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The market share-profitability relationships in the securities industry

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The market share-profitability relationships have been one of the most widely studied subjects in the management literature. Although it has long been argued that firms with high market shares are usually with high profitability, debates and disagreements exist mainly due to sampling, definitional, and measurement problems in existing studies. To avoid several biases often made in prior studies, this paper re-examined the market share-profitability relationships by using firms in a highly homo-geneous and fragmented industry, the securities industry, as the research sample. The empirical results indicate that, in the securities industry, market share and the growth of market share are positively associated with firm profitability. Findings of this paper reaffirm the conventional wisdom of the relationships between market share and profitability.

Keywords: market share; profitability; securities industry

Introduction

The rapid changing face of the financial service industries has caught growing attentions of academic researchers and business managers on the competitiveness and sources of profitability of financial service firms. Just like most other service industries, financial service industries are now characterised by low growth, intense competition from domestic and global rivals, rapid technological changes, and spiralling customer expectations. Some financial service industries are becoming more concentrated due to the pursuit of economies of scale and scope by larger firms and high consumer switching costs, resulting from the nature of risk and purchase ambiguity in service exchanges (Atternan & Guseman, 1988). For instance, the wave of mergers activity in the US banking industry in the 1990s was motivated by the prospective benefits from greater market power created by increasing the industry concentration or market shares of the merging firms (Berger, 1995). In addition, the nature and extent of competition in the financial service sector have changed: not only has traditional competitors become more aggressive, but it has increased in intensity in recent years with the advent of non-traditional competitors. Small service firms that follow a focus-differentiation strategy by providing customised and exclusive service to customers located in specific market segments can be equally as

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profitable as large service firms (Schwalbach, 1991). Deregulations and internationalisation in financial service industries further accelerate the effects of these changes. Therefore, put in terms of an industrial life cycle, most service industries now in the mature stage are analogous to the position of manufacturing firms in the 1960s and 1970s (Bharadwaj & Menon, 1993). Just like that, these manufacturing firms began to engage in strategic thinking in response to a new competitive situation; financial service firms, today, must also adopt a strategic posture if they want to maintain growth, competitiveness, and profitability.

With regard to the sources of competitiveness and profitability of firms, the relationship between market share and profitability is probably the most widely studied single phenomenon in management research (Laverty, 2001). For the past three decades, a rich body of conceptual and empirical studies on the market share-profitability relationships has been conducted. Scholars argue that market share reflects the current competitive position that a firm attains in the marketplace, so that firms with high market shares are considered to better satisfy customers' needs and, therefore, enjoy a competitive advantage vis-à-vis their smaller competitors (Buzzell & Gale, 1987; Demsetz, 1973; Schwalbach, 1991). Since the first published studies reporting a positive market share-profitability association (Gale, 1972; Shepherd, 1972), the nature of the relationship between market share and business profitability continues to be an important subject to research in economics (Frame & Kamerschen, 1997; Goddard, Tavakoli, & Wilson, 2005; Kurtz & Phoades, 1992; Rhoades, 1983), marketing (Bharadwaj & Menon, 1993; Fraering & Minor, 1994; Jacobson, 1988; Szymanski, Bharadwaj, & Varadarajan, 1993), and strategic management (Buzzell & Gale, 1987; Chang & Singh, 2000; Cool, Dierickx, & Jemison, 1989; Laverty, 2001; Montgomery & Wernerfelt, 1991; Schwalbach, 1991; Venkatraman & Prescott, 1990).

Most prior studies reported a positive relationship between market share and profitability across industries. However, although there are some widely accepted assertions, the existence of contradictions in past studies implied several biases embedded in their research methods. First, most prior studies using profit impact of market strategies (PIMS) or non-PIMS database were conducting inter-industry studies (Buzzell & Gale, 1987; Jacobson, 1988; Laverty, 2001), and serious sample selection problems are involved (Montgomery & Wernerfelt, 1991). Although Prescott, Kohli, and Venkatraman (1986) and Schwalbach (1991) have demonstrated that the linear or curvilinear relations between market share and profitability in different industries varied significantly, few studies have focused on a single industry to further clarify the relationships. The market share-profitability relationships in specific industries thus cannot be ascertained. Second, since it is difficult to define a homogeneous market composed of firms that compete directly with one another, to some extent most previous research is prone to biases in measuring market shares (Newton, 1983). For example, in a review article, Szymanski et al. (1993) pointed out that the market and business units are defined subjectively by the participants in the PIMS data set, and the participants may define their markets narrowly and thus overstate their market shares (Marshall & Buzzell, 1990). Nevertheless, inconsistence also exists in the measurement of absolute versus relative market shares, as well as the unit sales-based versus dollar sales-based market shares (Szymanski et al., 1993). Third, the survey samples of previous studies usually came from dominant firms. For example, the PIMS data are dominated by Fortune 1000 firms, which, on average, have larger market shares and higher profits relative to non-PIMS businesses (Buzzell, 1981; Marshall & Buzzell, 1990). Same situation also happens to the Federal Trade Commision's

(FTC) Line of Business (LB) data, in which data are collected on the domestic operations of large corporations in USA (Anterasian, Graham, & Money, 1996; Ravenscraft, 1983; Rumelt, 1991; Schmalensee, 1985).

