Asian Economic and Financial Review
ISSN(e): 2222-6737
ISSN(p): 2305-2147
DOI: 10.55493/5002.v15i4.5352
Vol. 15, No. 4, 496-506.

URL: www.aessweb.com

Relationship between market power and income diversification of Vietnamese commercial banks

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Article History
Received: 5 December 2024
Revised: 6 March 2025
Accepted: 24 March 2025
Published: 11 April 2025

Keywords
Commercial banks
Competitiveness
Income diversification
Market power
Panel vector autoregression
Stability
Vietnam.

JEL Classification:
C33; G21; G32; L25.

ABSTRACT

This study explores the intricate relationship between market power and income diversification in Vietnamese commercial banks during the period 2007–2021, addressing gaps in the existing literature on emerging markets. Using the Panel Vector Autoregression (PVAR) model, it looks at how these two variables affect each other and how they change over time, taking into account things like bank size, business efficiency, and credit risk. The findings highlight a complex interplay: banks with higher market power exhibit reduced motivation to diversify their income sources, supporting the *Quiet Life Hypothesis*. However, under certain conditions, income diversification is shown to enhance market power by leveraging expanded business activities. The study also reveals that scale negatively affects both market power and diversification, whereas higher profitability (ROA) promotes both dimensions. Furthermore, listed banks demonstrate greater market power compared to their non-listed counterparts, although no significant difference is observed in their diversification levels. These insights offer valuable implications for policymakers and practitioners, emphasizing the need for tailored diversification strategies that align with market conditions and competitive pressures. By integrating the PVAR methodology and focusing on the unique context of Vietnam's banking sector, this research provides both theoretical contributions and practical recommendations to enhance the competitiveness and stability of commercial banks in emerging economies.

Contribution/ Originality: This study is original in quantifying the market power of Vietnamese commercial banks from 2007 to 2021 – an area previously underexplored. It uniquely evaluates the bidirectional relationship between income diversification and market power, offering valuable policy recommendations for regulators and commercial banks to enhance performance and competitiveness.

1. INTRODUCTION

The banking sector is crucial in financing economic activities and maintaining the financial system's stability (Bahri & Hamza, 2020). Therefore, this sector is strictly regulated, but financial and economic crises have shown it is also a fragile industry. Recently, the banking sector has undergone fundamental, rapid, and complex transformations, including financial liberalization, consolidation, mergers and acquisitions, structural reforms, regulatory changes, deregulation, and increasing competitive pressures (Nguyen, Skully, & Perera, 2012a). As a result, many commercial banks have diversified their activities to cope with the rising competition and maintain their market position (Meslier, Tacneng, & Tarazi, 2014), bringing income benefits. Furthermore, when commercial banks diversify their income

sources by expanding their operations, they gain market power through enhanced merger and acquisition activities and consolidation movements (Meslier et al., 2014).

Due to these benefits, income diversification, particularly its relationship between income diversification and market power, has garnered attention from researchers recently. However, the current evidence on the relationship between market power and income diversification of commercial banks remains quite complex. The "Quiet Life" hypothesis suggests that commercial banks with high market power are less motivated to diversify because they already generate enough profit (Berger, Hasan, & Zhou, 2009). Meanwhile, market power theories suggest that as commercial banks' market power increases, they focus on diversifying their income sources (Nguyen & Nghiem, 2016). Other studies have found that diversification may be the source of commercial banks' market power (Ciarrapico & Cosci, 2011; Valverde & Fernández, 2007), while some argue that it may reduce market power due to efficiency losses from specialization (Montgomery, 1994). These mixed findings indicate that the relationship between market power and income diversification in commercial banks is very complex, requiring in-depth research to help them develop effective strategies.

To achieve this objective, the article is structured into five sections. Following the introduction in Section 1, Section 2 presents a comprehensive review of existing research on the nexus between income diversification and the market power of commercial banks. Section 3 formulates the research model to assess this relationship. Building upon this framework, Section 4 analyzes the empirical findings, while Section 5 synthesizes policy implications and concludes the study.

2. RESEARCH OVERVIEW

Previous studies have not agreed on the impact of bank power on income diversification. Two hypotheses currently exist regarding the relationship between market power and bank income diversification: the quiet life hypothesis and the market power theory.

