

**FINANCIAL DETERMINANTS OF MARKET VALUATION: EVIDENCE
FROM TAIWANESE LISTED BANKS**

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ABSTRACT

This study investigates the financial determinants of market valuation among Taiwanese listed banks. Using 551 bank-quarter observations collected from the Taiwan Economic Journal (TEJ) database during 2021–2025, this study examines whether profitability, earnings performance, firm size, and leverage influence market valuation measured by the price-to-book (P/B) ratio. Ordinary least squares (OLS) regression is employed to estimate the empirical model. To ensure the robustness of statistical inference, heteroskedasticity-consistent (HC3) robust standard errors are adopted. The empirical results indicate that return on assets (ROA) and firm size have positive and significant effects on market valuation, whereas leverage has a significantly negative effect. Interestingly, earnings per share (EPS) exhibit a negative association with market valuation after controlling for other financial characteristics. These findings provide useful implications for investors, bank managers, and policymakers in understanding the financial determinants of bank market valuation.

KEYWORDS: - Market valuation; Price-to-book ratio; Banking industry; Profitability; Financial leverage.

1.0 INTRODUCTION

Market valuation plays a fundamental role in capital markets because it reflects investors' expectations regarding a firm's future profitability, financial stability, and growth potential. Among various valuation measures, the price-to-book (P/B) ratio is widely recognized as one of the most informative indicators for evaluating financial institutions. Unlike non-financial firms, banks hold a substantial proportion of financial assets and liabilities whose book values closely approximate their economic values. Consequently, the P/B ratio has become an important benchmark for assessing bank value and investors' confidence in the banking sector.

The banking industry occupies a unique position in the economy because it serves as the primary intermediary between savers and borrowers while maintaining financial stability. Following the implementation of stricter regulatory frameworks after the global financial crisis, investors have paid increasing attention to the financial performance and risk profile of banks. Profitability, capital structure, and financial strength are therefore expected to influence banks' market valuation. Understanding how these financial characteristics affect market valuation is beneficial not only for investors but also for bank managers and policymakers seeking to improve corporate value and financial stability.

Previous studies have extensively examined the determinants of firm value in manufacturing and non-financial industries. Profitability, earnings performance, firm size, and leverage have frequently been identified as important determinants of market valuation. However, relatively limited empirical evidence is available for listed banks, particularly in Taiwan. Because banks differ substantially from non-financial firms in terms of asset structure, funding sources, leverage, and regulatory supervision, conclusions derived from non-financial firms may not be directly applicable to the banking industry. Therefore, further investigation of the financial determinants of bank market valuation remains necessary.

This study investigates the determinants of market valuation for Taiwanese listed banks. Specifically, it examines whether return on assets (ROA), earnings per share (EPS), firm size, and leverage significantly influence the price-to-book ratio. Quarterly financial data of Taiwanese listed banks covering the period from 2021 to 2025 are collected from the Taiwan Economic Journal (TEJ) database, resulting in 551 bank-quarter observations. Ordinary least squares (OLS) regression is employed to estimate the empirical model, while heteroskedasticity-consistent (HC3) robust standard errors are used to ensure the reliability of statistical inference.

The empirical results indicate that profitability and firm size are positively associated with market valuation, whereas leverage exhibits a significantly negative relationship with the price-to-book ratio. Interestingly, earnings per share are found to have a negative effect on market

valuation after controlling for profitability and other financial characteristics. These findings suggest that investors place greater emphasis on overall profitability and financial strength than on accounting earnings alone when valuing listed banks.

This study contributes to the existing literature in three respects. First, it extends the literature on bank valuation by providing recent empirical evidence from Taiwanese listed banks. Second, it examines the joint effects of profitability, earnings performance, firm size, and leverage on market valuation within a unified empirical framework. Third, the findings provide practical implications for investors, bank managers, and regulators by identifying the financial characteristics that are most strongly associated with market valuation.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and develops the research hypotheses. Section 3 describes the data, variables, and research methodology. Section 4 presents the empirical results. Finally, Section 5 concludes the study and discusses its implications and directions for future research.

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Market Valuation

Market valuation reflects investors' expectations regarding a firm's future profitability, financial stability, and growth opportunities. Among various valuation measures, the price-to-book (P/B) ratio is particularly important for financial institutions because the book value of banks is generally considered more informative than that of non-financial firms. Unlike manufacturing firms, banks mainly hold financial assets whose carrying values closely approximate their economic values. Consequently, the P/B ratio has been widely adopted as an important indicator for evaluating banks' market valuation (Ohlson, 1995; Damodaran, 2012).

