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The Influence of Bank Risk and Third-party Funds on Bank Performance in South Korea's Commercial Banks

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ABSTRACT

Objectives*: This study aims to analyze the effects of bank risks (credit, market, and operational risks) and third-party funds (TPF) on the performance of South Korean banks.*
Methodology*: This study employed a quantitative research method to achieve the research objectives. Panel data regression using a fixed-effects model was applied to examine the relationships between the variables. Secondary data were collected from the South Korean Financial Supervisory Service, covering 12 conventional commercial banks. The study period spans from December 2015 to December 2023.*
Finding*: The findings show that market risk, operational risk, and third-party funds significantly influence the profitability of South Korean commercial banks. Meanwhile, credit risk has no significant effect on bank performance.*
Conclusion*: Market risk, third-party funds (TPF), and operational risk are important determinants of bank performance. Effective risk management, consistent with Basel standards, can improve operational efficiency, reduce costs, and increase net profit. However, this study finds that credit risk has no significant effect on bank performance.*

Keywords*: Bank Performance; Bank Risk; Third-Party Fund; Efficiency.*

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INTRODUCTION

Excellent bank performance is obtained when a bank can generate customer financial prospects (Berger et al., 2015). Banks collect funds from households and businesses and use these funds to make loans to those who want to borrow (Reserve Bank of Australia, 2023). Banks use the funds to lend to their customers through a range of banking products. They then generate revenue from these products by charging customers a set interest rate. This funding-lending activity that the bank runs faces risks that must be minimized. Freixas & Rochet (2023) argued that, in general, banks face at least some risks, such as market, credit, and transformation risks. When the bank fails to manage its risks, it would lead to reduced trust in the bank from its customers for using financial services. The lenders are worried about saving their money in the bank, and at the same time, they would withdraw their money. Then, the bank would reduce the amount of its third-party fund (TPF) and incur liquidity constraints. When this situation occurs, the bank has limited activity in operating its business. Thus, it would weaken bank profitability.

Moreover, the banking sector plays a significant role in the financial system. Accordingly, any setback in this sector could result in unstable finances and economic turmoil. It is crucial to maintain an efficient system for bank supervision and banking policy to avoid such failure (Puspitasari et al., 2021). The banking sector is inevitably becoming the subject of scrutiny by the public and financial regulators as the need for more effective bank evaluation grows. Not only regulators but also bank clients are becoming increasingly concerned about these financial institutions' viability and stability. Therefore, to ascertain the banks' contribution to business development, it is vital to measure their performance (Puspitasari et al., 2021).

In East Asia, South Korea's banking system is one of the most efficient and integrated. Generally, the South Korean banking industry comprises two sectors: commercial banks and specialized banks. Commercial banks are further divided into nationwide and regional banks. Nationwide commercial banks are by far the largest and can operate across the country. Regional banks, on the other hand, provide financial services in regional and rural areas. Both types of banks play a crucial role in supporting financing at both the micro level, such as households and SMEs, and the larger corporate sector. Furthermore, these banks place a significant emphasis on digitalization and innovation in banking services to improve operational efficiency. These measures have been proven to boost national economic growth in the long term. In fact, Korean society is "overbanked" based on the very high volume of savings and payment transactions (Feng & Yu, 2020; Hamilton-hart et al., 2021). However, this situation also creates disadvantages. First, a barrier to accessing credit remains common for some individuals because lenders typically focus on high-income/high-credit borrowers or rely on collateral-based lending. Customers classified as "medium credit lenders" often miss their funding targets, which is unfortunate given their relatively large size. Second, South Korean banks are considered to have relatively high exposure to operational risks, including credit, market, and operational risks (Park et al., 2024).

Credit risk stems from a significant increase in household debt. This is because household debt encompasses a wide range of mortgages, auto loans, student loans, and credit card balances. This increase is driven by rising housing demand among South Koreans and rising public consumption. Combined with the overbanked population, household debt is a particular concern for the Korean government. Market risk arises from interest rate and exchange rate volatility, as well as broader market conditions. The majority of corporate bank debtors are manufacturing companies that import some of their raw materials and export their products.

