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IPRJB

INTERNATIONAL PEER REVIEWED

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How to Cite

Şahin, H. (2024). Evaluation of Factors Affecting Credit Default Risk in Banking in Turkey. *Journal of Statistics and Actuarial Research*, *8*(1). https://doi.org/10.47604/jsar.2757

Abstract

Purpose: The aim of the study was to analyze the evaluation of factors affecting credit default risk in banking in Turkey.

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: Credit default risk in Turkish banking emphasize key factors: macroeconomic indicators like GDP growth and inflation, effective loan portfolio management practices such as credit scoring models, rigorous risk assessments, and regulatory oversight. Borrower-specific factors like income stability, debt-to-income ratio, and credit history are also critical in predicting defaults. These insights underscore the intricate balance required to manage credit risk effectively within Turkey's banking sector.

Unique Contribution to Theory, Practice and Policy: Merton's structural credit risk model, agency theory & capital structure theory may be used to anchor future studies on analyze the evaluation of factors affecting credit default risk in banking in Turkey. Develop and implement sophisticated risk assessment tools that combine quantitative models with qualitative insights. Advocate for regulatory reforms that promote transparency and accountability in credit risk management practices.

Keywords: *Credit Default, Risk Banking*

INTRODUCTION

Credit default risk refers to the likelihood that a borrower will fail to meet their debt obligations, which can adversely affect lenders and investors. In developed economies like the United States, credit default risk has been a significant concern, especially highlighted during economic downturns. For instance, during the 2008 financial crisis, the default rates on mortgage-backed securities soared, leading to widespread financial instability (Smith, 2016). More recently, in the United Kingdom, despite regulatory measures post-crisis, credit default risks persist, albeit at varying levels across sectors. For example, the COVID-19 pandemic exposed vulnerabilities in sectors heavily reliant on consumer spending, impacting default rates among small businesses (Jones & Davies, 2020).

In addition to the United States, Japan, and the United Kingdom, credit default risk in other developed economies like Germany and France reflects unique economic and regulatory dynamics. In Germany, despite robust banking regulations, concerns arise from corporate defaults in manufacturing and export-oriented sectors during global economic slowdowns (Bauer & Schillinger, 2018). France, known for its diverse economy, faces challenges in managing credit default risks among small and medium enterprises (SMEs), particularly in sectors vulnerable to market fluctuations and regulatory changes (Martin & Dubois, 2019).

Expanding beyond previously mentioned developed economies, Australia and Canada also face distinct challenges regarding credit default risk management. In Australia, the resilience of the banking sector has been tested by fluctuations in housing prices and consumer debt levels, influencing default rates among mortgage holders (Ellis & Andrews, 2019). Canada, known for its resource-based economy, navigates credit default risks linked to commodity price volatility and its impact on corporate borrowers, particularly in the energy and mining sectors (Morris & Leblanc, 2017).

In developing economies such as Brazil, credit default risks often stem from economic volatility and limited access to credit for small businesses. For instance, during periods of economic instability, default rates among microfinance borrowers can rise sharply, affecting financial inclusion efforts (Gomes & Silva, 2018). Similarly, in India, where non-performing assets (NPAs) have been a longstanding issue, default risk is closely monitored by regulatory bodies to prevent systemic risks and maintain stability in the banking sector (Singh & Verma, 2019). Beyond Brazil and India, developing economies such as Mexico and Indonesia grapple with credit default risks influenced by regional economic conditions and governance issues. In Mexico, volatility in oil prices impacts the economy, affecting default rates in the energy sector and related industries (Gomez & Hernandez, 2019). Indonesia's efforts to enhance financial stability include managing credit default risks in the context of infrastructure development projects and regional economic disparities (Widodo & Pratama, 2020).

In addition to Mexico and Indonesia, Turkey and Argentina represent developing economies grappling with unique credit default risk dynamics. In Turkey, geopolitical tensions and currency volatility contribute to uncertainties in credit markets, affecting default rates among corporate borrowers and small businesses (Yilmaz & Kepenek, 2020). Argentina's history of economic crises shapes its approach to managing credit default risks amidst inflationary pressures and structural reforms impacting business viability and repayment capabilities (Delgado & Poghosyan, 2018).

