



# Credit Risk Analysis

ALIA TUNGGA DEWI

Virtual Internship Program - Data Scientist



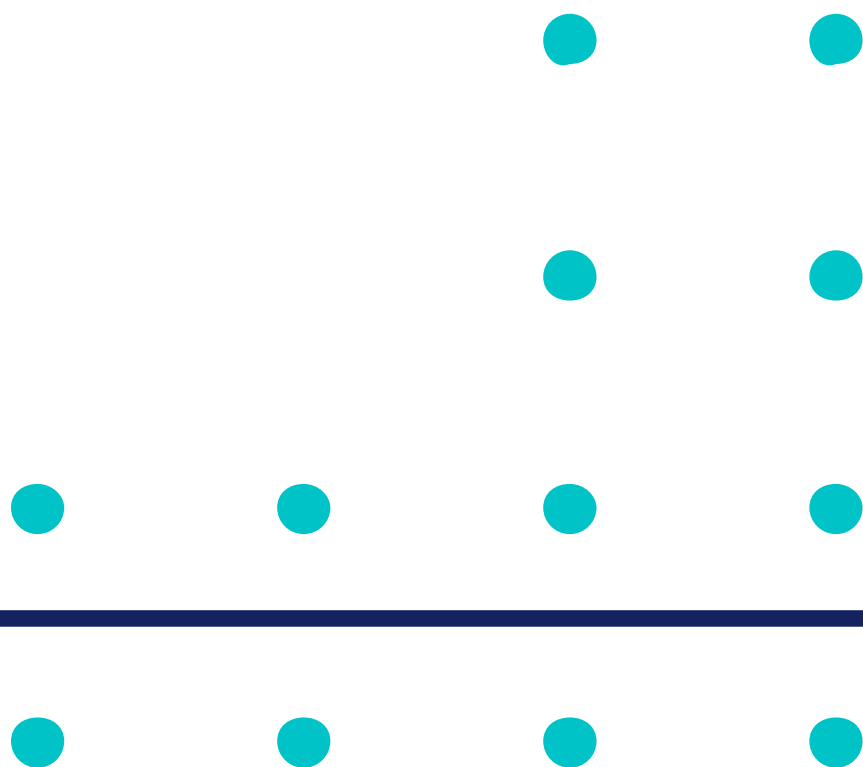
**id/x** partners



# About Company

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ID/X Partners (PT IDX Consulting) was founded in 2002 and has served companies throughout Asia and Australia and across a wide range of industries, particularly financial services, telecommunications, manufacturing and retail. ID/X Partners provides consulting services specializing in leveraging data analytics and decisioning (DAD) solutions combined with risk management and integrated marketing disciplines to help clients optimize portfolio profitability and business processes. The comprehensive consulting services and technology solutions offered by id/x partners make it a one-stop service provider.