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Therefore, exchange rates and market conditions play a crucial role in bank transactions. Risks relate to banks' efforts to provide excellent service quality to their customers, fostering high levels of trust in their savings and transactions. This trust is also supported by banks' efforts to protect customers from technological and cyber threats (Kim et al., 2022; Lim & Mali, 2024). In addition to these three risks, banks in South Korea face challenges in managing third-party funds (TPF). Many South Korean banks use TPF as their primary source of operational funding due to its ability to attract public deposits, an indicator of public trust in the banking system. Previous studies have shown that effective TPF management can improve intermediation efficiency and support increased profitability. TPF growth can also strengthen bank liquidity and increase lending capacity (Barnes, 2023).

However, interbank competition can impact banks' ability to attract and retain TPF. South Korean banks also face challenges in their TPF management, as they are overdependent on foreign or external funding and stability. These challenges affect their profitability. In 2022, the president of South Korea stated that the market structure of South Korea's banking industry is leading to an oligopoly market (Barnes, 2023). This situation has made loan interest rates exorbitant. On the other hand, rising interest rates on loans would benefit the bank by generating higher profits (Freixas & Rochet, 2023).

Based on the explanation above, risk and TPF are expected to affect bank stability and profitability. This relationship is consistent with Modern Portfolio Theory and the Risk-Return Trade-off, as banks manage their asset and liability portfolios to achieve an appropriate balance between risk and return. Modern Portfolio Theory explains that asset diversification can reduce portfolio risk without necessarily sacrificing expected returns. Previous studies have shown that banks seek to structure their credit and investment portfolios and diversify their funding sources to balance expected profits against the risks they face. Furthermore, the risk–return trade-off states that achieving higher expected returns generally requires banks to accept a higher level of risk. Therefore, banks must carefully manage their risk exposure and funding structure, including TPF, to maintain financial stability while improving profitability.

LITERATURE REVIEW

Grand Theories

The grand theories of this study are the Financial Intermediation Theory (Diamond, 1984) and Modern Portfolio Theory (Fabozzi et al., 2008; Markowitz, 1952; Pyle, 1971; Rubinstein, 2002). Financial intermediation theory posits that commercial banks serve as specialized economic agents that bridge the gap between surplus economic units (depositors providing Third-Party Funds) and deficit units (borrowers). In doing so, banks engage in qualitative asset transformation, converting highly liquid, short-term TPF liabilities into long-term, interest-bearing assets (Diamond, 1984). Through this intermediation process, banks inherently absorb various dimensions of financial risk, predominantly credit and market risks. According to the modernized view of intermediation theory by Allen & Santomero (1998), a bank's core economic value is no longer just reducing transaction costs, but rather its capacity to manage and price risk efficiently.

According to Rahmi et al. (2022), a bank as an agent of development is an institution that functions as an intermediary between those who have excess financial resources (surplus) and those who are financially deficient. When carrying out its function as a collector of funds from the community, banks will pay interest on deposits, thereby increasing the amount of initial deposits. Thus, banks also help encourage savings habits in the community. In addition, it is a

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significant incentive for depositors. Banks also function to distribute funds to the community through credit. From these activities, banks will receive interest income from customers. Banks charge higher interest rates on loans and down payments than they pay on deposits. The difference between the loan interest rate and the deposit interest rate is the bank's profit (Puspitasari et al., 2021).

To explain how this risk absorption translates into profitability, this study also integrates a portfolio approach to banking (Pyle, 1971), which applies Modern Portfolio Theory (MPT) (Markowitz, 1952) to financial institutions. MPT suggests that banks treat their loan portfolios and market investments as diversified assets to maximize yields given a given level of risk tolerance. Consequently, rather than being purely detrimental threats, credit and market risks are the necessary underpinnings of revenue generation. If a banking sector operates efficiently under robust regulatory frameworks, higher risk exposure within optimized portfolio limits will yield significantly higher profitability, providing a clear theoretical mechanism for the positive risk-return relationships observed in this empirical model.