According to the *Quiet Life Hypothesis*, as banks gain greater market power, managers may exert less effort to improve operational efficiency or diversify revenue streams, instead relying on stable profits from traditional activities. This hypothesis has been empirically validated in several studies, notably by Berger and Hannan (1998), who found that banks with higher market power in the U.S. tended to be less efficient compared to those operating in more competitive environments. Specifically, market power reduces the pressure to enhance operational performance, resulting in higher costs and less incentive to explore new income sources. Similarly, Nguyen et al. (2012a) examined the impact of market power on revenue diversification strategies across five Southeast Asian countries during the 1998–2008 period. Using the Lerner Index to measure market power and the Herfindahl Index to assess revenue diversification, they found that banks with greater market power were more reliant on traditional interest-based activities, while those with less market power pursued revenue diversification to strengthen their competitiveness. Likewise, Hidayat, Kakinaka, and Miyamoto (2012) reported similar trends in Indonesia, where banks with significant market power often relied on traditional income sources. The study argued that such banks faced limited competitive pressure, resulting in fewer incentives to expand into non-interest activities like financial services or foreign exchange trading. However, the researchers warned that excessive reliance on traditional income sources could pose long-term risks, particularly in volatile market conditions. Ahamed (2017) employed panel regression methods to analyze data from Indian commercial banks from 2005 to 2015, assessing how asset quality and non-interest income affect overall performance and the market strength of these banks. The study concluded that Indian banks could enhance their market strength by improving asset quality, increasing interest income, and tightly managing non-performing loans.

Contrary to the *Quiet Life Hypothesis*, another perspective suggests that market power may encourage banks to diversify revenue streams. According to this theory, banks with greater market power can leverage their bargaining position to expand into non-traditional services such as financial investments, fee-based services, or insurance

products. Ovi, Perera, and Colombage (2014) examined this hypothesis in the ASEAN (Association of Southeast Asian Nations) region, finding that banks with higher market power derived a significant portion of their income from non-traditional activities. They attribute this to their ability to impose higher fees and optimize bargaining advantages with customers. More recently, Nguyen and Nghiem (2016) extended this analysis to African countries. Their findings indicated that banks with higher market power not only successfully expanded non-traditional income streams but also improved overall profitability. The authors attributed their findings to stronger managerial capabilities, enabling these banks to identify and exploit non-traditional opportunities effectively. In South Asia, Nguyen, Skully, and Perera (2012b) demonstrated that the interplay between market power and revenue diversification could enhance banking stability. Specifically, banks leveraged market power to mitigate credit risks by expanding income from non-interest activities, thereby strengthening resilience against economic shocks. Beyond market power, competition also plays a pivotal role in promoting revenue diversification. A study by Căpraru, Ihnatov, and Pintilie (2020) in Europe highlighted competition as a key driver motivating banks to seek new income sources. Analyzing a sample of 1,570 banks across 28 countries between 2000 and 2016, they found that banks operating in highly competitive environments were more inclined to diversify revenue to maintain a competitive edge while simultaneously enhancing long-term financial stability.

Conversely, some research highlights that non-traditional income-generating activities may enhance banks' market power. For instance, Valverde and Fernández (2007) demonstrated that greater diversification into non-traditional activities led to increased market power among European banks. Similarly, Ciarrapico and Cosci (2011) observed that European banks engaging in cross-selling or generating higher ratios of commission and fee income relative to interest income tended to exhibit stronger market power. They suggested that expanding non-interest-based services fosters closer customer relationships through personalized, high-quality offerings, which, in turn, impose high switching costs on customers and strengthen market power. However, Montgomery (1994) argued that income diversification could undermine market power, contending that it dilutes specific competencies, particularly those linked to specialization-focused performance metrics.

Nguyen, Perera, and Skully (2016) explored the interplay between market power and income diversification in five Southeast Asian countries—Indonesia, Malaysia, the Philippines, Thailand, and Vietnam—during the 1998–2008 period. Their findings revealed that banks with significant market power in lending and deposit markets earned higher income from non-traditional activities. This suggests that market power enables banks to explore new growth avenues in non-traditional domains while enhancing their bargaining position with customers. However, this relationship is non-linear: banks with limited market power prioritize diversification, while those with significant market power focus on interest-based products. The study also found that this dynamic changed over time. Non-traditional activities became more popular during times of high credit risk, like after the Asian financial crisis. On the other hand, interest-based activities became more popular again when markets stabilized and loan demand rose.

