

Report

Analytical Dashboard on Year wise analysis of the EXIM bank financials

Introduction:

The development of an analytical dashboard focusing on the year-wise analysis of the Export-Import Bank of India (EXIM Bank) offers stakeholders a comprehensive tool to assess the institution's financial performance over time. By visualizing key financial metrics such as liabilities, reserves, bonds, and other variables across

different years, the dashboard enables stakeholders to track trends, evaluate risk exposure, and make informed decisions regarding investment strategies and export planning. Through interactive visualizations and data-driven insights, the dashboard promotes transparency, accountability, and informed decision-making, ultimately contributing to the sustainable growth of India's export-import sector.

Analysis: Here summary function of R is used on all variables of data frame. Result: This report provides an overview of the liabilities and assets of the Export-Import Bank of India (EXIM Bank) over the years from 1982 to 2022.

1. Liabilities:

- Liabilities Capital: The liabilities capital of EXIM Bank has shown a significant increase over the years, with a minimum value of 75 and a maximum of 15,909. The median value of liabilities capital is 550, indicating that half of the observations fall below this value, while the mean is substantially higher at 2,109, suggesting a skewed distribution with some extremely high values.
- Reserve and Fund: The reserve and fund have also increased over time, with a median value of 1,066 and a mean of 1,568. This indicates that EXIM Bank has been setting aside reserves and funds to cover potential losses or future expenses.
- Bonds, RBI, GOI, and Other Rupee Borrowings: These categories represent different sources of liabilities for EXIM Bank. Bonds have seen a substantial increase over the years, with a mean value of 20,055. Other rupee borrowings also show a significant mean value of 1,110, indicating reliance on borrowing as a source of funding.

2. Assets:

- Foreign Currency Borrowing: The foreign currency borrowings have increased steadily over time, with a mean value of 4,232. This suggests that EXIM Bank has been actively borrowing in foreign currencies to finance its operations.
- Deposits: Deposits represent funds held by EXIM Bank, with a median value of 150 and a mean of 724.8. This indicates that EXIM Bank receives deposits from various sources, which contribute to its overall funding.
- Other Liabilities: This category includes other liabilities not specified in the report. The mean value of 2,657 suggests that there are additional financial obligations EXIM Bank is responsible for.

3. Total Liabilities/Asset:

- The total liabilities/assets ratio provides an insight into EXIM Bank's leverage and financial health. The mean value of 32,905 indicates that liabilities substantially outweigh assets on average, suggesting that EXIM Bank relies heavily on borrowed funds to finance its operations and investments.

Overall, the report suggests that EXIM Bank has experienced significant growth in its liabilities and assets over the years, reflecting its expanding role in facilitating international trade and financing. However, the high leverage ratio raises questions about the bank's financial stability and ability to manage risks effectively. Further analysis of the composition of liabilities and assets, as well as their trends over time, would provide deeper insights into EXIM Bank's financial performance and sustainability.

Visualization

Part 1: Financial data of EXIM Bank over the years.

Objective: To show year wise financials of EXIM bank.

Analysis: In this part of dashboard, I have used an interactive histogram which has years on X axis and different cases in different data on y axis.

Result:

Liabilities capital- The capital for the EXIM bank has been increasing since the 1985, in the pandemic, there was no capital addition in the bank.

Reserves and Funds- There is an increasing trend with a decrease around the years on COVID-19

Bonds- the chart shows that the number of bonds issued in India has fluctuated over time, with some general upward and downward trends. The reasons for these fluctuations are complex and likely due to a variety of factors, such as economic conditions, interest rates, and government policy.

RBI investment- It is important to note that without knowing what the data represents, it is difficult to draw any definitive conclusions about the chart. However, the chart does show that the RBI has grown significantly in size over the past 35 years. This growth is likely due to several factors, including India's economic growth, inflation, and the RBI's own asset management strategies.

GOI investment- There is an increasing trend with a decrease around the years on COVID-19

Other investments- There has been a fluctuating trend with the investments.

Analysis

Part 1: Introduction

This part of Dashboard statistically compares different crimes per state over years using test of Anova.

Part 2: Test for different funds over the years

Objective: To check the financials of the EXIM bank in over the years.

Analysis: I have used Analysis of Variance (ANOVA) using the formula Funds ~ Capitals + Error (Year/Capitals), data = Liabilities capital), which is suitable for examining the influence of the variable 'Year' on the response variable 'Data', while considering potential differences among States and across Years within each State.

Here, null hypothesis will be no significant relation between variables and alternate hypothesis shows significant relation between variables.

Result:

The ANOVA results you've provided indicate that there is a significant effect of the variable "Year" on the "Capitals" (which includes Liabilities, Reserves, and Bonds) of EXIM Bank. Let's break down the analysis:

1. Overall Effect of Year on Capitals:

- The ANOVA table for the Capitals variable shows a significant F-value ($F = 70.96$) with a very small p-value (< 0.001). This indicates that there is a significant overall effect of the year on the capitals of EXIM Bank.

2. Effect of Year on Individual Capitals:

- Breaking down the Capitals variable into its components (Liabilities, Reserves, and Bonds), the ANOVA results indicate that the effect of year is significant for these individual components as well.
- This suggests that over the years from 1982 to 2022, there have been significant changes in the levels of Liabilities, Reserves, and Bonds held by EXIM Bank.

3. Interpretation:

- The significant effect of year on EXIM Bank's capitals suggests that there have been notable changes in its financial structure and obligations over time.
- It could imply changes in borrowing patterns, reserve management strategies, or overall financial policies of the bank in response to evolving economic conditions, regulatory requirements, or strategic objectives.
- Further analysis would be necessary to understand the specific factors driving these changes and their implications for EXIM Bank's financial health, risk management practices, and ability to fulfill its mission of supporting India's international trade.

4. Limitations:

- While the ANOVA results provide evidence of statistical significance, they do not explain the direction or magnitude of the observed changes in EXIM Bank's capitals over the years.

- Additional statistical techniques, such as post-hoc tests or regression analysis, may be needed to explore the specific relationships between the year and individual components of capitals in greater detail.

In summary, the ANOVA analysis highlights the importance of considering the temporal dimension when assessing EXIM Bank's financial position and performance, indicating that the bank's capitals have varied significantly over the years examined. Further investigation is warranted to gain deeper insights into the underlying factors driving these changes and their implications for EXIM Bank's operations and stakeholders.

Conclusion

The analytical dashboard on year-wise analysis of EXIM Bank's financials serves as a valuable tool for stakeholders to gain actionable insights into the institution's financial performance and its impact on India's international trade landscape. By leveraging data visualization and analytics, the dashboard empowers users to make informed decisions and contribute to the sustainable growth of India's export-import sector.