Risk Management and the Regulatory Environment of the Banking Firm

Beyond the macro-level of financial intermediation, the operational mechanics of commercial banking are governed by Risk Management Theory (Scholtens & van Wensveen, 2000; Stulz, 2022) and the Theory of the Banking Firm (Baltensperger, 1980). Modern banking literature dictates that risk is not merely a threat to be minimized, but a core strategic attribute. According to Scholtens & Wensveen (2000), the modern banking firm's primary value-creation mechanism is its ability to absorb, transform, and manage risk dynamically. This provides a robust theoretical foundation for the positive effects of credit and market risk on profitability: when banks employ sophisticated risk-pricing mechanisms, the revenue generated by risk premiums typically outweighs the losses from defaults and market volatility.

While classical economic perspectives sometimes view stringent regulatory compliance as an operational drain, the Theory of Bank Behavior under Regulation suggests a contradictory, positive efficiency effect (VanHoose, 2007). Enforcing capital standards (such as the Capital Adequacy Ratio) and operational risk frameworks forces a structural optimization within the banking firm. To maintain target profitability while adhering to strict risk-weighted asset ceilings, banks are compelled to increase cost efficiencies, eliminate operational redundancies, and streamline resource allocation. Consequently, the institutionalization of Basel norms catalyzes reducing operational expenditures, thereby amplifying net profits and explaining the statistically insignificant impact of operational risk alongside the positive contribution of Third-Party Funds (TPF) to overall bank performance.

The Impact of Third-Party Fund (TPF) on Bank Performance

According to Financial Intermediation Theory (Diamond, 1984), commercial banks serve as specialized economic agents whose primary purpose is qualitative asset transformation. This theory posits that banks exist to resolve market frictions, minimize transaction costs, and mitigate information asymmetries by channeling liquid funds from surplus units (depositors) to deficit units (borrowers). Third-party funds (TPF) are funds sourced from the public in the form of current accounts, savings, and deposits (Parlindungan et al., 2024; Rahma & Sutrisno, 2023; Sondakh et al., 2021; Witjaksono & Natakusumah, 2021). TPF is the largest source of funds (reaching 80%-90%) and is vital for bank operational activities. TPF can also measure a bank's success if it can cover its operational costs from the source of funds. The higher the TPF, the better the bank's public trust level (Rahma & Sutrisno, 2023; Sondakh et al., 2021). In addition,

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the greater the TPF successfully collected by the bank, the greater the funds that can be utilized and placed in items that can generate income for the bank or in the form of productive assets such as credit. The increase in productive assets can also increase the bank's profitability as measured by ROA. High profitability then indicates the company's high financial performance (Parlindungan et al., 2024; Rahma & Sutrisno, 2023; Witjaksono & Natakusumah, 2021). The increasing amount of funds from the depositor could be an opportunity for the bank. This fund is transformed into various financing products by the bank, such as loans or mortgages. So, besides paying an 'incentive' to the depositor, the bank would generate a profit by doing this activity. Previous research has indicated that Third Party Funds have a positive impact on Performance (Arif et al., 2024;Amimakmur et al., 2024;Heranita & Zamzami, 2022). Therefore, considering the findings of these previous studies, our study formulates the following hypothesis:
H1: Third Party Funds affect Bank Performance

The Impact of Credit Risk on Bank Performance

The operationalization of the Capital Adequacy Ratio (CAR) as a metric for credit risk dynamics is theoretically rooted in Signaling Theory (Ross, 1977) and the Theory of Bank Capital Regulation (VanHoose, 2007). A higher CAR serves as a positive signal to the market about a bank's financial resilience (Parlindungan et al., 2024). The bank's failure to maintain this risk would impact the customer's trust. A decrease in trust would make customers withdraw their savings. The bank would limit its financing activity due to decreasing liquidity, which makes it inefficient in generating profit. The Capital Adequacy Ratio (CAR) is a proxy for measuring banking credit risk (Parlindungan et al., 2024). CAR is a ratio that shows how much of the bank's assets are at risk. CAR measures the adequacy of bank capital in supporting assets that contain or pose risks. If the CAR value is high (according to Bank Indonesia's provisions of 8%), the bank could finance its operations, carry out better risk management, and increase customer trust.