Existing literature underscores a bidirectional relationship between market power and income diversification, indicating that each can influence the other.

Based on the above research overview, the research team poses the following questions: Question 1: How is the measurement of income diversification and market power of commercial banks conducted?

Question 2: Through which model is the relationship between market power and income diversification demonstrated by commercial banks?

Question 3: What policy recommendations are necessary to promote diversification to enhance market power for Vietnamese commercial banks?

3. METHODOLOGY

This study aims to analyze the dynamic relationship between market power (MP) and income diversification (DIV_INC) in commercial banks. The Panel Vector Autoregression (PVAR) method was chosen as the main

analytical tool because it is very good at modeling how endogenous variables change over time in panel data. Developed by Holtz-Eakin, Newey, and Rosen (1988), PVAR combines the traditional Vector Autoregression (VAR) model introduced by Sims (1980) with the advantages of panel data structure, providing high accuracy in estimation and analysis. A notable feature of PVAR is its ability to treat all variables in the model as endogenous, allowing for the analysis of bidirectional causality and complex interactions between variables. This capability is particularly beneficial in the banking sector, where market power and income diversification frequently influence each other. The PVAR method also uses the panel data structure to take into account fixed effects that are unique to each bank. This makes sure that the analytical results are valid and useful. Additionally, PVAR allows for the inclusion of exogenous variables to control for external factors that may impact the relationship between endogenous variables. This feature ensures that the model better reflects the practical realities of the banking sector and provides a more comprehensive view of economic dynamics. We construct the research model based on the PVAR approach.

$$MP_{i,t} = \alpha_i^{MP} + \sum_{j=1}^{p} \beta_j^{MP} MP_{i,t-j} + \sum_{k=1}^{q} \gamma_k^{MP} DIV\_INC_{i,t-k} + \sum EXOG_{i,t} + \varepsilon_{i,y}^{MP} \quad (1)$$

$$DIV\_INC_{i,t} = \alpha_i^{DIV} + \sum_{j=1}^{p} \beta_j^{DIV} DIV\_INC_{i,t-j} + \sum_{k=1}^{q} \gamma_k^{DIV} MP_{i,t-k} + \sum EXOG_{i,t} + \varepsilon_{i,y}^{DIV} \quad (2)$$

Where i and t refer to the bank and time, respectively. MP measures market power, DIV_INC measures income diversification, and EXOG is a set of exogenous variables that could impact both MP and DIV_INC.

3.1. Development of Research Variables

3.1.1. Variables Representing Market Power (MP) of Banks

In this article, the authors apply a structural approach to measure market power using the Lerner Index, which is advantageous because it can measure changes at the level of individual commercial banks and over time. The Lerner Index also clearly reflects behavior originating from monopoly or monopolistic competition of commercial banks (Coccorese, 2014). Moreover, the Lerner Index does not require a clear definition of the commercial bank's market (Beck, De Jonghe, & Schepens, 2013). The formula for calculating the Lerner Index is as follows:

$$Lerner_{it} = \frac{P_{it} - MC_{it}}{P_{it}} \quad (3)$$

Where MC_{it} is the marginal cost of bank i at time t and P_{it} is the output price of bank i calculated by revenue/total assets. The authors estimate the marginal cost (MC) by deriving total cost (TC) concerning one output. The estimation equation is similar to that of Beck et al. (2013) and Silva-Buston (2019). Accordingly, assuming that at time t the total cost TC_{it} of bank I, is a function of one output, TA_{it} and two input prices W_{kit} (h = 1, 2, representing operating costs and capital costs, respectively). The cost function variables, following the main points of empirical research in the banking industry, have the following natural logarithmic form:

$$lnTC_{it} = \alpha_0 + \alpha_Q lnTA_{it} + \sum_{h=1}^{2} \alpha_h \, lnW_{hit} + \frac{1}{2}\alpha_{QQ}(lnTA_{it})^2 + \frac{1}{2}\sum_{h=1}^{2}\sum_{k=1}^{2} \alpha_{hk} \, lnW_{hit} lnW_{kit} +$$

$$\sum_{h=1}^{2} \alpha_{Qh} \, lnTA_{it} lnW_{hit} + \alpha_T T + \frac{1}{2}\alpha_{TT} T^2 + \sum_{h=1}^{2} \alpha_{Th} \, T lnW_{hit} + \alpha_{TQ} T lnTA_{it} \quad (4)$$