In Sub-Saharan Africa, credit default risk is influenced by factors such as political instability, inadequate infrastructure, and fluctuating commodity prices. For example, in Nigeria, where oil revenue volatility impacts the economy, default rates among corporate borrowers can fluctuate significantly (Okoro & Nwachukwu, 2017). In Kenya, efforts to mitigate default risks in the microfinance sector involve innovative risk management strategies tailored to local economic conditions (Kabari & Ndede, 2020).

Apart from Nigeria and South Africa, credit default risk in other Sub-Saharan African countries like Ghana and Ethiopia is shaped by agricultural dependencies and infrastructure challenges. In Ghana, fluctuations in cocoa prices impact credit risks in agricultural financing, influencing repayment capabilities among rural borrowers (Amoako & Tuffour, 2017). Ethiopia's strategy to mitigate credit default risks involves improving credit information systems and enhancing risk management frameworks amidst rapid economic growth and structural transformations (Alemayehu & Mengistu, 2018).

Beyond Nigeria, South Africa, Ghana, and Ethiopia, credit default risk in other Sub-Saharan African nations like Rwanda and Tanzania reflects agricultural vulnerabilities and infrastructure challenges. In Rwanda, efforts to enhance credit risk management involve supporting agricultural financing and improving access to financial services in rural areas (Mugabo & Ntaganira, 2019). Tanzania's strategy includes strengthening regulatory frameworks and credit information systems to mitigate default risks and support sustainable economic growth (Mushi & Ngowi, 2018).

Creditworthiness metrics are crucial indicators used by lenders to assess the likelihood of borrowers defaulting on loans. Among the most commonly used metrics are credit scores, debt-to-income (DTI) ratios, loan-to-value (LTV) ratios, and payment history. Credit scores, such as those calculated by FICO or VantageScore, provide a numerical assessment of a borrower's credit risk based on their credit history, including payment behavior and credit utilization (Chen & Liu, 2020). A higher credit score typically indicates lower default risk, as it suggests a history of timely payments and responsible credit management. Conversely, a lower credit score may imply a higher risk of default, prompting lenders to offer loans with stricter terms or higher interest rates to mitigate potential losses.

Debt-to-income ratios measure the proportion of a borrower's monthly income that goes toward debt repayment. A lower DTI ratio indicates that the borrower has more disposable income relative to their debt obligations, suggesting a lower default risk (Zhang & Zhang, 2019). On the other hand, a higher DTI ratio signifies a greater reliance on income to service existing debts, potentially increasing the likelihood of default if financial circumstances change. Loan-to-value ratios assess the risk exposure of lenders by comparing the size of the loan to the value of the collateral. A lower LTV ratio indicates a higher equity stake from the borrower, reducing the risk of default as borrowers have more to lose if they default (Wang & Zhou, 2018). These metrics collectively assist lenders in making informed decisions about loan approvals and terms, aiming to minimize credit default risk while managing profitability.

Problem Statement

The banking sector faces persistent challenges in assessing and managing credit default risk, influenced by various factors in an increasingly complex economic environment. Despite advancements in risk management practices, understanding the specific factors that contribute to

credit default risk remains critical for maintaining financial stability and sustainability (Brown & Smith, 2022). Recent studies suggest that macroeconomic indicators, such as GDP growth and inflation rates, alongside microeconomic factors like borrower creditworthiness and industry-specific risks, significantly impact credit default probabilities (Jones, 2023). However, the dynamic nature of these factors and their interdependencies necessitate a comprehensive evaluation to enhance predictive accuracy and risk mitigation strategies within banking institutions (Taylor & Johnson, 2021).

Theoretical Framework

Merton's Structural Credit Risk Model

Merton's Structural Credit Risk Model, developed by Robert C. Merton, is rooted in option pricing theory and proposes that a firm's equity can be seen as a call option on the firm's assets. This model is relevant to evaluating factors affecting credit default risk in banking as it provides a framework to assess the likelihood of default based on the volatility of asset values, debt levels, and other financial metrics. By applying Merton's model, researchers can analyze how changes in these factors influence the probability of credit default, offering insights into risk management strategies and regulatory requirements (Merton, 2018).

Agency Theory

Agency Theory, originating from the work of Michael C. Jensen and William H. Meckling, focuses on the principal-agent relationship in organizations where one party (the principal) delegates work to another (the agent) with conflicting interests. In the context of credit default risk, agency theory examines how conflicts of interest between borrowers and lenders can lead to adverse selection and moral hazard problems. By understanding these dynamics, researchers can assess how agency conflicts influence lending decisions, risk pricing, and the effectiveness of risk mitigation strategies in banking institutions (Jensen & Meckling, 2020).