Previous studies suggest that market valuation is affected by various firm-specific financial characteristics, including profitability, earnings quality, firm size, and financial leverage. Investors incorporate these financial signals into stock prices, resulting in differences in market valuation among firms.

2.2 Profitability and Market Valuation

Profitability is one of the most important determinants of firm value. Firms with higher profitability generally generate stronger future cash flows and are therefore expected to receive higher market valuations.

Return on Assets (ROA) measures how efficiently management utilizes total assets to generate earnings. Higher ROA usually signals better operating performance and superior managerial

efficiency. Previous studies consistently document a positive relationship between profitability and firm value (Fama& French, 1992; Ohlson, 1995; Penman, 2013).

Accordingly, the following hypothesis is proposed.

H1: Return on assets (ROA) positively affects market valuation.

2.3 Earnings per Share and Market Valuation

Earnings per share (EPS) represent the amount of earnings attributable to each outstanding share. It is one of the most frequently used accounting indicators by investors when evaluating corporate performance.

Prior literature generally suggests that firms reporting higher EPS are more likely to receive favorable market evaluations because EPS reflects firms' earnings-generating ability and future dividend potential (Collins et al., 1997; Barth et al., 1998).

Therefore, the following hypothesis is developed.

H2: Earnings per share (EPS) positively affect market valuation.

2.4 Firm Size and Market Valuation

Firm size is commonly regarded as an indicator of corporate stability and competitive advantage. Larger firms usually possess greater financial resources, stronger market power, and lower financing costs.

In the banking industry, large banks often enjoy higher investor confidence because of diversified operations, stronger risk management capabilities, and implicit government support. Consequently, larger banks are generally expected to receive higher market valuations (Berger & Bouwman, 2013).

Therefore,

H3: Firm size positively affects market valuation.

2.5 Financial Leverage and Market Valuation

Financial leverage reflects a firm's capital structure and financial risk. While debt financing may enhance returns through tax advantages, excessive leverage increases financial distress risk and reduces firm value.

For banks, leverage is naturally higher than that of non-financial firms because deposits constitute their primary funding source. Nevertheless, excessively high leverage may increase default risk and reduce investors' confidence. Previous empirical studies generally report a negative relationship between leverage and firm valuation.

Thus,

H4: Financial leverage negatively affects market valuation.

3.0 DATA AND METHODOLOGY

3.1 Data Source and Sample Selection

This study investigates the financial determinants of market valuation among Taiwanese listed banks. The sample consists of publicly listed commercial banks and financial holding companies listed on the Taiwan Stock Exchange (TWSE) and Taipei Exchange (TPEX). Financial information was obtained from the Taiwan Economic Journal (TEJ) database.

The sample covers quarterly observations from 2021 to 2025, resulting in 551 firm-quarter observations after excluding observations with missing financial information.

The banking industry is selected because banks play an essential role in the financial system and exhibit distinctive financial characteristics, including high leverage and strict regulatory supervision. Therefore, examining the determinants of market valuation in the banking sector provides important implications for investors and financial institutions.

3.2 Variable Definitions

The dependent variable in this study is market valuation (P/B), measured as the price-to-book ratio. The P/B ratio is one of the most widely used valuation indicators for banks because book value provides a meaningful benchmark for financial institutions whose assets primarily consist of financial instruments.

Four financial variables are employed as the explanatory variables. Return on assets (ROA) measures bank profitability and reflects management's efficiency in utilizing assets to generate earnings. Earnings per share (EPS) represent the earnings attributable to each outstanding share. Firm size (SIZE) is measured as the natural logarithm of total assets. Leverage (LEV) is measured as total liabilities divided by total assets.

The definitions of the variables used in this study are summarized as follows:

Dependent variable

P/B: Price-to-book ratio.

Independent variables

ROA: Return on assets.

EPS: Earnings per share.

SIZE: Natural logarithm of total assets.

LEV: Total liabilities divided by total assets.

3.3 Research Model

To examine the determinants of market valuation, this study estimates the following multiple regression models:

$$P/B_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EPS_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \varepsilon_{it}$$

Where

- P/B_{it} denotes the market valuation of bank i ;
- ROA_{it} represents profitability;
- EPS_{it} denotes earnings per share;
- $SIZE_{it}$ is the natural logarithm of total assets;
- LEV_{it} Represents the debt ratio.

The regression coefficients are estimated using the ordinary least squares (OLS) method. Since the Breusch–Pagan test indicates the presence of heteroskedasticity, heteroskedasticity-consistent (HC3) robust standard errors are employed to ensure reliable statistical inference.

3.4 Diagnostic Tests

Prior to regression estimation, several diagnostic tests are conducted to ensure the reliability of the empirical results.