In this framework, *i* and *t* denote bank *i* in year *t*, where ***TC*** represents total cost, ***TA*** denotes total assets, and W_k refers to operating costs. These operating costs are quantified as the ratio of other operating expenses to total assets, whereas capital costs are computed based on the ratio of interest expenses to total mobilized capital. Moreover, T functions as the time trend, reflecting the influence of technological and technical progress over time (Altunbaş, Gardener, Molyneux, & Moore, 2001; Brissimis, Delis, & Tsionas, 2010). Within the natural logarithmic function, the non-symmetry condition is established as $\alpha_{hk} = \alpha_{kh}$. Additionally, the assumption of linear homogeneity in input prices necessitates that: $\sum_{h=1}^{2} \alpha_h = 1$, $\sum_{k=1}^{2} \alpha_{hk} = 0$, và $\sum_{h=1}^{2} \alpha_{Qh} = 0$ và $\sum_{h=1}^{2} \alpha_{Th} = 0$. To ensure compliance with these conditions, the total cost and all input prices can be normalized by dividing by one of the input price factors, such as W_{2it}. Consequently, the cost function is expressed in its natural logarithmic form as follows:

$$ln\ ln\left(\frac{TC_{it}}{W_{2it}}\right) = \alpha_0 + \alpha_Q lnTA_{it} + \alpha_h ln\frac{W_{1it}}{W_{2it}} + \frac{1}{2}\alpha_{QQ}(lnTA_{it})^2 + \alpha_{hh}\left(ln\frac{W_{1it}}{W_{2it}}\right)^2 + \alpha_{Qh} lnTA_{it} ln\frac{W_{1it}}{W_{2it}} + \alpha_T T + \frac{1}{2}\alpha_{TT}T^2 + \alpha_{Th} Tln\frac{W_{1it}}{W_{2it}} + \alpha_{TQ} TlnTA_{it} \quad (5)$$

From there, the marginal cost can be determined:

$$MC_{it} = \frac{\partial TC_{it}}{\partial TA_{it}} = \frac{TC_{it}}{TA_{it}}\left(\alpha_Q + \alpha_{QQ} lnTA_{it} + \alpha_{Qh} ln\frac{W_{1it}}{W_{2it}} + \alpha_{TQ} T\right) \quad (6)$$

Theory and empirical studies suggest that banks with high market power typically have less incentive to diversify because they already earn sufficient profit margins from traditional business activities (Berger & Hannan, 1998; Nguyen & Nghiem, 2016).

3.1.2. Income Diversification Measure

The study uses a method similar to the Herfindahl-Hirschman Index (HHI) to measure income diversification. The HHI shows the amount of income that comes from activities other than interest-earning ones. It is defined as follows:

$$DIV\_INC = 1 - \left[\left(\frac{\text{NII}}{\text{TROR}}\right)^2 + \left(\frac{\text{NONII}}{\text{TROR}}\right)^2\right] (7)$$

Where NII is net interest income, NONII is non-interest income, including net income from fees, trading assets, foreign exchange, insurance, etc., and TNOR=NII+NONII is the bank's total net operating income. According to this calculation, the DIV_INCDIV index theoretically ranges between 0 and 1.

According to Ciarrapico and Cosci (2011), diversification can strengthen customer relationships through cross-selling activities, allowing banks to impose high switching costs on customers and increase market power. However, an inappropriate diversification strategy can weaken market power by reducing the advantages of specialization (Montgomery, 1985).

3.1.3. Exogenous Variables

Based on a review of studies, the authors have selected variables that could influence both market power and income diversification in banks to serve as exogenous variables in the research model. The chosen variables include:

- Scale: The bank's size, measured by the natural logarithm of total assets. Generally, size is considered to affect both market power and income diversification. Large banks have cost advantages and broader geographic reach, making it easier to access customers, increase their ability to set prices, and enhance market power. However, the scale may impact commercial banks non-linearly in two ways: (i) market power increases with scale up to a certain point before slowing down (Fernandez de Guevara, Maudos, & Perez, 2005) or (ii) very small banks operating in narrow markets may leverage their familiarity with the market to achieve greater market power than some medium-sized banks (Maudos & De Guevara, 2007).
- Business Efficiency: The return on assets (ROA) ratio reflects the efficiency of asset investment and management's ability to utilize financial resources for profitable investments (Hassan & Bashir, 2003).
- Credit Risk: In this article, the ratio of loan loss provisions to average risk-weighted assets represents banks' credit risk levels. A higher ratio indicates greater costs incurred by the bank to cover problematic debts, meaning that credit risk has increased. Based on Hahm (2008) research, credit risk is expected to increase diversification levels. However, according to Fernandez de Guevara et al. (2005), banks with low credit risk benefit from higher profit margins, meaning they have greater market power.
- Ownership Structure: Pennathur, Subrahmanyam, and Vishwasrao (2012) demonstrated that ownership plays a crucial role in seeking non-interest income. Listing status is also a factor when deciding on an ownership structure. Listed banks are more scrutinized by capital markets and provide more transparent information

(Barry, Lepetit, & Tarazi, 2011). The research further assesses the impact of ownership structure through the stock listing variables.

Aside from ownership structure, the other three variables are not strictly exogenous and may have a reciprocal effect on the main variables of diversification and market power. The study uses a one-period lag for the variables representing the bank's size, business efficiency, and risk to limit this issue.

The calculation formulas of the variables used and the expectations are summarized in Table 1.

Table 1. Summary of variables included in the model.

Variable name	Measurement method	Impact on DIV_INC	Impact on MP
Endogenous variable			
DIV_INC (Diversification)	$1-\left[\left(\frac{NII}{TROR}\right)^2+\left(\frac{NONII}{TROR}\right)^2\right]$	+	+/-
MP (Market power)	$MP_{it}=\frac{P_{it}-MC_{it}}{P_{it}}$	+/-	+
Exogenous variable			
LNTA (Asset size)	Ln (Total asset)	+/-	+
ROA (Business performance)	Profit after tax / Average total assets	+	+
NPL (Credit risk)	Provision expense for non-performing loans / Average risk-weighted assets	+	-
Public (Listed bank)	Equals 1 if the bank is listed, and 0 otherwise.	+/-	+

Source: Compiled from collected data.

3.2. Data Collection and Processing

3.2.1. Data Sources and Sample

The Vietnamese company database (FIIN) provided the primary data for this article. Commercial bank financial statements provided some missing data. The research period selected is from 2007 to 2021 because, before this period, the State Bank of Vietnam had yet to issue a unified financial reporting template, leading to significant differences in how banks recorded and disclosed non-interest income activities. Also, because the PVAR model needs a long enough data series and some tests can only be done with a perfectly balanced panel dataset, commercial banks that were just starting up or that didn't have any financial statement data during the research period were not included. The resulting sample includes 24 banks, forming a balanced panel dataset with 360 observations. These banks represent the largest institutions, which are estimated to account for 80-85% of the lending market, 75-81% of the deposit market, and 74-80% of the total asset market.

Summary of Descriptive Statistics: Table 2 summarizes the descriptive statistics of the variables used for model estimation. Apart from the discrete variables, the continuous variables have means and medians close to each other. This sign indicates that most variables are normally distributed, which is suitable for regression estimation.

Table 2. Descriptive statistics of variables used for estimation.

Variable name	Mean	Median	Min.	Max.	SD. dev.	N
Dependent variable						
DIV_INC	0.292	0.326	-1.712	0.4910	0.198	360
MP	0.197	0.1853	-0.055	0.5726	0.118	360
Independent variable						
LNTA	18.377	18.447	14.527	21.2896	1.399	360
ROA	0.0105	0.0087	0.0000143	0.0557	0.0078	360
NPL	0.0073	0.006	-0.00627	0.0402	0.0062	360
P	0.289	0	0	1	0.454	360

3.2.2. Data Processing

Testing Stationarity for Panel Data: Table 3 presents the results of the before estimating the VAR models; it is necessary to test the stationarity (for panel data) of the endogenous variables (Hartwig, 2010), including the variables DIV_INC and MP. To do this, the research team first conducted a Fisher-type unit root for unit roots based on the Phillips-Perron test and a Fisher-type test for unit roots based on the augmented Dickey-Fuller test for DIV_INC and MP. The test results reject the null hypothesis, indicating that both variables are stable and eligible for estimation using the PVAR model.

Table 3. Stationarity test for DIV_INC and MP variables.

