# Evaluation of The Impact of Corruption on The Profitability of The Iranian Banking System Through Measuring Internal Bank Components

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**Abstract**

In this article, the impact of corruption on the profitability of banks in Iran over a ten-year period from 2012 to 2022 is examined. The components under review include bank size, credit risk, cost management, and liquidity. The results indicate that corruption has a significant negative impact on bank profitability through the Return on Assets (ROA) metric, while it does not have a significant impact on the Return on Equity (ROE). Macroeconomic factors such as inflation, economic freedom, and government size also significantly affect the reduction of ROA. The analysis of the models shows that corruption stemming from government structure and unemployment leads to decreased bank profitability. Additionally, liquidity ratio and cost management have a positive and significant relationship with profitability. Consequently, improving regulatory conditions and implementing strict policies to reduce corruption and enhance bank profitability is essential. This study provides empirical evidence on the relationship between corruption and bank profitability and emphasizes the importance of effective oversight.

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## Introduction

Corruption is a pervasive issue that undermines the integrity and stability of financial systems worldwide. In the context of developing economies like Iran, the impact of corruption is more pronounced, significantly affecting various sectors, including banks. The banking system is a vital pillar of any economy, facilitating transactions, providing credit, and fostering investment. However, when corruption infiltrates this sector, it can lead to inefficiencies, increased risks, and reduced profitability, ultimately destabilizing the broader economic outlook. Iran has faced numerous challenges, including economic sanctions, political instability, and a complex regulatory environment. These factors have made the country particularly vulnerable to corrupt practices, which can manifest in various forms such as bribery, embezzlement, and regulatory capture. As the banking system grapples with these challenges, it is essential to assess how corruption impacts its profitability and operational effectiveness. This research aims to evaluate the specific mechanisms through which corruption affects the profitability and efficiency of Iranian banks. The central hypothesis is that corruption has a negative and significant impact on the return on assets (ROA) and return on equity (ROE) of banks. The study employs the Financial System Health Index as a methodological framework, integrating various indicators of financial stability, operational efficiency, and governance to provide a comprehensive analysis. Via this index, the research seeks to offer a clear understanding of the complex interrelationships between corruption and financial performance, thereby indicating the importance of effective oversight and regulatory reforms to mitigate the detrimental effects of corruption on the banking sector in Iran.

## Research methodology

This research employs econometric analysis to investigate the relationship between bank profitability and corruption. After identifying relevant factors, measurable internal and external factors with available data are used to estimate their impact through a regression model. Internal factors include bank size, credit risk, bank liquidity, bank capital size, and cost-to-income ratio. The study covers a ten-year period (2012-2022) for banks in Iran. The study uses the System Generalized Method of Moments (SGMM) for regression model estimation, considering lagged dependent variables and addressing endogeneity, unobserved heterogeneity, and serial correlation. Bank profitability is proxied by Return on Assets (ROA). Data from 21 banks listed on the stock exchange were used, employing an unbalanced panel data model and SGMM with EViews and stata11 software.

## Findings

The aim of this study is to assess the impact of corruption on the profitability of the Iranian banking system over a 10-year period from 2012 to 2022. Using available data and figures, the analysis was conducted, with model coefficients estimated and hypothesis tested using Eviews software. The dependent variable is bank profitability (Y), and the independent variables include bank size (X2), bank liquidity (X5), credit risk (X6), and cost-to-income ratio (X7). Bank size refers to the scale and scope of banks and can significantly impact profitability. Bank liquidity indicates the amount of liquid assets available in banks, which can help performance during crises. Credit risk measures the risk associated with loans and credits, potentially affecting profitability. The cost-to-income ratio reflects cost management, with lower ratios indicating better cost management and higher profitability. These variables help analyze and evaluate the various impacts on bank profitability. The Corruption Perception Index (CPI) is used to measure corruption levels, correlating with the financial health and profitability of banks. Descriptive

statistics for these variables are provided, showing the distribution, central tendency, and dispersion metrics. This comprehensive analysis contributes to understanding the relationship between corruption and bank profitability.