There is an unchanging significance of CAR for a bank. This is because a bank, as a financial intermediary, should comply with the CAR requirements as a means of protection for depositors. Once they enter the market, they will face high-cost investments to acquire customer trust, usually through the cost of promotions and marketing. They should also carefully plan how to increase bank capital sufficiently and promptly to sustain their growing business (Choi, 2020). A high CAR value is also believed to increase opportunities to increase bank productive assets such as financing/credit because it is supported by ample capital that makes a significant contribution to bank profitability (ROA) (Parlindungan et al., 2024; Rahma & Sutrisno, 2023; Sondakh et al., 2021; Witjaksono & Natakusumah, 2021). Previous studies have indicated that Credit Risk has a positive impact on Performance (Twum et al., 2022;Arif et al., 2024; Parlindungan et al., 2024;Saleh & Afifa, 2020). Therefore, considering the findings of these previous studies, our study formulates the following hypothesis:
H2: Credit Risk affects Bank Performance

The Impact of Market Risk on Bank Performance

According to Market Portfolio Theory, a bank's balance sheet is an aggregate portfolio of interest-bearing instruments; therefore, fluctuations in market interest rates present a strategic risk-return trade-off. The underlying mechanism dictates that a bank's financial survival depends on its management's ability to accurately price these market variations into its lending and deposit rates, turning potential market volatility into a structured driver of net

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interest income (Markowitz, 1952). Other than the aforementioned credit risk, banks usually also have to face market risk. Market risk can arise due to movements of interest rates and exchange rates in the portfolio owned by the bank. Market risk usually measured by the market ratio. The market ratio is derived from the difference between the funding interest rate and the loan interest rate given, or in absolute form. In this research, market risk is proxied by Net Interest Margin (NIM) (Parlindungan et al., 2024; Rahma & Sutrisno, 2023; Sondakh et al., 2021). NIM measures bank management's ability to manage productive assets to generate net interest income. NIM can also indicate the bank's ability to obtain operational income from funds through loans. The higher the NIM, the more productive assets the bank is placing in the form of credit (Rahma & Sutrisno, 2023; Sondakh et al., 2021) . The increasing NIM shows a more significant deposit and loan interest gap. Thus, it makes the bank more efficient in generating its profit. On the other hand, the decrease in NIM shows the bank has a limited ability to generate profit, which will impact the bank's financial performance. (Kim et al., 2020) stated that the impact of low transparency on increasing bank stock market risk is powerful, especially during the economic crisis. Previous studies have indicated that Market Risk has a positive impact on Performance. Duho et al. (2020) found that market risk is relevant in improving profit efficiency, return on assets, and asset turnover. Additionally, Al-Rdaydeh et al. (2022) also found that higher market risk, proxied by SMR, may result in higher profitability of banks. This is an expected outcome, since variation in market payback is positive; there will be a positive liaison between volatility and return, and vice versa. Therefore, considering the findings of these previous studies, our study formulates the following hypothesis:
H3: Market Risk affects Bank performance