Test method		DIV_INC		MP	
		Statistics	p-value	Statistics	p-value
Dickey Fuller					
Inverse chi-squared (48)	P	130.729	0.000	96.721	0.000
Inverse normal	Z	-5.432	0.000	-2.246	0.012
Inverse logit t (124)	L*	-6.302	0.000	-3.137	0.001
Modified inv. chi-squared	Pm	8.444	0.000	4.973	0.000
Perron					
Inverse chi-squared (48)	P	176.054	0.000	131.840	0.000
Inverse normal	Z	-8.191	0.000	-4.666	0.000
Inverse logit t (124)	L*	-9.400	0.000	-5.910	0.000
Modified inv. chi-squared	Pm	13.069	0.000	8.557	0.000

Granger Causality Test and PVAR Estimation: Table 4 presents the results of the Granger causality test for the two variables DIV_INC and MP with a one-period lag. With a very small p-value for all test statistics, it can be concluded that both MP and DIV_INC variables with a one-period lag help predict DIV_INC and MP.

Table 4. Granger causality test results for two endogenous variables.

Test statistic	DIV_INC MP		MP DIV_INC	
	Statistics	p-value	Statistics	p-value
W-bar	2.408		2.467	
Z-bar	4.876	0.000	5.081	0.000
Z-bar tilde	2.811	0.005	2.951	0.003

4. RESEARCH RESULTS

4.1. Model Estimation Results

Table 5 presents the model's estimation results according to the PVAR. According to the PVAR estimation results, the DIV_INC and MP variables affect each other. In addition to mutual effects, these variables are also influenced by other variables, including operating scale, business efficiency, and financial leverage. The bank's listed stock status has not affected its market power but does not affect its level of diversification.

Table 5. PVAR model estimation results.

Variable name	Expected sign.	Coefficient	Confidence interval (95%)	
DIV_INC				
DIV_INC L1.	+	0.156** [2.09]	0.010	0.3023
MP L1	+/-	-1.034** [-2.04]	-2.028	-0.040
LNTA	+	-0.254*** [-2.78]	-0.433	-0.075
ROA	+	10.952*** [2.64]	2.812	19.093

Variable name	Expected sign.	Coefficient	Confidence interval (95%)	
NPL	-	-1.491** [-2.20]	-2.822	-0.160
P	+/-	-0.081 [-0.98]	-0.243	0.081
MP				
DIV_INC L1.	+/-	-0.502** [-2.19]	-0.096	-0.005
MP L1.	+	0.017 [0.20]	-0.152	0.185
LNTA	+/-	-0.116*** [-3.32]	-0.184	-0.047
ROA	+	9.039*** [9.49]	7.172	10.905
NPL	-	-0.547*** [-4.19]	-0.803	-0.291
P	+	0.058** [2.12]	0.004	0.112
No. of obs.	288			
No. of panels	24			
Ave. no. of T	12			

Note: **, *** indicating significance levels of 10%, and 5%, respectively.

The impact of each index on predicting the level of activity diversification or market power of the banks is as follows (at a significance level of 5%).

4.1.1. Impact on Diversification

- Each unit increase in the MP index increases the bank's diversification level by 0.009569 units to 0.3023897 units.
- Each unit increase in the previous period's diversification index decreases the bank's current period diversification level by 0.0399388 to 2.027803 units.
- Each unit increase in total assets causes the bank's diversification level to decrease by 0.0747094 to 0.4327009 units.
- Each unit increase in ROA (return on assets) increases the bank's diversification activities by 2.812133 to 19.09277 units.
- Each unit increase in the credit risk index decreases the bank's diversification index by 0.1600465 to 2.822112 units.

4.1.2. Impact on Market Power

- Each unit increase in the diversification index causes the bank's MP to decrease by .0052775 to .0950572 units.
- Each unit increase in total assets causes the bank's MP to decrease by 0.0473662 to 0.1842992 units.
- Each unit increase in profitability causes the bank's MP to increase by 7.172478 to 10.90472 units.
- Each unit increase in the equity ratio causes the bank's MP to decrease by 0.2910554 to 0.8032874 units.
- Listed banks have an average MP higher than non-listed banks by 0.0044125 to 0.1121149 units.