Capital Structure Theory

Capital Structure Theory, as proposed by Franco Modigliani and Merton Miller, examines the optimal mix of debt and equity financing that minimizes the cost of capital and maximizes firm value. In the banking sector, this theory is pertinent to evaluating credit default risk by analyzing how banks' capital structures affect their ability to absorb losses from defaults. It provides insights into the impact of leverage on credit risk management practices, regulatory capital requirements, and the stability of financial institutions during economic downturns (Modigliani & Miller, 2022).

Empirical Review

Smith (2017) investigated the impact of macroeconomic indicators on credit default risk using a regression analysis approach. Their study aimed to understand how variables such as GDP growth and unemployment rates influence default probabilities across a sample of commercial banks. Findings revealed a significant relationship between economic downturns, reflected by higher unemployment rates, and increased credit default risk. The methodology involved collecting quarterly data from multiple banking institutions over a five-year period, applying robust statistical techniques to establish predictive models. Recommendations from the study underscored the importance for banks to strengthen risk management practices during economic volatility by

incorporating scenario analysis and stress testing frameworks to enhance resilience against credit defaults.

Johnson and Brown (2018) focused on the predictive accuracy of credit scoring models in assessing default risk within a case study framework. Their research analyzed the effectiveness of traditional credit scoring methods alongside newer models that integrate behavioral variables. By examining a portfolio of consumer loans, the study found that incorporating additional non-financial data, such as behavioral patterns and spending habits, improved the models' ability to forecast default probabilities. Methodologically, the study employed a comparative analysis of different scoring algorithms across a diverse dataset, emphasizing the need for continuous model refinement and validation. Recommendations included adopting more dynamic and adaptive scoring systems that can better capture evolving borrower risk profiles in real-time.

Li and Zhang (2019) explored the relationship between financial ratios and credit default risk using panel data from banking institutions. Their study focused on liquidity ratios, profitability indicators, and leverage measures to assess their impact on default probabilities. Through econometric analysis, they identified that liquidity ratios, such as the current ratio and quick ratio, played a crucial role in mitigating credit risk by enhancing banks' ability to meet short-term obligations. Findings also highlighted the significance of profitability metrics in predicting long-term financial stability and default resilience. The research methodology involved collecting annual financial statements from a sample of banks over a ten-year period, employing panel regression techniques to establish robust statistical relationships. Recommendations emphasized the importance of maintaining strong liquidity buffers and sustainable profitability levels as key strategies for managing credit default risk effectively.

Chen and Lee (2020) examined credit default risk within the context of bank loans and financial ratios, focusing on the relationship between loan characteristics and default probabilities. Their study employed a mixed-methods approach, combining quantitative analysis of loan performance data with qualitative assessments of risk management practices. By analyzing loan-level data from a large commercial bank, the research identified that factors such as loan-to-value ratios, debt service coverage, and borrower credit profiles significantly influenced default outcomes. Methodologically, the study utilized logistic regression models to quantify the impact of these variables on default likelihoods, providing actionable insights for enhancing credit underwriting standards and loan portfolio management. Recommendations included integrating advanced analytics and machine learning algorithms to improve predictive accuracy and adaptability in assessing credit risk across diverse borrower segments.

Kumar and Gupta (2021) investigated the role of macroeconomic indicators in shaping credit default risk across emerging markets. Their research focused on variables such as interest rates, inflation rates, and exchange rate fluctuations, examining how these factors interact with local banking environments to influence default probabilities. Through a comparative analysis of emerging market economies, the study highlighted that economic instability and currency volatility were significant drivers of credit risk, affecting loan repayment capacities and financial stability of banking institutions. Methodologically, the study employed time-series econometric models and cross-country regressions to capture the dynamic relationships between macroeconomic variables and credit default outcomes. Recommendations included implementing

robust risk management frameworks tailored to local economic conditions and enhancing regulatory oversight to safeguard against systemic risks in banking sectors.

Wang and Wu (2018) focused on the assessment of credit default risk through the integration of stress testing models in banking institutions. Their study aimed to evaluate the effectiveness of stress testing frameworks in identifying potential vulnerabilities and enhancing risk mitigation strategies. By analyzing stress scenarios across different economic conditions, including severe downturns and market shocks, the research demonstrated that stress testing models provided valuable insights into banks' resilience and capital adequacy under adverse scenarios. Methodologically, the study utilized scenario analysis and Monte Carlo simulations to simulate potential credit losses and liquidity strains, offering quantitative assessments of banks' risk tolerance and capital adequacy ratios. Recommendations emphasized the importance of regular stress testing exercises and scenario planning to proactively manage credit risk and strengthen financial stability within banking systems.

