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Internship Project Report: Shania Mitra

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Risk professionals focus on giving the firm clarity on the risk profile of our activities and devise strategies to protect the firm's ability to serve our clients as a leader in global financial markets.

Title of the project:

Modelling Revolver Bias in Loans

Introduction:

Historically, revolvers are traded at lower prices as compared to term loans due to the high funding and liquidity risks they come with. Revolver Bias (RC Bias) is an adjustment that captures the higher risk in lending revolvers as compared to term loans.

Objective:

The project aims to understand the prevalence of Revolver Bias across various divisions – Asset Management Division, Global Markets Division, Investment Banking Division, and build a relationship with respect to market factors.

Methodology:

- The data was cleaned and partitioned among divisions and into stress and non-stress periods
- To test for the presence of revolver bias in each of these segments the following hypothesis tests were used:
    - Parametric tests: One sample T-test, two sample T-test, One-way ANOVA, Paired Samples T-Test, Repeated measures ANOVA
    - Non-Parametric tests: Wilcoxon Signed Rank T-test, Mann Whitney U test, Alexander-Govern Unequal Variances test, Kruskal-Wallis test, Friedmann nonparametric test
- To check the assumptions of the parametric tests the following tests were used: Shapiro Wilk Test, K-square test, Anderson Darling test, QQ Plots
- Finally, to build the model for revolver bias, an ordinary least squares model was used

Key learnings:

1. It is important to test the statistical significance of increases or decreases in values before acting upon them

2. Before using any statistical test, it is important to see that the assumptions for which the test is valid are met.

3. It could be statistically verified that revolver bias in loans was higher for revolvers as compared to term loans, especially during the pandemic.