Given all these, this study aims to conduct empirical research by using systematic and complete data to investigate the market share–profitability relationships in the financial service industries mainly due to the following reasons. First, differing from previous research, this paper attempts to re-examine the relationships between market share and profitability by using a relatively homogeneous and fragmented industry as the research sample. Using data from the securities industry in Taiwan, the data set comprises almost all competitors in this industry, allowing researchers to focus statistical analysis on an intra-industry sample. Moreover, single-industry sample also has several advantages, including better precision of measures, greater validity of organisational comparisons, adequate control for industrial conditions, and more confident interpretations (Klassen & Whybark, 1999; Vickery, Droge, & Markland, 1993). Focusing on one industry also reduces some variations resulting from the sources of environmental and technological dynamism.

This paper argues that the academic propositions in the management literature on market share and profitability have been supported by studies of very large business units; the propositions may or may not be applicable to the fragmented service industries in which the majority of firms are small in size. Also, manufacturing firms and service firms may show considerably different patterns of associations between market shares and performance (Goddard et al., 2005). Consequently, the purpose of this study is to test empirically the hypotheses with regard to the associations between market share and profitability to answer a fundamental question: is the pursuit of market share an appropriate strategy in the financial service industries?

The securities industry in Taiwan was used as the research sample. Taiwan securities market is the top 10 largest securities markets in the world, and therefore the intra-industry competition is very intensive. Since Taiwan's Securities and Exchange Commission (SEC) deregulated the securities industry in 1988 and allowed foreign securities companies to establish branches in Taiwan in 1990, the number of securities firms increased rapidly. In 2005, the number of securities firms in Taiwan is 99, and the total trading value is up to US\$ 580 billions. Securities firms perform various functions, including acting as agents to facilitate securities transactions, underwriting, buying, and selling for their own accounts with customers and other dealers, etc. However, the products and services provided by each securities firm are basically homogenous, and their pricing policies are regulated and monitored by SEC. Since securities firms cannot pursue much product differentiation to attract customers, geographical market expansion by setting up new branches becomes one of their principal methods for growth and competitiveness. For example, Yuanta Core Pacific Securities Corp. is the biggest market player in Taiwan, with more than 100 branches and an 8.1% market share in the brokerage business. Given that the securities industry is characterised by homogenous products, clear industry boundary, and close supervision from the government, market share of firms in the securities industry is expected to be measured accurately and completely.

The rest of the paper is organised as follows. Section 2 presents a review of literature on the association between market share and profitability. Section 3 describes the methodology, research samples, variables, as well as the analytical models. Section 4 reports the results of the empirical analysis, including correlation analysis, analysis of variances and the multiple regression analysis. Finally, concluding remarks are given in Section 5.

Literature and hypotheses

Theories of the market share effect

Sources of firm profitability differences have been a fundamental issue in management research (Rumelt, 1991; Rumelt, Schendel, & Teece, 1994). Earlier explanations were mainly based on the industrial organisation economics (IO), which presumed no differences between firms in an industry and argued that firm profitability was determined by industrial structures (Bain, 1951; Scherer, 1970). Therefore, a lot of previous research examined the relationship between industry concentration and industry profitability (Bain, 1951; Mueller & Hamm, 1974; Peltzman, 1977; Smirlock, 1985). The IO scholars typically thought that concentrated industries displayed higher profits because concentration created conditions for collusive anti-competitive behaviours that could lead to monopoly profits.

However, the major shortcoming of market concentration ratios is that it does not provide information about the behaviours of individual firms within the group participating in. In contrast to *classical* view of IO, a second conventional explanation, *revisionist* view, focused on inter-firm heterogeneity within industries, seeking explanations for profitability first in terms of firm size and later in terms of market share (Demsetz, 1973; Peltzman, 1977). The key assumption of revisionist view is that there are persistent differences in efficiency among sellers. Because more efficient enterprises tend both to grow at the expense of their rivals and to be more profitable, these differences tend to induce a positive intra-industry correlation between share and profitability even in the absence of scale economies (Schmalensee, 1985).