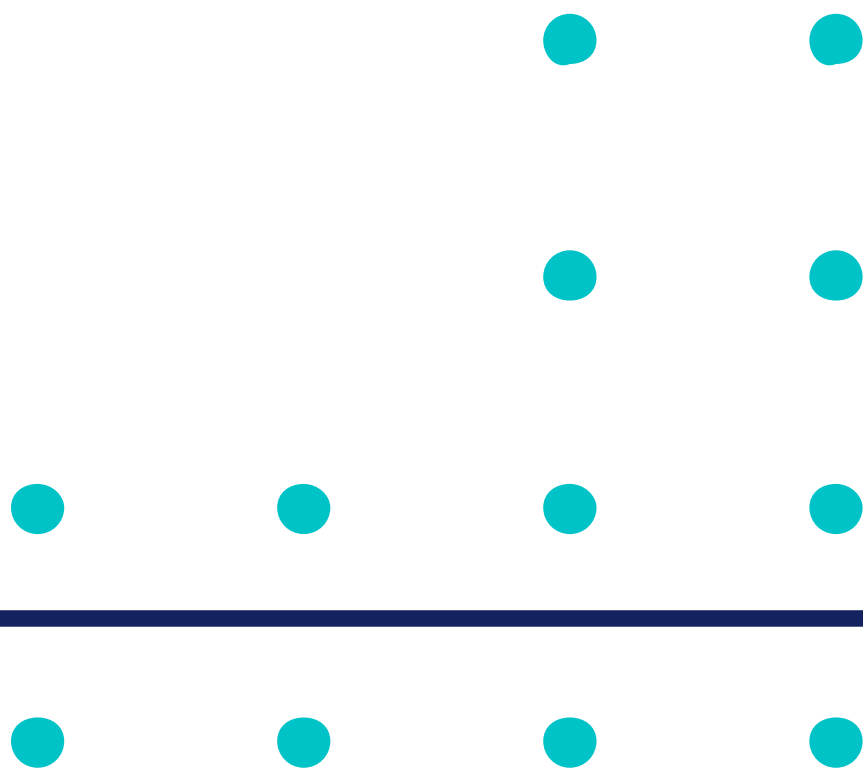




# About Project

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We will analyze the characteristics of the customers whose loans belong to "**bad loan**" category and will build a **Probability of Default (PD) Model**, so that it can be used in future to predict the customer will default or not.