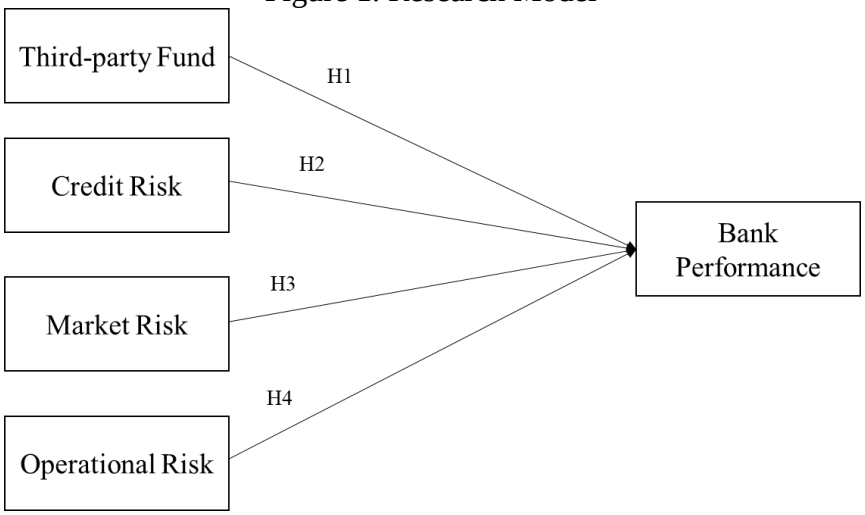
The Impact of Operational Risk on Bank Performance

Under the Theory of the Banking Firm, a commercial bank is viewed as a production unit that combines financial and real inputs (such as technology, labor, and internal processes) to deliver banking services. Operational risk, therefore, represents a structural friction or inefficiency within this production function (Baltensperger, 1980). The bank also needs to ensure operational efficiency to ensure that its operations related to its core business are carried out correctly and meet the expectations of management and shareholders. Therefore, management must pay attention to banking companies' operational risks. The smaller the operational risk, the more efficiently the bank runs its operations (Sondakh et al., 2021). This shows that operational risk management must be addressed. Adequate operational risk management can result in predictable financial performance. It can also negatively impact bank revenues and erode net worth (Fadun & Oye, 2020). The operational Costs to Operating Income (OCOI) ratio can be used as a proxy for operational risk. This ratio measures whether bank management has used all its production factors effectively and efficiently. Any increase in operational costs will decrease profit before tax, ultimately reducing the profit or profitability of the bank. Low profitability will indicate that the company's financial performance is also low (Parlindungan et al., 2024; Rahma & Sutrisno, 2023; Sondakh et al., 2021). Previous studies have indicated that Operational Risk has a positive impact on Performance. Ebenezer et al. (2018) found that the operating expense ratio has a positive impact on firm performance. Generally, banks that focus more on cost control will naturally have a lower operating expense ratio, thereby leading to higher profit margins. Fadun & Oye (2020) also found that sound operational risk management practices have a positive impact on the financial performance of banks. Therefore, considering the findings of these previous studies, our study formulates the following hypothesis.

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H4: Operating Risk affects Bank performance

Figure 1. Research Model



METHOD

This research is quantitative. To achieve this aim, this research uses data collected from South Korea's official website, the Financial Supervisory Service. This research uses semiannual data from December 2015 until December 2023. Meanwhile, this research is cross-sectional and uses population data from 12 commercial banks in South Korea. Commercial banks in South Korea are grouped into multinational and regional banks. The multinational banks consist of 6 banks: Woori Bank, KEB Hana Bank, Kookmin Bank, Shinhan Bank, Standard Chartered Korea Limited, and Citibank Korea. Then, the regional banks consist of 6 banks: Jeonbuk, Kyoungnam, Kwangju, Pusan, Daegu, and Jeju Bank. So, the number of observations in this research is 204. The data is analyzed using panel data regression. This research uses one dependent variable and four independent variables. The dependent variable is bank performance, which uses ROA (return on assets) as the indicator. The independent variables of this research are credit risk, market risk, operational risk, and third-party fund (TPF). Each of the independent variables uses an indicator. Capital adequacy ratio (CAR) is used as an indicator to represent credit risk. Net interest income (NIM) is used as an indicator to represent market risk. Then, the operating cost to operating income (OCOI) ratio captures the operational risk. Lastly, the natural logarithm of a third-party fund is used to capture TPF.