Since the revisionist view was introduced into the literature, market share of a firm has been an important representation to the market position of a firm. Szymanski et al. (1993) summarised three major reasons in explaining market share as an antecedent of profitability. This relationship is grounded in the following three theories:

- (1) Efficiency theory: The cost efficiencies of firms with high market shares lead to greater profitability (Demsetz, 1973; Peltzman, 1977; Smirlock, 1985). Higher market shares result in lower costs because of the effects of scale and scope economies and learning effects. Large firms are able to share tangible and intangible assets to achieve synergy, or to accomplish tasks more efficiently through cumulative experiences, so large share firms are predicted to have cost advantages over smaller rivals, which further leads to high profitability (Phillips, Chang, & Buzzell, 1983). Economies of scale and scope also act as barriers to entry to prevent high profitability being diluted by new entrants.
- (2) Market power theory: High share firms are expected to have high market power, which in turn, allows a firm to raise prices, to offer inferior products, or to extract concessions from channels members (Buzzell & Gale, 1987; Schroeter, 1988). The size of large-scale firms permits them to bargain more effectively, administer prices, realise significantly higher prices for a particular product, and in the end, earn higher profits (Buzzell, Gale, & Sultan, 1975).
- (3) Product quality assessment theory: Buyers use market share as a signal for brand quality and a brand's widespread acceptance as an indicator of superior quality (Smallwood & Conlisk, 1979). A brand's widespread acceptance may provide information to potential customers that it is superior in quality to lower share brands, especially in a competitive environment of uncertainty and imperfect information about the quality of products and services.

Consequently, high share brands command a higher price and receive a return premium relative to low share brands.

Scholars further propose that the observed market share-profitability relationships can be direct or spurious (Jacobson, 1988; Laverty, 2001; Szymanski et al., 1993). The three theories discussed above are mainly based on the rationales of causal explanations, while other rationales of non-causal explanations exist. That is, the associations between market share and profitability are jointly influenced by some third, unobservable factors. For instance, luck (Rumelt & Wensley, 1981) and management skill and quality (Jacobson & Aaker, 1985) are two factors that may jointly influence market share and profitability.

Empirical studies on the market share-profitability relationships

Plentiful empirical analyses on the relationships between market share and profitability have been conducted, and provided general evidences that a higher market share leads to greater profits (Buzzell & Gale, 1987; Buzzell et al., 1975; Goddard et al., 2005; Kurtz & Phoades, 1992; Prescott et al., 1986; Venkatraman & Prescott, 1990). For example, summarised observations made in the PIMS database studies, Buzzell et al. (1975) suggested that both return on investment (ROI) and return on sales (ROS) tend to be positively related to market share. Similarly, Phillips et al. (1983) found that market share affects returns directly, and also has an indirect effect through the reduction of costs. A subsequent study by Venkatraman and Prescott (1990) examined a different time period with distinct economic conditions, and confirmed the direct effects reported by Prescott et al. (2005) employed the method of panel data econometrics to investigate the determinants of profitability for firms in Belgium, France, Italy and the UK, with a result that the relationship between market share and profitability is positive, and stronger in manufacturing than in service industries.

One of the most comprehensive empirical studies on market share and profitability is by Szymanski et al. (1993). By using a meta-analysis on 276 market share–profitability findings from 48 empirical studies, they reported that market shares do have a positive effect on business profitability, but the magnitude of the relationships is moderated by model specification errors, sample characteristics, and measurement characteristics.

In sum, research has empirically examined the relationships between market share and profitability in countries such as the United Kingdom, the United States, Italy, and Germany. Data have been obtained from PIMS (Buzzell & Gale, 1987; Buzzell et al., 1975; Laverty, 2001; Venkataraman & Prescott, 1990), FTC's LB database (Schmalensee, 1985), bank financial reports (e.g., Frame & Kamerschen, 1997; Smirlock, 1985), and Ward's Business Directory (e.g., Fraering & Minor, 1994; Shanklin, 1988). The evidences regarding the extent to which market share influence the profitability of firms [such as return on assets (ROA), ROI and return on equity (ROE)] remain, however, varied.

Market share-profitability relationships in financial service industries

As we have discussed in the earlier sections, most surveyed samples of previous studies were inter-industry samples, it is thus difficult to define a homogeneous market composed of firms directly competing with one another (Newton, 1983). An uncritical polling of data across heterogeneous samples leads to misleading conclusions because relationships among variables

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are often sample-specific, so it becomes important to estimate the market share-profitability relationships for each market or each industry separately (Prescott et al., 1986). By dividing the samples of PIMS database into eight different types of businesses, Schwalbach (1991) found that service industries (mainly retaining) provide a contrast to what has been observed in manufacturing industries; that is, although there exist positive associations between market share and profitability, such relationships in most manufacturing industries are inverted U-haped or concave; while in service industries they are U-shaped or at least J-shaped. Schwalbach's (1991) findings are consistent with the argument of Porter (1980) that there is no single relationship between profitability and market share.

In the case of financial service industries, a number of studies have found that market share was positively related to profitability (Evanoff & Fortier, 1988; Frame & Kamerschen, 1997; Kurtz & Phoades, 1992; Smirlock, 1985). For example, by using the banking industry as the research sample, Kurtz and Phoades (1992) and Smirlock (1985) found that in general, firm market share is directly related to profitability, and the market share variable remains positive and significant, when controlling for market concentration either with concentration as a separate independent variable or by conducting tests with sub-samples of firms located in markets with similar concentration ratios. Some scholars further investigate whether the positive relationships are a result of market power or x-efficiency in the financial service industries (Berger, 1995; Frame & Kamerschen, 1997).