4.2. Analysis of Research Results

Firstly, Vietnamese banks' diversification activities and market power are closely related. Specifically, diversification activities and the level of market power negatively impact each other. We can explain this by analyzing the competitive landscape in the Vietnamese banking market. Vietnam's WTO (World Trade Organization) accession in 2007 catalyzed a boom in the banking and securities markets. The period from 2007 to 2011 saw a surge in the

number of banks and securities companies in Vietnam. The rapid increase in banks entering the market and the requirement to raise the minimum capital to VND 1,000 billion and then to VND 3,000 billion made the Vietnamese banking market extremely competitive during this period, leading to a decline in the market power of many banks. This decline forced banks to seek lost market power by diversifying their income sources. The rapid development of the stock market during this period further stimulated banks to increase their activities in this field, often through subsidiaries. However, the fast-paced growth, coupled with the global financial crisis, made securities business and investment activities risky, and the aggressive diversification led to losses and inefficiencies. Many studies have shown that the diversification activities of Vietnamese banks reduce efficiency and increase risk (Batten & Vo, 2016; Nguyễn, 2019; Phạm, 2021). This approach has resulted in the banks' market power not increasing but decreasing significantly. These findings support the "Quiet Life" theory, which posits that banks with high market power tend to have less motivation to diversify (Berger & Hannan, 1992; Nguyen & Nghiem, 2016). It also shows that seeking market power through diversification is not always successful.

Secondly, there is an inverse relationship between the impact of scale on banks' market power and diversification activities. The results of this study are consistent with the research by Fernandez de Guevara et al. (2005) but contradict the findings of De Maudos and De Guevara (2007). This disconnect can be explained by the fact that banks forced to shift to new areas are often smaller banks that struggle to compete in traditional fields. Moreover, before the early 2000s, the Vietnamese banking market was primarily dominated by large, long-established state-owned commercial banks, making it difficult for smaller or newly established banks in the late 2000s to compete, forcing them to shift their focus earlier than expected. The inverse effect of scale on market power indicates that large banks face challenges in increasing competitiveness.

Thirdly, high business efficiency increases banks' market power and diversification activities. These findings are consistent with the study by Hassan and Bashir (2003). This reasoning is understandable because, ultimately, much of a bank's market power comes from effective business operations. Efficient operations enable lower pricing, attract customers, and expand the market. Efficiency also means that banks are better able to manage business activities and are more motivated to enter new fields.

Finally, there is no difference in the level of diversification between listed and non-listed banks, but there is a difference in market power between the two groups. Specifically, listed banks have higher market power. These results contradict the study by Pennathur et al. (2012) but overlap with the findings of Barry et al. (2011). The fact that listed banks are well-managed, meet listing standards, and are prepared to disclose information explains this phenomenon. The market closely monitors these banks for their efficient use of resources, positioning them to achieve more substantial market power.

5. CONCLUSION AND RECOMMENDATIONS

The study examines the relationship between income diversification and market power based on data from 24 banks covering 2007 to 2021. The research results indicate a close relationship between diversification activities and market power, with an inverse effect. Additionally, scale negatively affects market power and diversification activities, while high ROA increases both. However, there is no difference in the level of diversification between listed and non-listed banks, but there is a difference in market power between the two groups of banks.

Based on the research results, the authors propose several solutions for commercial banks as follows:

Vietnamese banks need to identify a more suitable diversification model to strengthen their market position. Accordingly, banks should focus on in-depth diversification, avoiding widespread and inefficient investments. Diversification within their core business sectors, especially banking and financial services, should be their top priority instead.

Banks must concentrate on improving cost management efficiency and profitability by optimizing business process transformations, streamlining human resource management, selecting appropriate operational and

distribution models, and enhancing transaction channels. Effective cost control is a critical factor in improving operational efficiency and thereby boosting the market strength of banks.

Furthermore, regulatory authorities need to accelerate the listing process for banks within the system through supervisory measures that promote timely listings. These measures could include continuous monitoring and supervision of activities to urge organizations to list promptly, requiring banks to quickly develop clear plans and scenarios for complex market conditions, and regularly reviewing, reminding, and warning against intentional delays. In addition, the authors recommend that state agencies strengthen the management of banks' non-credit activities, increase competition management in the banking sector, and continue to promote bank restructuring.

Funding: This research is supported by Banking Academy of Vietnam (4990/TB-HVNH).
Institutional Review Board Statement: Not applicable.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: Upon a reasonable request, the supporting data of this study can be provided by the corresponding author.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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