Table 1. Operationalization of Variable

Variable	Indicator	Scale
Bank Performance	ROA	Ratio
Credit Risk	CAR	Ratio
Market Risk	NIM	Ratio
Operational Risk	OCOI	Ratio
Third-Party Fund (TPF)	TPF	Ratio

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RESULTS AND DISCUSSION

Results

Table 2 reflects the use of descriptive analysis for each variable, namely ROA, LN_TPF, CAR, OCOI, and NIM.

Table 2. Descriptive Analysis

	ROA	TPF	CAR	NIM	OCOI
Mean	0.487770	17.72758	16.21137	1.923971	15.12985
Median	0.527500	17.44068	15.99500	1.915000	6.529903
Maximum	0.880000	19.65113	32.59000	2.890000	142.3690
Minimum	-1.550000	15.09206	12.59000	1.180000	-39.04246
Std. Dev.	0.246264	1.258082	2.160961	0.412403	23.58752
Skewness	-3.931406	0.004006	3.133810	0.238552	2.912892
Kurtosis	28.79667	1.996654	22.01611	2.066142	13.10161
Jarque-Bera	6181.982	8.557516	3407.611	9.347608	1155.850
Probability	0.000000	0.013860	0.000000	0.009337	0.000000
Sum	99.50500	3616.426	3307.120	392.4900	3086.490
Sum Sq. Dev.	12.31111	321.3022	947.9600	34.52548	112943.3
Observations	204	204	204	204	204

Table 2 shows that the average ROA of 12 commercial banks in South Korea during the 2015 – 2023 second semester is 0.487770. The mean values of CAR, ICOI, NIM, and TPF were 16.21137, 15.12985, 1.923971, and 17.72758, respectively. The standard deviations were 0.246264 for ROA, 1.258082 for TPF, 2.160961 for CAR, 0.412403 for NIM, and 23.58752 for OCOI. TPF, CAR, and NIM showed relatively low dispersion around their respective mean values. In contrast, ROA exhibited greater relative variation, while OCOI showed the highest variability. The standard deviation of OCOI exceeded its mean value, indicating substantial differences in OCOI across banks and observation periods.

Table 3. Best Model Selection Test

Hypothesis Test	**H_0**	**H_1**	**Prob>Chibar2**	**Result**
Chow Test	CEM	FEM	0.000	H_0 rejected
Hausman Test	REM	FEM	0.000	H_0 rejected
Lagrange Multiplier Test	CEM	REM	0.000	H_0 rejected

Table 3 explains that using the Chow test, the output results of model estimation show a cross-section chi-square value of 0.0000 > 0.05. Based on the Chow model test results, the proper model is the fixed effect model. On the other hand, according to the implementation of the Hausman test, which is utilized to select the optimal model between the Fixed Effect Model and the Random Effect Model, the output results are above the probability value. Since the value of the random cross-section is 0.000 > 0.05, the suitable model is the fixed effect model. Meanwhile, the Lagrange multiplier test is exercised to choose the fittest from the random or standard effect models. From the Lagrange multiplier test results, the value of the prob> chibar2 Breusch-Pagan is 0.000 < 0.05. Therefore, the selected model is the random effect model. The fixed effect model has been determined to be the optimal model for estimation based on the results of the Chow test and the Hausman test. Thus, this study selects the fixed effect model.

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Table 4. Classic Assumption Test

Classic Assumption Test	H_0	H_1	Prob>Chibar^2 (Mean VIF for multicollinearity test)	Result
Normality Test (Jarque-Bera Test)	The data distribution does not differ significantly from the notmal distribution.	The data distribution differs significantly from the normal distribution.	0.000	H_0 rejected
Autocorrelation Test (Breusch Godfrey LM Test)	There is no correlation between a period and previous periods.	There is a correlation between a period and previous periods.	0.000	H_0 rejected
Multicollinearity Test (VIF)	The data does not have a multicollinearity problem.	The data has a multicollinearity problem.	1.84	H_0 accepted
Heteroscedasticity Test (Modified Wald Test)	The data is Homoscedastic	The data is not homoscedastic (including of heteroskedasticity problem)	0.000	H_0 rejected
Cross Section Dependent Test (Breusch-Pagan LM Test)	No cross-section dependence (errors are independent across units).	Cross-section dependence exists (errors are correlated).	0.000	H_0 rejected