This study focuses on a particular sample, securities firms, to re-examine the share-profit relationships. The securities industry exhibits a highly homogeneous and fragmented industrial environment. Therefore, the products and services provided by each securities firm are basically homogenous, and the pricing policy is regulated and monitored by SEC. Thus, from the perspective of an individual investor, he or she usually perceives less difference between different brokers. Moreover, the securities industry is characterised by homogenous products, clear industry boundary, and close supervision from the government, so the market share of each securities firm is expected to be measured more precisely. Therefore, this study is expected to be able to avoid drawbacks of most prior research resulting from heterogeneous sample, industry specifications, and subjectivity in measuring market share.

Based on the discussions above, this study develops the following hypotheses:

- *H1:* A larger market share is associated with a higher profitability.
- H2: A larger growth in market share is associated with a higher profitability.

Methods

Sample and data sources

Data for securities firms in Taiwan were collected via the databases maintained by the Taiwan Securities and Futures Institute (SFI). SFI maintains several comprehensive online information databases related to the securities and futures industries in Taiwan. Among those databases, InvestNet Searchable Database provides the background information and monthly financial reports of each securities firm. Our research sample included securities firms reported in the InvestNet Searchable Database from 2003 to 2005, inclusively. After excluding firms with missing data, this study has a final sample of 91 securities firms, covering 92% of total securities firms in Taiwan (there were 99 securities firms in Taiwan in December 2005). Every half-year

was treated as a time period for observations, so each sample has six observations, with a total of 546 observations in the study.

Descriptive statistics of the research sample are provided in Table 1. For each observed time period, the aggregated market shares of the 91 sample firms were very high, ranging from 90.13 to 96.16%, indicating that the research sample is quite representative. Because this study has very comprehensive data, absolute market share of each securities firm was measured as the ratio of its sales to total sales in the industry, so that the market share measures in this study is smaller than those of other previous studies that used the relative measures of market share. The four-firm concentration ratios range from 0.269 to 0.298, and the ranges of Herfindahls are between 0.037 and 0.042, reconfirming a fragmented feature of the securities industry. On average, each securities firm has only about 1% of market share.

Measurement of profitability

The dependent variable of this study is firm profitability. In general, the profitability of firms can be measured as ROI, ROA, return on capital (ROC), ROS, or ROE. According to Szymanski et al. (1993), the differences between ROI, ROA, and ROC are mainly semantic, so they can be viewed as similar measurements of profitability. Most existing research on the associations between market share and profitability used ROI to specify profitability (e.g., Buzzell & Gale, 1987; Jacobson, 1988; Laverty, 2001), while most prior studies on the financial service industries, especially banking, used ROA to measure profitability (e.g., Berger, 1995; Evanoff & Fortier, 1988; Frame & Kamerschen, 1997). Considering the consistence with prior studies and the accessibility of data in the InvestNet Searchable Database, this study thus used ROA as the measure of firm profitability.

Measurement of independent variables

According to the hypotheses, there are two independent variables: market share (MS), and market share growth (MSGROW). With regard to the measurement of market share, absolute market share (the ratio of a business's sales to total sales in the served market) and relative market share (the ratio of a business's market share to the combined market share of its three largest competitors) are the two different measures that have been widely used in existing studies. Prior studies suggested that absolute measures of market share are preferred when

Time period	2003 (January– June)	2003 (July– December)	2004 (January– June)	2004 (July– December)	2005 (January– June)	2005 (January– June)
Population size	116	110	106	104	102	99
Sample size (%)	91 (78.4)	91 (82.7)	91 (85.8)	91 (87.5)	91 (89.2)	91 (91.9)
Total market share	90.127	92.621	91.016	96.159	90.700	93.289
Minimum market share	0.019	0.010	0.012	0.014	0.009	0.014
Maximum market share	9.616	10.119	8.939	8.481	8.208	7.683
Mean market share	0.990	1.018	1.000	1.057	0.998	1.025
Four-firm concentration ratio	0.2814	0.2976	0.2938	0.2859	0.2767	0.2688
Herfindahl index	0.0373	0.0422	0.0414	0.0413	0.0383	0.0373

Table 1. Market shares (%) of sample firms.

specific industries are studied because the sum constraint (that is, the market shares of individual firms should sum to 100%) and bound constraint (that is, the market shares of individual firms should be between zero and 100%) can both be satisfied (Frame & Kamerschen, 1997; Montgomery & Wernerfelt, 1991; Smirlock, 1985). Since our study is in a single industry, the absolute measure of market share was adopted. The market share of a securities firm (MS) was thus measured as its sales divided by the total sales of all securities firms in the market. Similarly, the growth of market share (MSGROW) was measured as the market share of a securities firm subtracted its prior market share.