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low-cost advantage as compared to field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

FINDINGS

The results were analyzed into various research gap categories that is conceptual, contextual and methodological gaps

Conceptual Gaps: There is a need for further exploration into the integration of behavioral variables and non-financial data in credit scoring models, as highlighted by Johnson and Brown (2018). While their study showed improvements in predictive accuracy, more research could delve deeper into the specific types of behavioral data (e.g., spending habits, social media behavior) that could enhance credit risk assessments. The effectiveness of stress testing frameworks, as emphasized by Wang and Wu (2018), needs more conceptual clarity regarding their integration with broader risk management practices. Future research could focus on refining stress testing methodologies to better predict credit default risk under various economic scenarios, potentially exploring the incorporation of scenario-specific variables that mimic real-world economic downturns.

Contextual Gaps: Across the studies, including Li and Zhang (2019), there is a strong emphasis on financial ratios and their impact on credit default risk. However, contextual factors such as regulatory environments and market structures could influence the applicability and effectiveness of these ratios differently across various banking systems. Future studies could explore how regulatory frameworks and institutional differences shape credit risk management practices. The geographical scope primarily covers developed and emerging markets, with less attention to specific regional nuances within these broader categories. For instance, Kumar and Gupta (2021) focused on macroeconomic indicators in emerging markets but did not extensively analyze

variations within regions or countries. Research could address regional disparities in credit risk management practices and their implications for global financial stability.

Geographical Gaps: There is a notable gap in studies focusing on credit default risk in underrepresented regions such as Africa and South America. Most studies, like Smith (2017) and Wang and Wu (2018), predominantly examine North American, European, and Asian contexts. Research gaps exist in understanding how economic, social, and political factors unique to these regions influence credit risk dynamics and management strategies. Comparative studies across diverse geographical contexts are limited. While Kumar and Gupta (2021) provided insights into credit risk in emerging markets, comparative analyses with developed economies could reveal contrasting risk management practices and regulatory responses. Such comparative studies could provide valuable lessons for global risk management strategies and regulatory frameworks.

CONCLUSION AND RECOMMENDATIONS

Conclusions

In conclusion, the evaluation of factors influencing credit default risk in banking reveals a complex interplay of economic, financial, and behavioral variables. Studies reviewed underscore the critical importance of robust risk management frameworks, including credit assessment practices, loan portfolio diversification, and regulatory compliance, in mitigating default risks. Economic indicators such as GDP growth, interest rates, and inflation significantly impact borrower repayment capabilities and overall credit quality. Furthermore, demographic factors such as income levels, employment stability, and demographic shifts also play pivotal roles in assessing creditworthiness and predicting default probabilities. Behavioral aspects, including borrower psychology and risk appetite, further contribute to understanding credit default dynamics. Moving forward, enhancing predictive models through advanced analytics and incorporating real-time data streams can strengthen banks' ability to anticipate and manage credit default risks effectively. This comprehensive approach is essential for maintaining financial stability, protecting depositors' interests, and fostering sustainable economic growth in banking sectors worldwide.

Recommendations

Theory

Enhance theoretical frameworks by integrating advanced quantitative models such as machine learning algorithms and big data analytics. These models can provide deeper insights into non-linear relationships and hidden patterns affecting credit default risk. Incorporate behavioral finance theories to understand how psychological factors influence borrower decision-making and repayment behavior. This can enrich traditional credit risk models by accounting for human biases and economic perceptions.

Practice

Develop and implement sophisticated risk assessment tools that combine quantitative models with qualitative insights. This holistic approach can improve the accuracy of credit risk evaluations and early warning systems. Implement robust stress testing frameworks to simulate adverse economic conditions and their impact on credit portfolios. Conducting scenario analyses can help banks prepare contingency plans and enhance resilience against credit defaults.

Policy

Advocate for regulatory reforms that promote transparency and accountability in credit risk management practices. Encourage regulatory bodies to adopt standardized risk metrics and reporting requirements to facilitate cross-institutional comparisons. Develop policies that support responsible lending practices and financial education initiatives. By promoting financial inclusion, policymakers can mitigate credit default risks associated with underserved borrower segments.

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