First, descriptive statistics are presented to summarize the characteristics of the sample.

Second, Pearson correlation coefficients are calculated to examine the relationships among variables.

Third, the variance inflation factor (VIF) is used to detect potential multicollinearity.

Finally, the Breusch–Pagan test is performed to examine heteroskedasticity. Since heteroskedasticity is detected, heteroskedasticity-consistent (HC3) robust standard errors are employed to ensure robust statistical inference.

4.0 EMPIRICAL RESULTS

4.1 Descriptive Statistics

Table 1 reports the descriptive statistics of the variables used in this study. The average market valuation (P/B) is 1.091, suggesting that the sample banks are generally valued slightly above their book value. The mean ROA is 0.932, while the average EPS is 1.384. The average firm size (natural logarithm of total assets) is 20.668, indicating that the sample consists primarily of large listed banks. The average leverage ratio is 87.48%, which is consistent with the highly leveraged nature of the banking industry.

The descriptive statistics also reveal considerable variation across banks, particularly for ROA and EPS, suggesting heterogeneous profitability among Taiwanese listed banks.

4.2 Correlation Analysis

Table 2 presents the Pearson correlation matrix.

The results indicate that both firm size and leverage are positively correlated with market valuation. Firm size exhibits a stronger correlation with market valuation ($r = 0.449$) than leverage ($r = 0.264$). In addition, ROA and EPS are positively correlated ($r = 0.604$), indicating that more profitable banks generally report higher earnings per share.

The highest correlation coefficient is observed between firm size and leverage ($r = 0.856$). Although this correlation is relatively high, the subsequent VIF analysis indicates that multicollinearity does not pose a serious concern because all VIF values remain below the commonly accepted threshold of 10. It should be noted that these pairwise correlations reflect only bivariate relationships. Therefore, they do not account for the joint effects of other explanatory variables, which are examined in the subsequent multivariate regression analysis.

4.3 Multicollinearity Diagnostics

Table 3 reports the variance inflation factors (VIFs).

The VIF values range from 2.354 to 5.255, all below the commonly accepted threshold of 10. Although firm size and leverage exhibit relatively higher VIF values, all VIF values remain below the commonly accepted threshold of 10. Therefore, multicollinearity is unlikely to materially affect the regression estimates.

4.4 Regression Results

Table 4 reports the pooled OLS regression results.

The model is statistically significant ($F = 55.19$, $p < 0.001$) and explains approximately 28.8% of the variation in market valuation (Adjusted $R^2 = 0.283$).

Firm profitability (ROA) has a positive and statistically significant effect on market valuation ($\beta = 0.076$, $p < 0.001$), indicating that more profitable banks tend to receive higher price-to-book ratios.

Firm size is also positively associated with market valuation ($\beta = 0.160$, $p < 0.001$), suggesting that larger banks enjoy valuation premiums in the capital market.

Leverage exhibits a negative and statistically significant relationship with market valuation ($\beta = -0.009$, $p < 0.001$), implying that investors assign lower valuations to banks with higher leverage ratios.

Interestingly, EPS shows a negative coefficient ($\beta = -0.030$, $p = 0.004$), contrary to the initial expectation. One possible explanation is that ROA and EPS measure related aspects of profitability. After ROA is included in the regression model, EPS contributes limited additional information in explaining market valuation.

It is worth noting that leverage is positively correlated with market valuation in the bivariate analysis but exhibits a significantly negative coefficient in the multivariate regression. This change suggests that the simple correlation does not account for the joint effects of profitability, firm size, and other financial characteristics.

4.5 Robustness Test

Table 5 reports the OLS regression results using HC3 heteroskedasticity-consistent standard errors. Because the Breusch–Pagan test (not reported) indicates the presence of heteroskedasticity ($p < 0.01$), HC3 standard errors are employed to obtain reliable statistical inference.

Compared with the baseline OLS results presented in Table 4, the estimated regression coefficients remain identical, while only the standard errors and corresponding test statistics are adjusted. ROA and firm size continue to have significantly positive effects on market valuation, whereas leverage and EPS remain significantly negative. These findings indicate that the empirical results are not sensitive to heteroskedasticity, supporting the robustness and reliability of the baseline regression estimates.