Control variables

Several firm and market attributes are controlled in this study, including: age of a securities firm (AGE), operating scopes (TYPE), nationality (FOREIGN), market size (MKSIZE), and whether the securities firm affiliated with a financial holding (HOLDING). The age of a securities firm refers to the length of years since the firm was established. With regard to the operating scope of a securities firm, there are usually three main business activities for securities firms, including: underwriting, dealership, and brokerage activities. If a securities firm is engaged in at least two kinds of operating activities, a dummy variable with a code of 1 was placed; while 0 was coded if a firm only engaged in the brokerage activities. With respect to the nationality of the firm, a dummy variable was again employed, with a value of 1 for firms owned by foreign companies and a value of 0 otherwise. Furthermore, in order to control for the time effect, we use the market size as a proxy measured by the logarithms of aggregated sales of sample firms. Finally, a dummy variable was employed to indicate whether a securities firm is affiliated with a financial holding company (=1) or not (=0), and the data were collected from the online database maintained by the Taiwan Financial Supervisory Commission. Industry concentration was not controlled because this is a single-industry study. Industry concentration was not controlled because this is a single-industry study, and according to Table 1, the four-firm concentration ratios are fairly stable across different time periods.

Analysis

Two analytical methods were adopted to examine the share-profit relationships of securities firms. First, to investigate whether firms with different levels of market shares yield different levels of profitability, the sample was divided into three categories by market share in each period: Group A covered the top one-third firms with the largest market shares, Group C included the bottom one-third firms with the smallest market shares, while the remaining middle one-third firms were labelled as Group B. One-way ANOVA was used to test the differences of profitability between each group, while least significant difference (LSD) and Scheffe's tests were further used to proceed the post hoc pairwise comparisons between groups. Second, to empirically test the hypotheses, multiple regression analysis was constructed. In all of the regression models, Durbin–Watson statistics showed no evidence for autocorrelation.

Results

Table 2 summarises the averaged market share (MS) and profitability (ROA) of the three categories of firms, as well as the results of one-way ANOVA and pairwise comparisons.

	2003 (January– June)		2003 (July– December)		2004 (January– June)		2004 (July– December)		2005 (January– June)		2005 (July– December)	
Period	MS	ROA	MS	ROA	MS	ROA	MS	ROA	MS	ROA	MS	ROA
Group A $(n = 30)$	2.686	1.13	2.826	4.39	2.792	4.88	2.925	2.01	2.806	2.57	2.884	3.00
Group B $(n = 30)$	0.264	-0.24	0.220	3.60	0.200	3.72	0.238	0.24	0.193	-0.03	0.194	-2.20
Group C $(n = 31)$	0.053	-1.45	0.040	-0.66	0.041	1.54	0.041	-1.56	0.027	-1.32	0.030	-2.97
ANOVA: F test	2.4	57*	4.99	94***	3.65	59**	6.44	9***	10.0	28***	5.31	4***
Scheffe's	A	> C	A	> C;	A	> C	A >	> B;	A	> B;	A >	> B;
			В	> C			A	> C	A	> C	A	> C
LSD	A	> C	A Z B Z	> C; > C	A > B >	> C; > C	A > A >	> B; > C	A Z	> B; > C	A Z	> B; > C

Table 2. Comparisons of profitability among three groups.

p < 0.1, p < 0.05, p < 0.01

The results of ANOVA show that there indeed exist significant differences in profitability among the three categories of firms in all the six time periods, with *F*-values ranging from 2.46 (p < 0.1) to 10.03 (p < 0.01). Results of the Scheffe's and LSD tests further confirm that firms with the largest market shares (Group A) are the best performers, firms with medium market shares (Group B) are mediocre performers, while those firms with smallest market shares (Group C) perform worst. Results of the averaged profitability of the three groups of firms clearly show a sequence of profitability that is consistent with the predictions of this study.

Table 3 summarises the means, standard deviations, as well as correlations of all variables in this study. The correlations coefficients among independent variables are not very high, with the highest correlation between market shares (MS) and operating scopes (TYPE) of a value of 0.506, implying that the possibility of the presence of multicollinearity problems in the regression models is limited. The variance inflation factors (VIFs) will be checked in the following regression models to ascertain whether multicollinearity is a problem.

Results of the multiple regression analysis are summarised in Table 4. To test the hypotheses, control variables were first incorporated in Model 1, while independent variables of the market share (MS) and the growth of market share (MSGROW) were added into the regression Models 2 and 3, respectively, to test *H1* and *H2*. Overall, all the regression models show strong

	Variable	Mean	SD	1	2	3	4	5	6	7	8
1.	ROA	0.88	5.84	1.00							
2.	AGE	14.85	8.66	-0.147^{***}	1.00						
3.	TYPE	0.48	0.50	-0.003	0.246***	1.00					
4.	FOREIGN	0.13	0.34	0.421***	-0.305^{***}	0.078	1.00				
5.	MKSIZE	7.90	0.11	0.166***	0.029	0.000	0.000	1.00			
6.	HOLDING	0.18	0.38	-0.041	-0.035	0.362***	-0.180^{***}	0.000	1.00		
7.	MS	1.01	1.83	0.061	0.246***	0.506***	-0.111^{***}	-0.002	0.458***	1.00	
8.	MSGROW	-0.57	5.21	0.106**	-0.019	0.124***	0.048	-0.062	0.066	0.083	1.00

Table 3. Descriptive statistics and correlations among variables (n = 546).

