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Determinants of Financial Distress Prediction: An Empirical Study of Private Commercial Banks in Ethiopia

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Abstract

Financial distress poses a significant threat to the stability of private commercial banks, potentially undermining their role in fostering economic growth, particularly in developing economies like Ethiopia. This study empirically investigates the determinants of financial distress among private banks in the Dire Dawa district, focusing on a sample of six major private commercial banks over a seven-year period (2017–2023). Employing a mixed-methods research approach, the study integrates the Altman Z"-score model as a proxy for financial distress with pooled ordinary least squares (OLS) regression analysis to assess the influence of firm-specific and macroeconomic factors. Data were sourced from audited annual reports and processed using STATA software, ensuring robust statistical analysis of financial health trends and their predictors.

The Z"-score analysis reveals pronounced volatility in the financial health of the sampled banks, with their status predominantly residing in the grey ($1.23 < Z" < 2.9$) and distress ($Z" < 1.23$) zones, and only sporadic entries into the safe zone ($Z" > 2.9$). This fluctuation underscores a lack of consistent financial stability, highlighting the banks' vulnerability to distress and potential insolvency. The grey zone reflects an ambiguous state where neither stability nor distress is certain, while the distress zone indicates severe financial challenges, posing risks to operational sustainability and economic contributions in Ethiopia.

The regression analysis further elucidates the determinants of this financial condition, achieving an R-squared value of 93.70%, indicating that the model explains a substantial portion of Z"-score variability. Profitability (measured as return on capital employed) and liquidity (measured as the current ratio) exhibit statistically significant positive effects on financial health ($p < 0.01$), with coefficients of 8.58 and 5.28, respectively. These findings suggest that higher profitability and liquidity enhance stability and reduce distress risk, aligning with the hypotheses that these factors bolster financial resilience. Conversely, leverage (debt ratio), inflation (consumer price index), and exchange rate volatility (USD to Ethiopian birr) demonstrate significant negative impacts ($p < 0.01$), with coefficients of -3.72, -5.07, and -4.07, respectively. Elevated debt levels increase vulnerability, while macroeconomic pressures from inflation and currency fluctuations exacerbate financial distress, corroborating their hypothesized adverse effects. Efficiency (total asset turnover) and bank size (natural logarithm of total assets) show positive but statistically insignificant effects ($p > 0.05$), indicating limited influence on financial health in this context, leading to the rejection of their respective hypotheses.

These results highlight the multifaceted nature of financial distress in Ethiopia Dire Dawa's private banking sector, driven by both internal operational factors and external economic conditions. The persistent instability, coupled with significant impacts from leverage, inflation, and exchange rates, signals a pressing need for enhanced regulatory oversight and strategic interventions. Banks with high Z"-scores should prioritize improving profitability and liquidity while managing debt and mitigating macroeconomic risks. Regulators, in turn, must strengthen

supervision to safeguard the banking sector's stability, given its critical role in Ethiopia's economy.

This study contributes to the literature by addressing gaps in prior Ethiopian research, which often overlooked macroeconomic variables or focused on broader samples without regional specificity. By concentrating on Dire Dawa District, it provides localized insights that can inform targeted policy and managerial decisions. Future research could expand the sample size, incorporate additional variables (e.g., interest rates, governance), or extend the timeframe to validate these findings further.

Keywords: Financial Distress, Bankruptcy Prediction, Altman Z"-Score, Profitability, Liquidity, Leverage, Inflation, Exchange Rate