)***	0.032 (3.762)***	0.106 (8.273)***
<i>EXPERIENCE</i> (+)	0.099 (8.290)***	0.069 (7.651)***	0.055 (4.013)***
<i>EDUCATION</i> (?)	0.006 (0.535)	0.010 (1.192)	0.022 (1.712)**
<i>CPE</i> (+)	0.084 (7.575)***	0.102 (12.044)***	0.114 (8.789)***
<i>SIZE</i> (+)	0.653 (54.587)***	0.596 (65.345)***	0.567 (40.944)***
<i>INDEX</i> (?)	-0.070 (-6.004)***	-0.042 (-4.763)***	-0.016 (-1.237)
Adjusted R ²	0.394	0.373	0.332
F-value	557.86***	904.01***	348.72***
Number of observations	5,139	9,097	4,204

Column (A) of Table 3 displays the OLS regression results of financial performance comparisons between non-conventional and general firms. It indicates that financial performance of non-conventional firms is better than that of general firms. Column (B) shows the empirical results of financial performance comparisons between general and conventional firms. It demonstrates that general firms financially outperform conventional firms. Column (c) indicates the empirical results of financial performance comparisons between non-conventional and conventional firms. It indicates that non-conventional firms are superior in financial performance to conventional firms. *, **, *** Denote one-tailed significance at the 10 %, 5 % and 1 % levels

Results of Control Variable and Model Fitness of Research Variables With respect to the results of control variables shown in Tables 3, both work experience of auditors (*EXPERIENCE*) and size of audit firm (*SIZE*) are consistent with expectation and reveal a positive relationship to financial performance in all regression models. However, education level of auditors (*EDUCATION*), continuing professional education of auditors (*CPE*), and economy indicator (*INDEX*) indicate mixed results. Further analyses indicate that size of audit firm (*SIZE*) is the most important independent variable in explaining variation of dependent variable, agreeing with prior studies (Collins-Dodd et al., 2004; Chen et al., 2008). In addition, this study conducts hierarchical regression to verify the incrementally explanatory power contributed by our research variables in Tables 3. The changes in the multiple squared correlation coefficients (ΔR^2) for regression models are 0.1493, 0.1262 and 0.1370 with F-statistic of 45.66, 38.60 and 41.90. All F-statistics are statistically significant at the 1 percent level. In sum, the hierarchical regression results agree with those obtained by OLS regression model, which demonstrates that our research variables explain dependent variable with both econometric and economic implications.

Additional Test

In the regression results shown in Table 3, this study defines financial performance as net profit of the audit firms. Apart from it, another kind of performance measure is net profit per employee which is more feasible due to its consideration of firm size. Do the results in Table 3 still hold if the dependent variable is net profit per employee? In this section, we replace the net profit of the audit firms with net profit per employee and rerun the OLS regressions to examine our three hypotheses with results displayed in Table 4. The dependent variable, net profit per employee (*Productivity*), is defined as net profit of the audit firms divided by ending number of employees. Similar to Table 3, the comparisons between non-conventional and general firms, general and conventional firms, and non-conventional and conventional firms are listed in in Columns (A), (B), and (C). The three regression models have good model specification with explanatory power of model (adjusted R^2) lying between 0.121 and 0.135. Column (A) shows that the coefficient on the dummy variable of business strategy (*DV_strategy*) is significantly positive ($t = 16.819$ and $p < 0.01$). Consistent with expectation, this indicates that financial performance of non-conventional firms is better than that of general firms, which supports H_1 . Column (B) displays a significantly positive coefficient on the dummy variable of business strategy (*DV_strategy*) ($t = 5.491$ and $p < 0.01$), indicating that general firms outperform conventional firms in financial performance and H_2 receives a support. Column (C) reports a significantly positive coefficient on the dummy variable of business strategy (*DV_strategy*) ($t = 18.234$ and $p < 0.01$), indicating that non-conventional firms are superior in financial performance to conventional firms and H_3 is supported. In sum, the regression results of Table 4 are similar to those in Table 3.

Table 4: Regression Results for Audit Firms Adopting Different Business Strategies

Independent Variables (Predicted Sign)	Dependent Variable : <i>Productivity</i>		
	(A) Non-Conventional v.s. General Firms	(B) General v.s. Conventional Firms	(C) Non-Conventional v.s. Conventional Firms
	Std. coef. (t-statistic)	Std. coef. (t-statistic)	Std. coef. (t-statistic)
<i>DV_strategy</i> (+)	0.228 (16.819)***	0.056 (5.491)***	0.267 (18.234)***
<i>EXPERIENCE</i> (+)	0.240 (16.807)***	0.226 (20.993)***	0.172 (11.041)***
<i>EDUCATION</i> (?)	0.015 (1.133)	0.014 (1.430)	0.029 (1.958)**
<i>CPE</i> (+)	0.069 (5.198)***	0.109 (10.835)***	0.006 (0.422)
<i>SIZE</i> (+)	0.290 (20.308)***	0.289 (26.719)***	0.282 (17.868)***
<i>INDEX</i> (?)	-0.079 (-5.624)***	-0.055 (-5.272)***	-0.014 (-0.965)
Adjusted R^2	0.135	0.121	0.131
F-value	134.39***	208.80***	106.22***
Number of observations	5,139	9,097	4,204

Column (A) of Table 4 displays the OLS regression results of productivity comparisons between non-conventional and general firms. It indicates that productivity of non-conventional firms is better than that of general firms. Column (B) shows the empirical results of productivity comparisons between general and conventional firms. It demonstrates that general firms financially outperform conventional firms. Column (c) indicates the empirical results of productivity comparisons between non-conventional and conventional firms. It indicates that non-conventional firms are superior in productivity to conventional firms. *Productivity* = (total revenues of audit firms-total expenses of the audit firms+ salaries paid to their sole proprietors)/number of employees. *, **, *** Denote one-tailed significance at the 10 %, 5 % and 1 % levels.