 $p^* < 0.1, p^* < 0.05, p^* < 0.01.$

Variable	Model 1	Model 2	Model 3	
Control variables				
AGE	-0.002(0.029)	-0.022(0.029)	-0.021(0.029)	
TYPE	-0.657(0.518)	-1.387** (0.548)	-1.580*** (0.545)	
FOREIGN	7.504*** (0.735)	7.592*** (0.726)	7.731*** (0.723)	
MKSIZE	8.566*** (1.937)	8.634*** (1.949)	8.861*** (1.941)	
HOLDING	0.876 (0.664)	-0.039(0.700)	-0.058 (0.694)	
Independent variables				
MS		0.575*** (0.153)	0.569*** (0.151)	
MSGROW			0.011** (0.004)	
R^2	0.209	0.229	0.246	
Adj. R ²	0.202	0.221	0.236	
Model F statistics	28.564***	26.744***	24.959***	
ΔR^2		0.020	0.017	
F statistics for change		13.828***	10.962***	

Table 4. Regression results on security firms profitability (ROA).

n = 546. Standardised coefficients, and standard errors in parentheses, are reported.

p < 0.1, p < 0.05, p < 0.05, p < 0.01.

model significance (p < 0.01 for all the F statistics), with 20.9 to 24.6% of total variances explained by the regression equations.

In *H1*, this study predicts that market share is positively associated with firm profitability. Table 4 shows that in Model 2 the regression coefficient of the market share (MS) is positive and statistically significant at the p < 0.01 level, confirming that the larger the market share of a securities firm, the higher the profitability earned by the firm. The VIFs of all independent variables are smaller than 1.6, strongly indicating that the multicollinearity problem in the estimated equation is negligible. Also, introducing the independent variable of market share into the second equation brings a significant increase in R^2 at the p < 0.01 level (F = 13.828). *H1* is thus supported. The positive associations between market share and profitability of firms have been widely reported in most prior empirical research, but the debate regarding the magnitude of the market share effect in Model 2 is 0.58, and is in close correspondence to the estimates reported by Buzzell et al. (1975), Buzzell and Gale (1987), and Jacobson (1988). This implies that in the securities industry a 1% change in market share is approximately associated with a 0.5% change in ROA.

With regard to the influence of market share growth on profitability, H2 predicts that the growth of market share of a securities firm exhibits a positive relationship with the profitability of a securities firm. It is found that when the variable of MSGROW is included in Model 3, the regression coefficient of MSGROW is also statistically significant at the p < 0.05 level, with a positive sign that is consistent with H2. Also, the VIFs of all independent variables are smaller than 1.6, so the multicollinearity problem in the estimated equation is again negligible. Furthermore, introducing the independent variable of market share growth in the third equation brings a significant increase in R^2 (p < 0.01 in F statistics for change). These results provide support to H2; that is, market share growth is positively associated with profitability of securities firms. With regard to the magnitude of the market share –profitability associations, the estimated coefficient for the market share effect in Model 3 is 0.57, and is very close to the estimates reported in

Model 1. This, again, implies that in the securities industry a 1% change in market share is approximately associated with a 0.5% change in ROA.

The significance of the coefficient of market share in the regression equation indicates the long-term accumulated effect of market share on the current success of a firm and also acts as a springboard for future success, while the significance of market share growth represents the short-term effect of firm growth on performance (Laverty, 2001). Statistical results of this study show that both the accumulated and short-term effects of the market expansion strategy influence significantly the profitability of securities firms.

As to the influence of the control variables on profitability, three control variables are significant in almost all equations: operating activities (TYPE), firm nationality (FOREIGN), and the market size (MKSIZE). The regression coefficients of TYPE were negative, suggesting that those securities firms that are engaged only in the brokerage business show higher performance than those securities firms engaged in more than two kinds of operating activities. As to the influence of firm nationality, statistical results show that securities firms owned by foreign companies outperform the securities firms owned by domestic companies. Finally, the size of the market is positively associated with profitability of securities firms, reflecting a nature of fee-based revenues of the securities industry.

Discussion and conclusion

The rapid changes in the financial service industries have caught growing attentions of academic researchers and business managers on the competitiveness and sources of profitability in the financial service industry. Financial service firms today must focus on strategic thinking if they want to maintain growth, competitiveness and profitability, so it becomes important to search for the critical determinant of profitability. For the past three decades, a rich body of conceptual and empirical studies in economics, marketing, and strategic management areas have reported that a larger market share is associated with a higher profitability. However, most prior studies using PIMS or non-PIMS database were conducting inter-industry studies that may cause serious sample selection problems (Montgomery & Wernerfelt, 1991) and subjectivity problems in measuring market shares and profitability (Newton, 1983). Only very few studies have focused on a single industry to further clarify the relationships, so the market share–profitability relationships in specific industries remains uncertain.

