

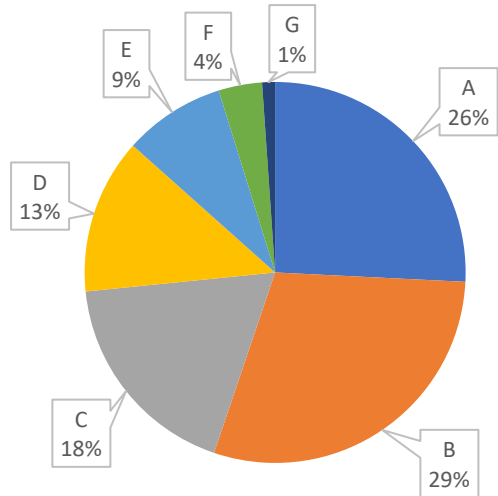
Data Dashboard

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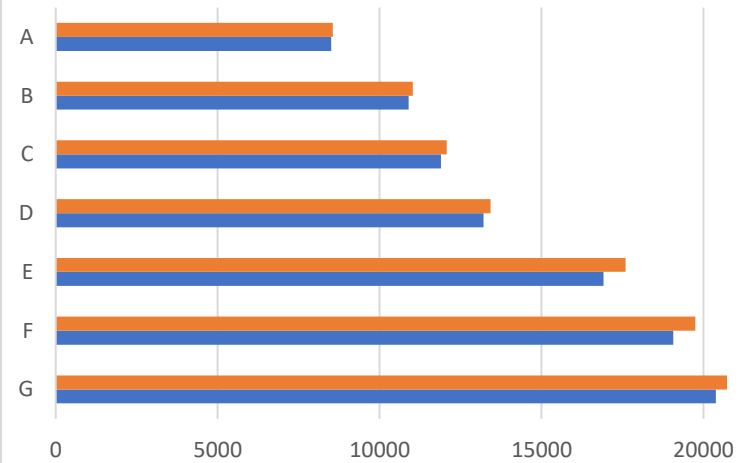
Southern New Hampshire University

# Short Term Loan Analysis Dashboard

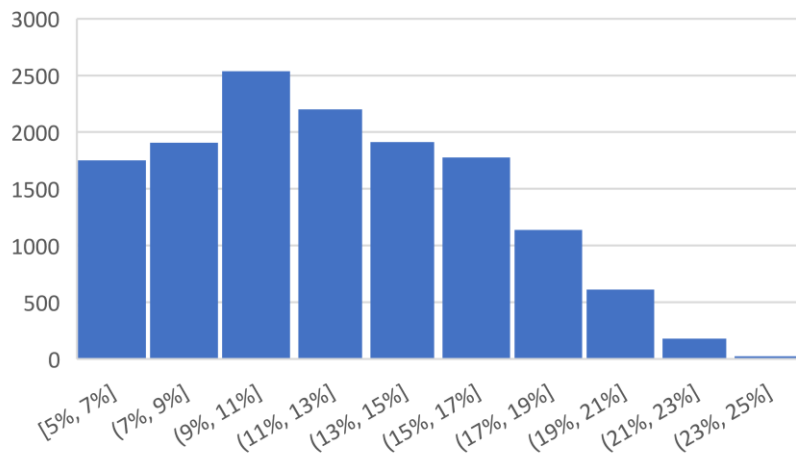
## Loans Issued By Grade



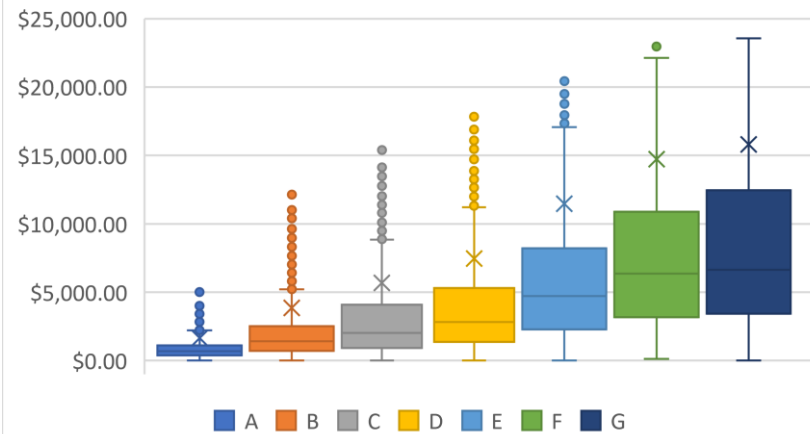
## Amount Applied v Funded by Loan Grade



## Loans Issued By Interest Rate



## Interest Received By Loan Grade



I created a dashboard in Excel that visualizes some statistics of over 14,000 short term loans that were funded by a company for the last five years. The first visual in the dashboard is a pie chart that shows all of the loans that were funded broken down by the grade that was assigned to each loan on a scale of A (lowest risk) to G (highest risk). The grade variable is categorical, so I created a pivot table that counted the amount of loans with each grade, and then used a pie chart to visualize each count as a percentage of all of the loans that were funded. The colors in the pie chart were created automatically by Excel, and they correspond directly to the colors of the grades in my fourth visual. The second visual in the dashboard is a horizontal bar chart that is broken up by loan grade and shows the average amount that was applied for loaning versus the amount that was actually funded on each loan. Although I chose not to label the bars, the orange bars represent the amount that was applied for and the blue bars represent the amount that was funded. I chose not to label the bars because it makes sense that the company would only chose to fund the same amount or less than what was applied for, and not more. You can easily see that loans with higher risk grades typically have a larger difference between the amount applied for and the amount funded. To create this visual, I made a pivot table that calculated the average amounts applied for and funded for each loan grade, and then plotted those amounts on a horizontal bar chart. The third visual in the dashboard is a histogram that breaks down all of the loans by the interest rate that was agreed upon. To create this visual, I tried to make a pivot table that counted the amount of loans that were given out at each interest rate. Once I did this, I found out that histograms cannot be created from pivot table data, which makes sense since a histogram shows the distribution of a single numeric variable. I was then able to create the histogram directly from the original dataset. The fourth visual in the dashboard is a box and whisker plot that shows the interest (profit) that the company received from loans of each grade. Similar to the histogram, a box and whisker plot cannot be created directly from a pivot table, so I had to first create a pivot table that used grade in the row field, ID in the column field, and sum of total\_rec\_int in the values, since each ID corresponds to exactly one loan. I had to copy and paste the data outside of the pivot table, and then I was able to create the box and whisker plot. As I mentioned before, the colors of the grades on this visual are the same as they are in the first pie chart visual.

The main purpose of this dashboard is to explore company's strategy in terms of how many loans of each grade they choose to fund. Some information can be gathered from the dashboard as it is in this report, but it could be even more informative with interactive capabilities that allow the user to dig in to the visuals and how they change due to various loan grades and interest rates. My hypothesis which might

improve performance, and could be explored further using this dashboard, is that the company more than mitigates the risks of lower grade loans by decreasing funding amounts versus the amount applied for and by increasing interest rates, and therefore might find more profit by funding a higher percentage of loans with grades of E, F, or G. According to the pie chart, the company currently allocates only 14% of its short term loan portfolio to loans graded E, F, or G. However, the box and whisker plot shows that the profit the company makes on these types of loans is significantly larger than on loans graded A-D. For this reason, it might be a better strategy to increase the amount of E, F, and G graded loans they issue, so that these loans eventually represent something like 20-25% of the total short term loan portfolio. This could be done by increasing their acceptance rate of loan applications with E,F, or G grades, or by targeting their marketing towards customers who might apply for E, F, or G graded loans.