Table 4 shows the normality test results with a probability value of 0.000 < 0.05, which does not meet the normality assumption. Therefore, the data are not normally distributed and can be used in the study with robust regression. In addition, the heteroscedasticity test shows that the probability value of 0.000<0.05. Thus, the heteroscedasticity problem is concluded. The multicollinearity test result shows a correlation value of less than 10. Therefore, the data is accessible from multicollinearity problems and subject to use. There are problems with non-autocorrelation, heteroscedasticity, and cross-sectional dependence. The solution is to use FE with General Least Squares Calculations (Cross Section Weight with Estimated Cross Section Weight Coefficient (PSCE). Cross Section Weight (PSCE) makes the model immune or robust to violations of the assumptions of heteroscedasticity, serial autocorrelation, and cross-sectional dependence.

Table 5. FGLS with Cross Section Weight estimation coefficients (PSCE) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Infomation
C	-6.290566	0.808325	-7.782228		
TPF	0.337791	0.047777	7.070117	0.0000	H1 Supported
CAR	-0.003564	0.006345	-0.561705	0.5750	H2 Not Supported
NIM	0.461339	0.042990	10.73132	0.0000	H3 Supported
OCOI	-0.002625	0.000717	-3.662048	0.0003	H4 Supported

Table 5 shows the result of FGLS with Cross Section Weight Estimation. The result indicates that this study can deliver proof of the research hypothesis, showing that TPF, NIM, and OCOI affect bank performance (ROA). However, in this research, CAR does not affect Bank Performance.

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Table 6. Determination Coefficient Test Data

Coefficient Test Data	
R-squared	0.624611
Adjusted R-squared	0.594660
S.E. of regression	0.156717
F-statistic	20.85426
Prob(F-statistic)	0.000000

Table 6 shows an adjusted R-squared value of 0.594660. It indicates that the deviation of changes in the independent variables, namely third-party fund (TPF), CAR, a ratio of OCOI, and NIM, in explaining the magnitude of the deviation of changes in profitability (ROA) as the dependent variable is 59,46%. Table 6 also explains the results of the F-test, which reveal the probability value of 0.0000 for the F statistic, which is less than the significance level of 0.05 or 5%. It means that the model in this research is a good fit.

Discussion

The findings indicate that third-party funds positively affect the bank's performance. The higher the third-party funds, the higher the bank's profitability. With this result, H1 is accepted. These findings of the current study are consistent with those of Arif et al.(2024), Amimakmur et al. (2024), and Heranita & Zamzami (2022), who found that third-party funds have a significant positive effect on financial performance. The result explains that the bank gains profitability when the third-party fund increases because customers save their money. The funds collected from customers would be transformed into various financial products. Then, the bank sells the product to the customers to fulfill their needs (for productive or consumptive activity). These bank activities could increase their income and generate efficient profit. As we know, South Korea has a variety of industries, such as technology, automotive, and entertainment. Those industries need a lot of investments to fulfill their production activity. We assumed that the growing industries in this country make people want to save their money in the bank. Since banks could give a competitive return to the customer because the bank could lend to prospective projects.