This study conducts empirical research by using systematic and comprehensive data to investigate the market share–profitability relationships in the securities industry, and it thus differs from previous research in several aspects. First, this paper uses a highly homogeneous and fragmented industry as the research sample: the securities industry in Taiwan. The data set comprises 92% of the industry players that account for about 90–93% of total market shares. Second, singleindustry sample also allows better precision of measurement, greater validity of organisational comparisons, adequate control for industry conditions, and more confident interpretations (Klassen & Whybark, 1999; Vickery et al., 1993). Finally, by focusing on one industry, variations resulting from the sources of environmental and technological dynamism can be eliminated. Therefore, the purpose of this study is to test empirically the hypotheses with regard to the associations between market share and profitability to answer a fundamental question: whether or not the pursuit of market shares is an appropriate strategy in the securities industry?

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This study hypothesised that: (1) market share is positively associated with profitability in the securities industry, and (2) the growth of market share is positively associated with profitability in the securities industry. Results provided by ANOVA confirm that those securities firms with the highest market share significantly outperform those securities with the smallest levels of market share. Moreover, the regression results show that market share and the growth of market share are both positively associated with return of assets. Findings of this study echo with those of previous research in industrial organisations, marketing, and strategic management, and confirm that the pursuit of market share is indeed a correct strategy for securities firms.

Findings of this study have several managerial implications. First, securities firms can enlarge their market share to improve profitability. Although the securities industry is a homogeneous industry, managers may develop new services by using new technologies, such as the online trading. Second, securities firms can improve their profitability through the pursuit of market share growth, suggesting the possible efficacy of mergers and acquisitions in the securities industry. Also, the pursuit of geographical market expansion by establishing new branches seems to be one feasible strategy for securities firms. Given the fact that it is rather easy for competitors to imitate the differentiated services provided by one firm to attract away customers in the securities industry, geographical market expansions by setting up new branches become one of the main method for pursuing growth and competitiveness (Fuentelsaz, Gomez, & Polo, 2002; Haveman & Nonnemaker, 2000).

The approach outlined in this study can be replicated in other industries, companies and nations. Therefore, future research works may focus on validating the proposed relationships among market share, market share growth and profitability by implementing the study to other industries or companies. Finally, there exists a limitation of the current research that warrants discussions. In this study, only securities firms in Taiwan were examined, which may restrict the generalisability of the findings. On the other hand, this limitation may provide an opportunity for future research on the relationships between market share and profitability in other financial service industries. Future research could use cross-industry or cross-nation samples to conduct empirical tests for market share and profitability relationships in other service industries.

References

- Anterasian, C., Graham, J.L., & Money, R.B. (1996). Are US managers superstitious about market share? Sloan Management Review, 37(4), 67–77.
- Atternan, M., & Guseman, D. (1988). Structural changes in service industry. Journal of Business Research, 17, 43-49.

Bain, J.S. (1951). Relation of profit rate to industry concentration: American manufacturing 1936–40. Quarterly Journal of Economics, 65(3), 293–324.

Berger, A.N. (1995). The profit-structure relationship in banking – Tests of market-power and efficient-structure hypotheses. *Journal of Money, Credit, and Banking*, 27(2), 404–431.

Bharadwaj, S.G., & Menon, A. (1993). Determinants of success in service industries: A PIMS-based. The Journal of Services Marketing, 7(4), 19–22.

Buzzell, R.D. (1981). Are there 'natural' market structures? Journal of Marketing, 45(1), 42-51.

Buzzell, R.D., & Gale, B.T. (1987). The PIMS principles: Linking strategy to performance. New York: Free Press.

Buzzell, R.D., Gale, B.T., & Sultan, R.G.M. (1975). Market share – A key to profitability. *Harvard Business Review*, 53(1), 97–106.

Chang, S., & Singh, H. (2000). Corporate and industry effects on business unit competitive position. Strategic Management Journal, 21(7), 739–752.