5.0 CONCLUSION

This study investigates the financial determinants of market valuation among Taiwanese listed banks. Using 551 bank-quarter observations collected from the Taiwan Economic Journal (TEJ) database during the period 2021–2025, this study examines whether profitability, earnings performance, firm size, and leverage affect market valuation, as measured by the price-to-book (P/B) ratio. Ordinary least squares (OLS) regression is employed, and heteroskedasticity-consistent (HC3) robust standard errors are used to ensure the robustness of the empirical results. The empirical findings reveal that return on assets (ROA) has a positive and statistically significant effect on market valuation, indicating that more profitable banks tend to receive higher market valuations. Firm size is also positively associated with the P/B ratio, suggesting that investors place a premium on larger banks because of their stronger financial resources, diversified operations, and greater market stability. In contrast, leverage exhibits a significantly negative relationship with market valuation, implying that investors perceive highly leveraged banks as carrying greater financial risk. Interestingly, earnings per share (EPS) show a negative and significant coefficient after controlling for profitability and other financial characteristics. This finding suggests that investors may place greater emphasis on overall profitability, as measured by ROA, than on earnings per share when evaluating listed banks.

This study contributes to the literature in several ways. First, it provides recent empirical evidence on the determinants of market valuation in the Taiwanese banking industry, an area that has received relatively limited attention compared with studies of non-financial firms. Second, the study simultaneously examines the effects of profitability, earnings performance, firm size, and leverage within a unified empirical framework, providing a comprehensive assessment of the financial characteristics associated with bank valuation. Third, by employing robust standard errors, the study enhances the reliability of statistical inference and provides more robust empirical evidence.

The findings also have practical implications. For bank managers, improving profitability and maintaining an appropriate capital structure may enhance market valuation and strengthen investor confidence. For investors, the results suggest that profitability, firm size, and leverage should be carefully considered when evaluating banking stocks. For regulators, promoting financial stability and prudent leverage management may contribute to improving market confidence in the banking sector.

Several limitations should be acknowledged. First, this study focuses exclusively on Taiwanese listed banks, and the findings may not be directly applicable to banks operating in other countries or financial systems. Second, only four financial variables are included in the empirical model. Other factors, such as capital adequacy, non-performing loan ratios, corporate governance, ESG

performance, and macroeconomic conditions, may also influence market valuation but are not considered in this study. Third, although robust standard errors are employed to address heteroskedasticity, future studies may adopt panel-data techniques or dynamic estimation methods to further examine the relationships among financial characteristics and market valuation.

Future research may extend this study by incorporating additional bank-specific variables, such as capital adequacy ratios, loan quality, liquidity indicators, and ESG-related measures. Comparative analyses across different countries or banking systems may also provide further insights into the determinants of bank market valuation under different institutional environments.

Overall, this study demonstrates that profitability, firm size, and leverage are important financial determinants of market valuation among Taiwanese listed banks. The findings provide useful empirical evidence for investors, bank managers, and policymakers and contribute to a better understanding of the financial determinants of market valuation in the banking industry.

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Table 1. Descriptive Statistics

Variable	N	Mean	SD	Min	Median	Max	Skewness	Kurtosis
P/B	551	1.0910	0.3334	0.52	1.02	2.25	0.7307	-0.0488

ROA	551	0.9315	1.4137	-6.70	0.54	8.08	1.9525	8.0461
EPS	551	1.3838	1.8197	-5.91	0.94	12.49	2.4281	10.2382
Size (ln Assets)	551	20.6678	1.8917	16.6115	21.4602	23.3795	-0.8032	-0.4501
Leverage	551	87.4757	11.8792	50.68	92.34	98.18	-1.8454	1.9751

Table 2. Pearson Correlation Matrix

Variable	P/B	ROA	EPS	Size	Leverage
P/B	1.0000	-0.0191	0.1610	0.4488	0.2642
ROA	-0.0191	1.0000	0.6039	-0.5105	-0.6627
EPS	0.1610	0.6039	1.0000	0.0700	-0.1928
Size	0.4488	-0.5105	0.0700	1.0000	0.8564
Leverage	0.2642	-0.6627	-0.1928	0.8564	1.0000

Table 3. Variance Inflation Factors (VIF)

Variable	VIF
ROA	3.242
EPS	2.354
Size	5.041
Leverage	5.255

Table 4. Pooled OLS

Variable	Coef.	Std. Error	t	p-value
Intercept	-1.4342	0.1874	-7.6513	<0.001
ROA	0.0761	0.0153	4.9628	<0.001
EPS	-0.0295	0.0102	-2.9064	0.0038
Size	0.1599	0.0143	11.1922	<0.001
Leverage	-0.0093	0.0023	-3.9874	<0.001

Table 5. OLS (HC3 Robust)

Variable	Coef.	Robust SE	t	p-value
Intercept	-1.4342	0.2021	-7.0952	<0.001
ROA	0.0761	0.0171	4.4622	<0.001
EPS	-0.0295	0.0115	-2.5711	0.0104
Size	0.1599	0.0136	11.7903	<0.001
Leverage	-0.0093	0.0020	-4.6511	<0.001