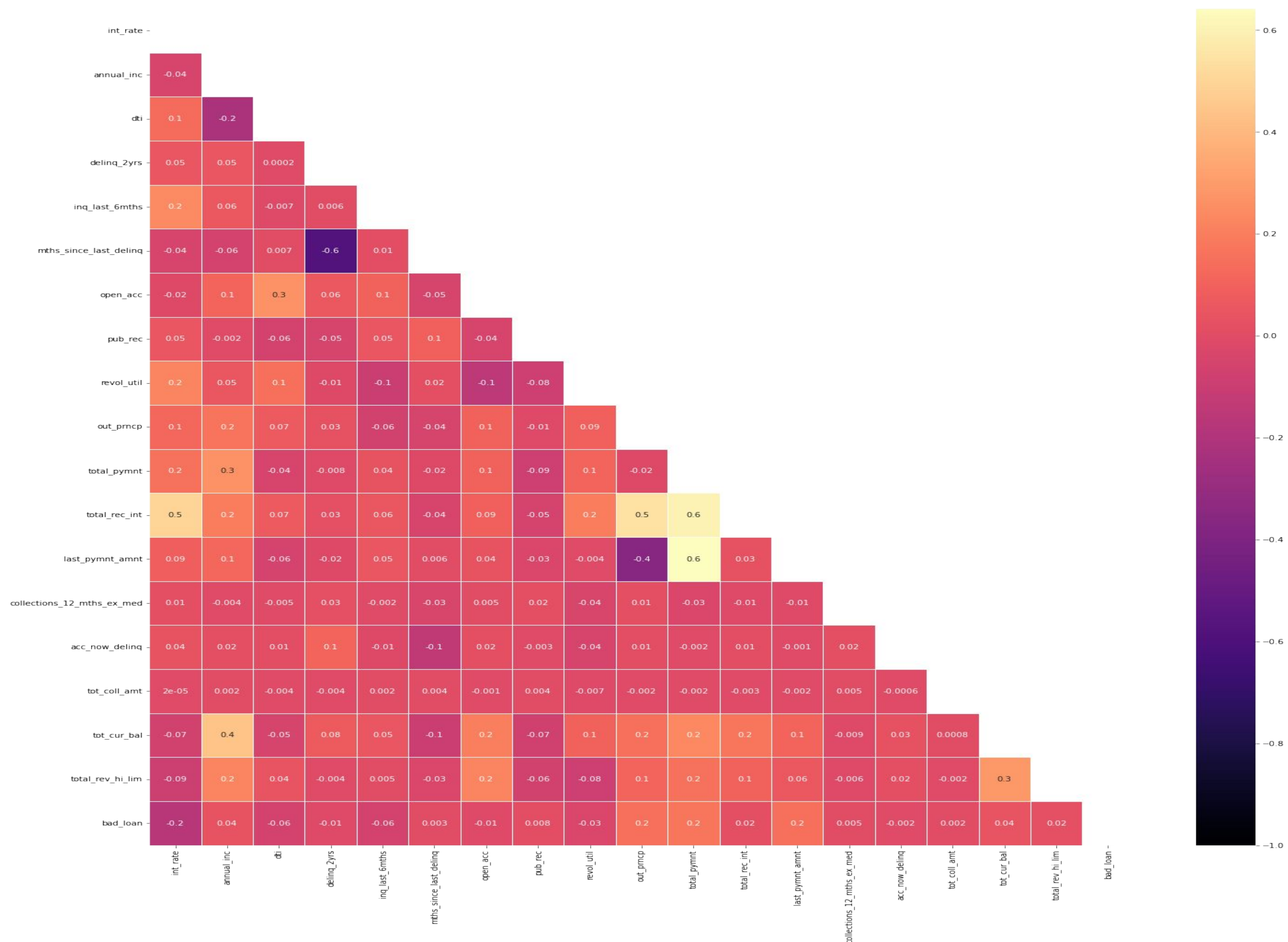








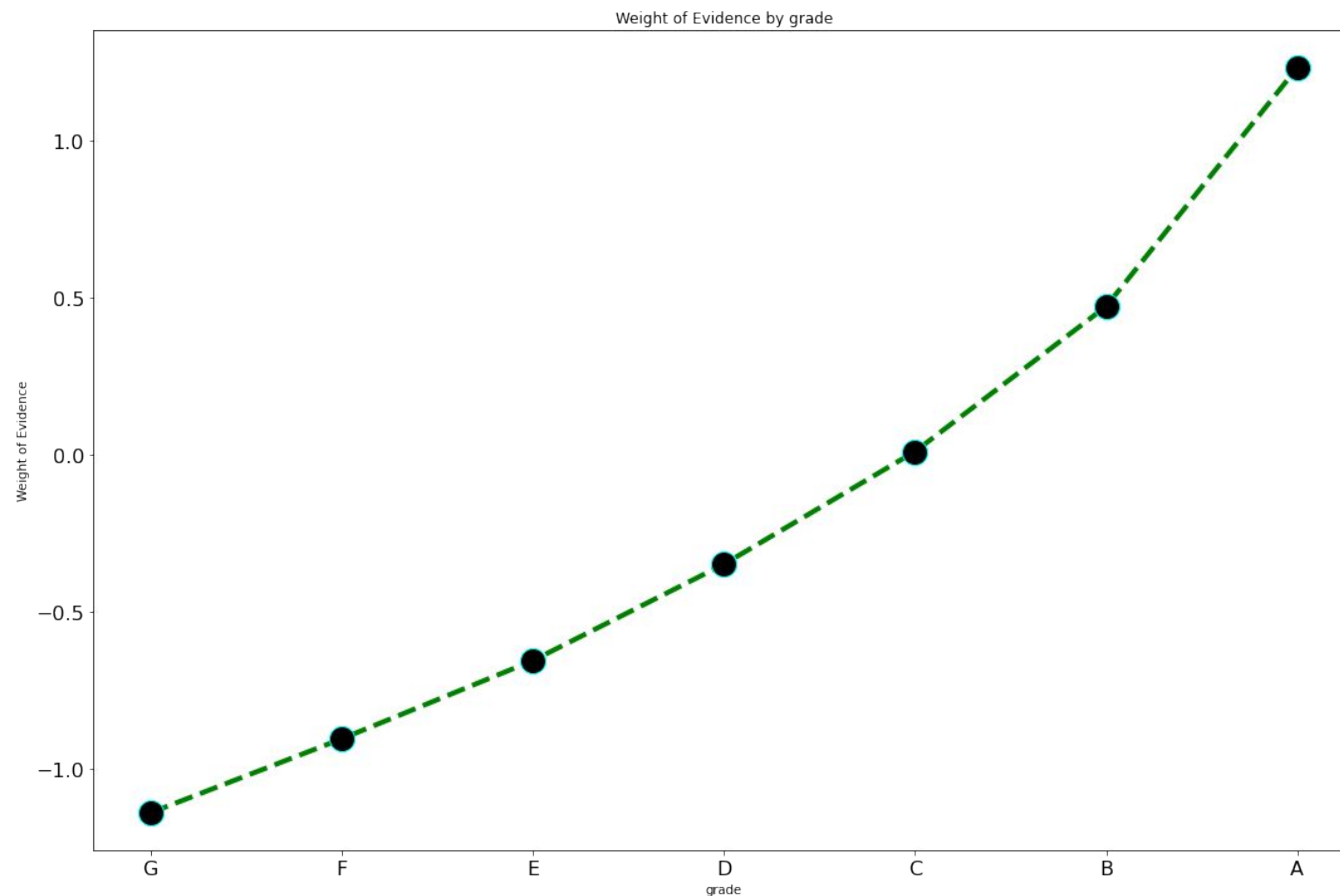
# Removing multicollinear



The slide features a clean white background with decorative geometric elements in the corners. The top-left corner has a dark blue horizontal line and a light blue hatched square. The top-right corner contains a complex arrangement of overlapping squares and circles in dark blue, medium blue, and teal, with a small cluster of teal dots nearby. The bottom-left corner features a similar geometric pattern with overlapping squares and circles in dark blue, medium blue, and teal, and a small cluster of teal dots. The bottom-right corner has a dark blue horizontal line and a light blue hatched square.