Contrary to expectations, this study found no significant effect of credit risk on the performance of South Korea's commercial banks. With this result, H2 is rejected. These results are consistent with those of other studies and found that the Capital Adequacy Ratio (CAR) has no significant effect on Return On Assets (ROA) (Rahmi et al., 2022; Tangngisalu et al., 2020). Under Basel III regulatory frameworks, highly capitalized banks maintain mandatory loss-absorption buffers (measured by the Capital Adequacy Ratio or CAR). When a bank is heavily capitalized, fluctuations in credit risk are absorbed by capital reserves without dragging down operational profits or immediate returns. Found that while asset quality indicators matter, capital adequacy ratios often show an insignificant direct relationship with short-term ROA, as excess regulatory capital insulates current earnings from credit risk shocks (Al-Shakrchy, 2017). Additionally, in empirical modeling, CARs are often measured using single-year cross-sectional or panel data. However, credit risk is lagged**.** A bad loan issued today takes 2 to 3 years to default. As Berger & DeYoung (1997) found that, credit risk impacts performance over multi-year lagged intervals rather than contemporaneously. But the different result found by Kwashie et al. (2022) is that credit risk has a negative impact on bank performance due to their internal capability in funding-lending activity. For example, the staff has limited skills in monitoring or credit scoring for its customers. If the bank implements the Basel norms

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efficiently, it could portray some situations (example: economic downturn). This situation could increase risks, leading to potential losses.

The market risk influences the performance of South Korea's commercial banks. The result aligns with previous findings, such as those of Chand et al.(2024). The positive impact between the net interest margin and bank performance suggests that the bank can generate profit effectively by attracting deposits at a 'low price' to the customers. But simultaneously, the bank charges a higher price to the customer for the credit products. Then, it creates a gap between the interest rate for a loan and the interest rate for a deposit, which would be the profit for the bank. So, the bank can increase its efficiency and generate profit. This could be an advantage for South Korea's banking industry, because of its varied growing industries in the country (such as semiconductors). The bank could offer credit to those sectors by using their saving from the customers.

The operational risk of using OCOI negatively influences South Korea's commercial banks' performance. The result is significant with Suseno & Bamahriz (2017). Meanwhile, Tamakloe et al.(2023) found a positive impact of operational risk on the bank's performance. The insignificant effect of operational risk on bank performance in South Korea's commercial sector can be due to internal conditions. When the operating income increases, it would be followed by the gain of operating costs. So, the bank could not benefit (profit) from it. The result may relate to the finding by Abdulhakim et al.(2024), which found that the income diversification strategy (using the Herfindahl-Hirschman index) did not benefit the bank. If we link it, the operational risk did not help the profitability due to the bank's limited managerial expertise. Then, the bank tends to channel financial products excessively by financing bad sectors or setting high interest rates for loans. So, the bank would fail to increase its profitability. The foreign commercial bank that operates in South Korea (like Standard Chartered Korea and Citibank Korea) & the local commercial bank that has not been internationally operated (like Jeju Bank and Kyoungnam Bank) have lower value in terms of bank performance. It may be because those banks could not compete in terms of managerial expertise & give a competitive return to the customers. So, those banks could not have any benefit from exploiting their business strategy based on their operational income.

CONCLUSION

The results found that market risk, operating risk, and third-party funds are the determinants of the performance of South Korea's commercial banks. When the bank increases its third-party funds and improving their bank risk, it boosts its efficiency in generating profit. Lastly, when the net interest margin increases, it improves the profitability of commercial banks in South Korea. However, credit risk does not affect the bank's performance. This research has limitations, as it only looks at traditional commercial banks. It can be recommended that the South Korean banking industry should maintain and improve its implementation of the Basel norms at the bank level, which can make their operation run efficiently. Also, the recommendation can be implemented for further research to consider by adding the digital bank in South Korea as the object of the study. The empirical model has an R^2 of 0.5946. This indicates that 59% of the variation in bank performance is explained by the indicators included in the model. In panel data financial studies, an R^2 near 60% is considered substantial, reflecting a well-specified model fit. The remaining 41% of unexplained variance highlights the influence of unobserved structural and macroeconomic dynamics. These unobserved factors, such as bank-specific governance structures, executive decision-making, technological adoption,

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regional credit demand, and external macroeconomic shocks, account for individual bank heterogeneity without confounding the estimated relationships of our core variables.

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