CONCLUSION

This study first examines the financial performance differences for proprietorship audit firms taking varied business strategies. Empirical data are from the 1989-2009 Survey Report of Audit Firms in Taiwan, published by the Financial Supervisory Commission (FSC). One of the main results indicates that non-conventional firms financially outperform general firms, and the latter outperforms conventional firms. This study contributes to the resource-based view of the firm by the following knowledge. In practice, larger audit firms render services to large companies (e.g., Francis, Maydew and Sparks 1999). Proprietorship audit firms serve small and medium-sized enterprises and provide more homogeneous practices due to relatively simple accounting treatments in their clients. When audit market is less competitive, core resources of proprietorship audit firms are expertise and experience accumulated from providing traditional practices. When audit market becomes increasingly competitive,

such as the entry of more qualified auditors or establishment of tax agents, the preceding core resources of proprietorship audit firms fade. Proprietorship audit firms expand service scopes into MAS and form new core resources obtained from joint provision of traditional and non-traditional practices. As a result, the core resources concept suggested in the resource-based view of the firm adapts in order to survive and sustain competitiveness.

In the past three decades, traditional practice market has become increasingly competitive in the Taiwanese auditing industry due to either an increase in the number of qualified practicing public accountants, cancellation of the audit fee standard, or the tax agent legalization. Table 3 reports that financial performance of proprietorship firms only providing traditional services (conventional firms) is inferior to the other two sub-samples, non-conventional and general firms. This finding suggests that practitioners of proprietorship audit firms, especially the conventional firms, aggressively expand their scope of services into MAS. Banker, Chang, and Natarajan (2005) state that the profitability of audit firms has been sustained in recent years largely by the impact that MAS has had on their productivity. The conventional firms expanding their services to MAS enlarge their revenues, improve their traditional practice productivity, and thereby enhance their financial performance.

For years, considerable debate rages among academics, practitioners, regulators, and legislators on the potential conflict of interest that may arise when auditors are also a management advisor to their audit clients. Namely, joint provision of audit service and MAS to the public company audit clients impairs auditor independence. The U.S. Sarbanes-Oxley Act of 2002 poses more stringent restrictions on the types of MAS auditors may perform for their public company audit clients. Proprietorship audit firms are not allowed to provide audit services to public companies by the Taiwanese Securities and Exchange Act. As a result, the problem of auditor independence is relatively trivial for proprietorship audit firms offering MAS. This provides an additional justification for proprietorship audit firms to expand their services into MAS.

This study addresses the effects of business strategy on financial performance of proprietorship audit firms. This study uses the OLS regression to test our hypotheses. After controlling other factors affecting financial performance, this study obtains the following main results. First, proprietorship firms only providing MAS (non-conventional firms) financially outperform those providing both traditional practices and MAS (general firms), and the latter financially outperforms those only offering traditional practices (conventional firms). Due to data availability, this study employs a cross-sectional data, which may suffer violations of the assumption of independent observations under the OLS regression model. Additionally, practitioners argue that audit firms, especially small and medium-sized firms, establish coalition with consulting firms to save personal income taxes for partners or sole proprietors. Future studies may extend this study and reexamine the financial performance effects of coalition between audit firms and consulting firms from the income tax saving perspective.

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BIOGRAPHY

Yi-Fang Yang is an Assistant Professor of the Department of Accounting and Information System at the Chang Jung Christian University. She has published scholarly articles in *International Journal of Human Resources Management*, *Human Systems Management*, and *International Research Journal of Finance and Economics*. She can be reached at No.1, Changda Rd., Gueiren Dist., Tainan City, 71101, Taiwan,

yifang@mail.cjcu.edu.tw.

Lee-Wen Yang, corresponding author, is an Assistant Professor of accounting at the Chaoyang University of Technology. She has published scholarly articles in Human Systems Management, Middle Eastern Finance and Economics, International Research Journal of Finance and Economics, and International Journal of Human Resources Management. She can be reached at No. 168, Jifong E. Rd., Wufong Dist., Taichung City, 41349, Taiwan, lwyang@cyut.edu.tw.

Yahn-Shir Chen is a Professor of the Department of Accounting at the National Yunlin University of Science and Technology. His research appears in journals such as The International Journal of Human Resources Management, Asia-Pacific Journal of Accounting & Economics, and Economics Bulletin. He can be reached at No. 123, Sec. 3, University Rd., Douliou, Yunlin County, 64002, Taiwan, chenys@yuntech.edu.tw.