## Correlation test

In this study, a correlation test was used to examine the relationship between two variables and show partial relationships between them separately. The correlation test is employed as a tool to assess the relationship between various variables in studying the impact of corruption on the profitability of Iran's banking system. The null hypothesis (H0) suggests no significant correlation between the variables, while the alternative hypothesis (H1) indicates the presence of such a correlation. To reject the null hypothesis and confirm a significant correlation, the significance level must be less than 0.05. This framework allows us to systematically examine their hypotheses. The results of the unit root test for model variables based on the Levin Lin test are shown in Table 1, indicating that the variables are stationary. The Chow test's null hypothesis emphasizes the inability to use panel data. If the significance level is greater than 0.05, panel data estimation is considered valid. The Hausman test helps determine the appropriate model (fixed or random effects) for the data, crucial for understanding corruption's impact on bank profitability. The Durbin-Watson statistic was used to check for autocorrelation, showing no evidence of serial correlation in the models. Jark-Bera test and histograms were employed to assess the normality of residuals, with results indicating non-normal distribution for both models' residuals. Despite this, the second model's residuals appeared symmetric and bell-shaped, suggesting the absence of significant statistical issues. These analyses help understand the comprehensive relationship between corruption and profitability in Iran's banking system, aiding in policy development to enhance transparency and reduce corruption.

### Table 1. Results of Levin Lin's Stationarity Test at Level.

| Variable | Statistic | Significance | Result |
|---|---|---|---|
| Profitability | -5.46 | 0.000 | Stationary |
| Bank Size | 1.71 | 0.95 | Non-stationary |
| Bank Liquidity | -3.47 | 0.000 | Stationary |
| Credit Risk | -4.84 | 0.000 | Stationary |
| Cost-to-Income Ratio (Cost Management) | -8.88 | 0.000 | Stationary |

## Results of Time Series Data Analysis (Impact of Time Series Variables on Profitability)

In this article, multivariate regression models based on time series data were estimated. To analyze these hypotheses, five different models were designed and applied to data related to the internal components of banks and other economic, social, and political variables associated with economic corruption in Iran. The models examined the impact of variables B1 to B5 on bank profitability, each independently analyzing the results. The regression models' estimates indicated that economic corruption significantly impacts the profitability of Iranian banks. In the first model, B1 represented the direct effect of macroeconomic variables on profitability, showing that increased economic corruption actually reduces bank profitability. This negative

correlation was clearly reflected in the statistical analysis, and the high R2 value indicated the substantial contribution of corruption variables in explaining profitability changes. The subsequent models (2 to 4) explored various dimensions of corruption and its impact on banks' internal components. Specifically, B2 and B3 addressed the effects of corruption on operating costs and asset quality, showing that increased corruption leads to higher operating costs and lower asset quality in banks. These results indicate that internal corruption directly affects bank efficiency, putting the banking system at risk through reduced profitability. The fifth model, B5, examined the interactions between corruption and bank investments, demonstrating that corruption not only reduces profitability but also diminishes banks' motivation to attract new investments. This creates a vicious cycle that harms bank profitability and deprives them of higher revenues. The analysis suggests that corruption in Iran's banking system is a major impediment to profitability, highlighting the need to improve transparency and reduce corruption to enhance bank performance. These findings also underscore the importance of focusing on banks' internal components and necessary reforms to improve profitability. Ultimately, policymakers should focus on creating frameworks to reduce corruption and strengthen the country's banking system.

## Conclusion

This research examined the impact of corruption on bank profitability in samples from Iranian banks over a 10-year period (2012-2022) using the system GMM technique introduced by Arellano and Bover (1995). Our findings are noteworthy for several reasons. Firstly, the profitability variables and corruption criteria corroborate scarce empirical studies in this field. Secondly, the study provides empirical evidence of the relationship between corruption and profitability across various environments with different corruption levels. Using ROA and ROE as measures, the research highlights the negative impact of corruption on bank profitability, showing a significant negative effect of corruption on ROA, but not on ROE. Ultimately, the study emphasizes the need for strong regulatory frameworks and effective governance mechanisms to mitigate corruption and enhance bank profitability. Additionally, the research underscores the importance of transparency and legal compliance to improve the overall health and efficiency of the banking system.

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