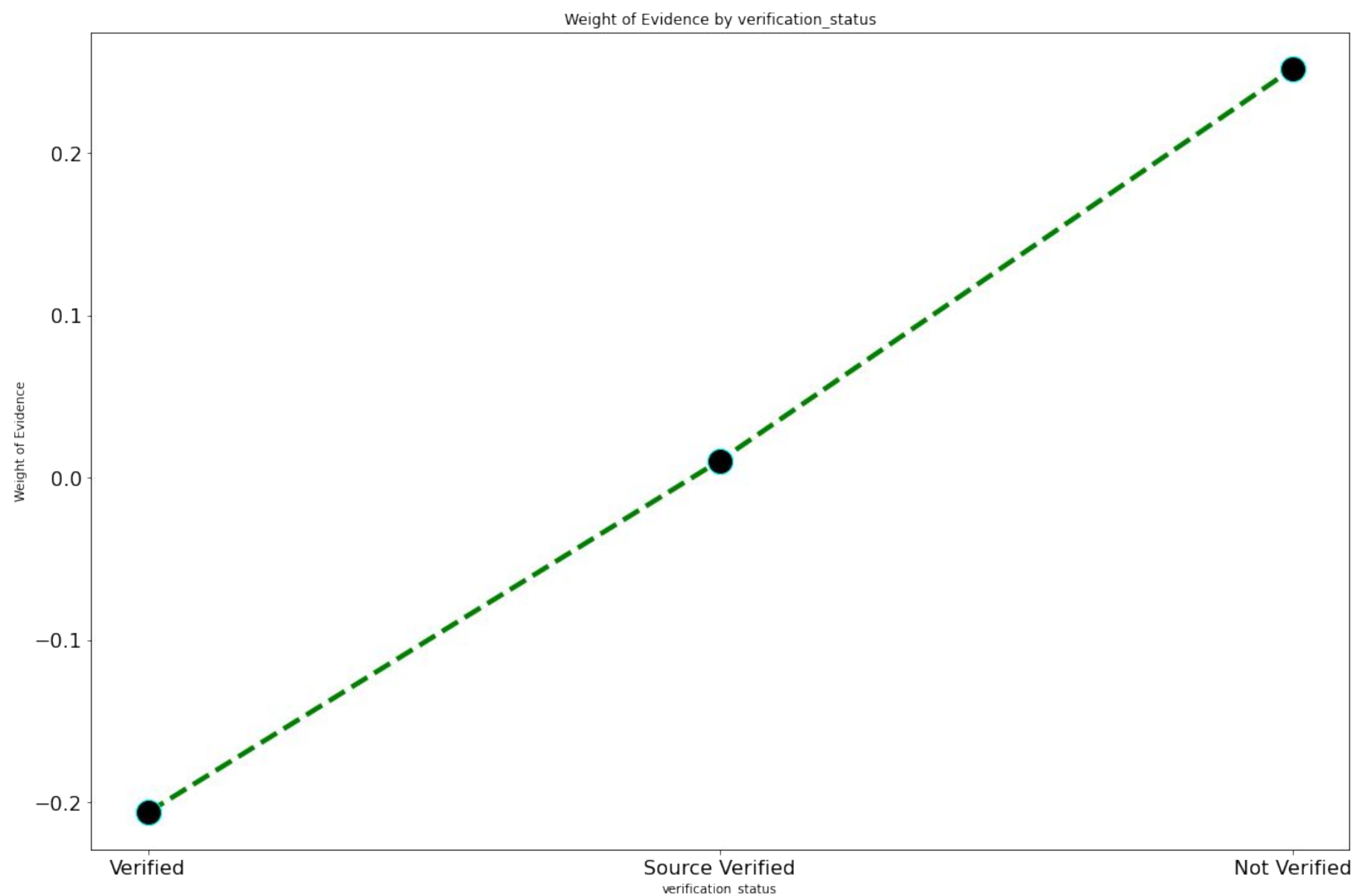
# Analyzing Categorical Variables

# Analyzing Grade Variable



the graph depicts the value of having significantly different woes when we assess change. Therefore, we will store each value as a feature.