- Cool, K., Dierickx, I., & Jemison, D. (1989). Business strategy, market structure and risk-return relationships: A structural approach. *Strategic Management Journal*, 10(6), 507–522.
- Demsetz, H. (1973). Industry structure, market rivalry, and public policy. Journal of Law and Economics, 16(1), 1–19.
- Evanoff, D.D., & Fortier, D.L. (1988). Reevaluation of the structure-conduct-performance paradigm in banking. Journal of Financial Services Research, 1(3), 249–260.
- Fraering, J.M., & Minor, M.S. (1994). The industry-specific basis of the market share-profitability relationship. *The Journal of Consumer Marketing*, 11(1), 27–37.
- Frame, W.S., & Kamerschen, D.R. (1997). The profit-structure relationships in legally protected banking markets using efficiency measures. *Review of Industrial Organization*, 12(1), 9–22.
- Fuentelsaz, L., Gomez, J., & Polo, Y. (2002). Followers' entry timing: Evidence from the Spanish banking sector after deregulation. *Strategic Management Journal*, 23(3), 245–264.
- Gale, B.T. (1972). Market share and rate of return. Review of Economics and Statistics, 54(4), 412-423.
- Goddard, J., Tavakoli, M., & Wilson, J.O.S. (2005). Determinants of profitability in European manufacturing and services: Evidence from a dynamic panel model. *Applied Financial Economics*, 15(18), 1269–1282.
- Haveman, H.A., & Nonnemaker, L. (2000). Competition in multiple geographic markets: The impact on growth and market entry. Administrative Science Quarterly, 45(2), 232–267.
- Jacobson, R. (1988). Distinguishing among competing theories of the market share effect. *Journal of Marketing*, 52(4), 68–80.
- Jacobson, R., & Aaker, D.A. (1985). Is market share all that it's cracked up to be? Journal of Marketing, 49(4), 11-22.
- Klassen, R., & Whybark, D. (1999). The impact of environmental technologies on manufacturing performance. Academy of Management Journal, 42(6), 599–615.
- Kurtz, R.D., & Phoades, S.A. (1992). A note on the market share-profitability relationship. *Review of Industrial Organ*ization, 7(1), 39–50.
- Laverty, K.J. (2001). Market share, profits and business strategy. Management Decision, 39(8), 607-617.
- Marshall, C.T., & Buzzell, R.D. (1990). PIMS and the FTC line-of-business data: A comparison. Strategy Management Journal, 11(4), 269–282.
- Montgomery, C.A., & Wernerfelt, B. (1991). Sources of superior performance: Market share versus industry effects in the US brewing industry. *Management Science*, 37(8), 954–959.
- Mueller, W.F., & Hamm, L.G. (1974). Trends in industrial market concentration, 1947 to 1970. Review of Economics and Statistics, 56(4), 511–520.
- Newton, J.K. (1983). Market share Key to higher profitability? Long Range Planning, 16(1), 37-41.
- Peltzman, S. (1977). The gains and losses from industrial concentration. *Journal of Law and Economics*, 20(2), 229–263. Phillips, L.W., Chang, D.R., & Buzzell, R.D. (1983). Product quality, cost position and business performance: A test of
- some key hypotheses. *Journal of Marketing*, 47(2), 26–43. Porter, M.E. (1980). Industry structure and competitive strategy: Keys to profitability. *Financial Analysts Journal*, 36(4), 30–41.
- Prescott, J.E., Kohli, A.K., & Venkatraman, N. (1986). The market share-profitability relationship: An empirical assessment of major assertions and contradictions. *Strategic Management Journal*, 7(4), 377–394.
- Ravenscraft, D.J. (1983). Structure-profit relationships at the line of business and industry level. *The Review of Economics and Statistics*, 65(1), 22–31.
- Rhoades, S.A. (1983). Market share as a source of market power: Implications and some evidence. Journal of Economics and Business, 37(4), 343–363.
- Rumelt, R.P. (1991). How much does industry matter? Strategy Management Journal, 12(3), 167-185.
- Rumelt, R.P., Schendel, D.E., & Teece, D.J. (1994). Fundamental issues in strategy. Cambridge: Harvard Business School Press.
- Rumelt, R.P., & Wensley, R. (1981, August). *In search of the market share effect*. Proceedings of the Academy of Management Annual Meeting, pp. 1–5.
- Scherer, F.M. (1970). Industrial market structure and economic performance. Chicago: Rand McNally.
- Schmalensee, R. (1985). Do markets differ much? American Economic Review, 75(3), 341-351.
- Schroeter, J.R. (1988). Estimating the degree of market power in the beef packing industry. *Review of Economics and Statistics*, 70(1), 158–162.
- Schwalbach, J. (1991). Profitability and market share: A reflection on the functional relationship. Strategic Management Journal, 12(4), 299–306.
- Shanklin, W.L. (1988). Market share is not destiny. Journal of Consumer Marketing, 5(4), 5–16.
- Shepherd, W.G. (1972). The elements of market structure. *Review of Economics and Statistics*, 54(1), 25–37.
- Smallwood, D., & Conlisk, J. (1979). Product quality in markets where consumers are imperfectly informed. *Quarterly Journal of Economics*, 93(1), 1–23.
- Smirlock, M. (1985). Evidence on the (non) relationship between concentration and profitability in banking. Journal of Money, Credit, and Banking, 17(1), 69–83.

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- Szymanski, D.M., Bharadwaj, S.G., & Varadarajan, P.R. (1993). An analysis of the market share-profitability relationship. Journal of Marketing, 57(3), 1–18.
- Venkatraman, N., & Prescott, J.E. (1990). The market share-profitability relationship: Testing temporal stability across business cycles. Journal of Management, 16(4), 783-805.
- Vickery, S., Droge, C., & Markland, R. (1993). Production competence and business strategy: Do they affect business performance? *Decision Sciences*, 24(2), 435–455.