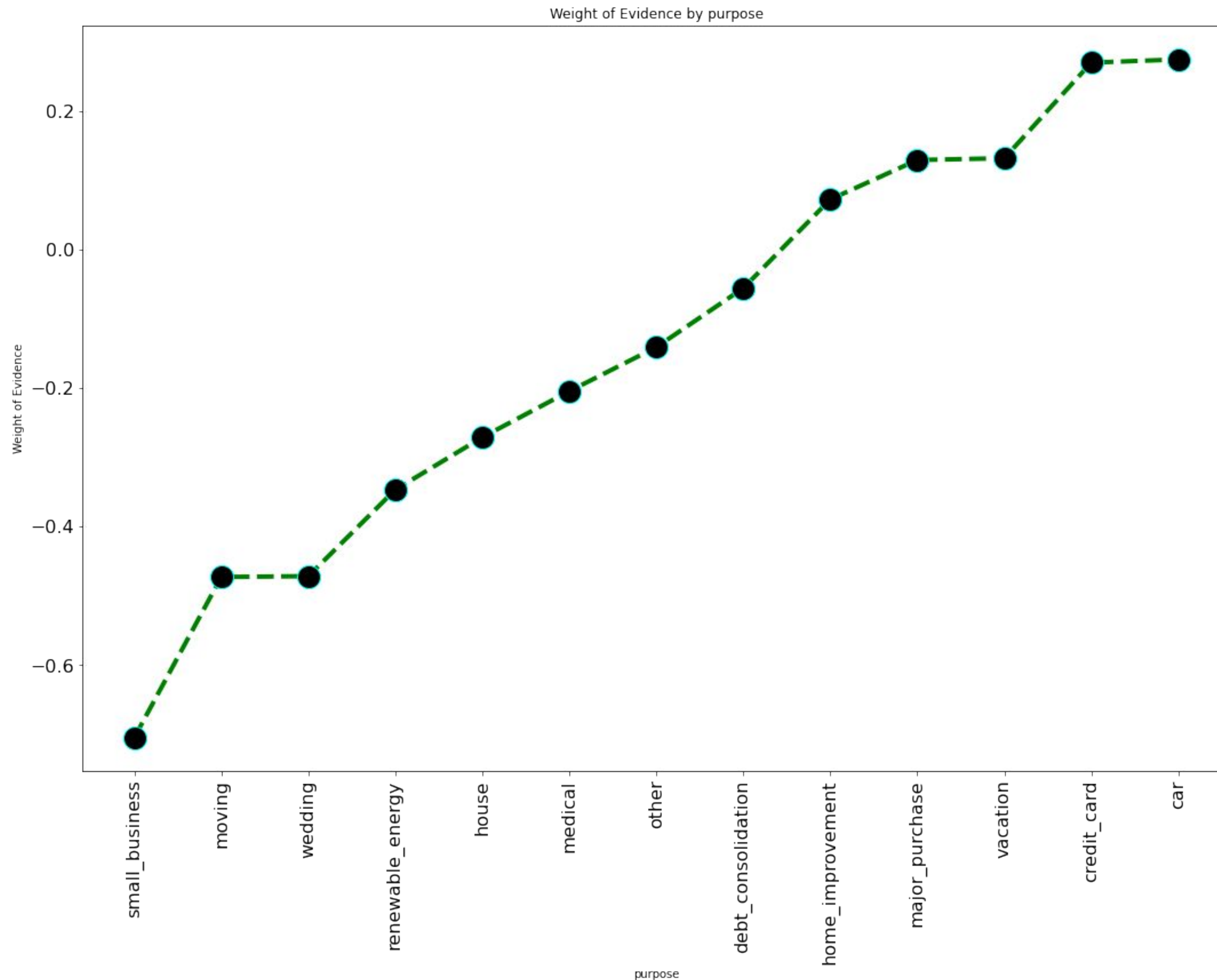
# Analyzing Verification status variable



These variables have different WoE values and can be used as separate variables



# Analyzing Purpose Variable



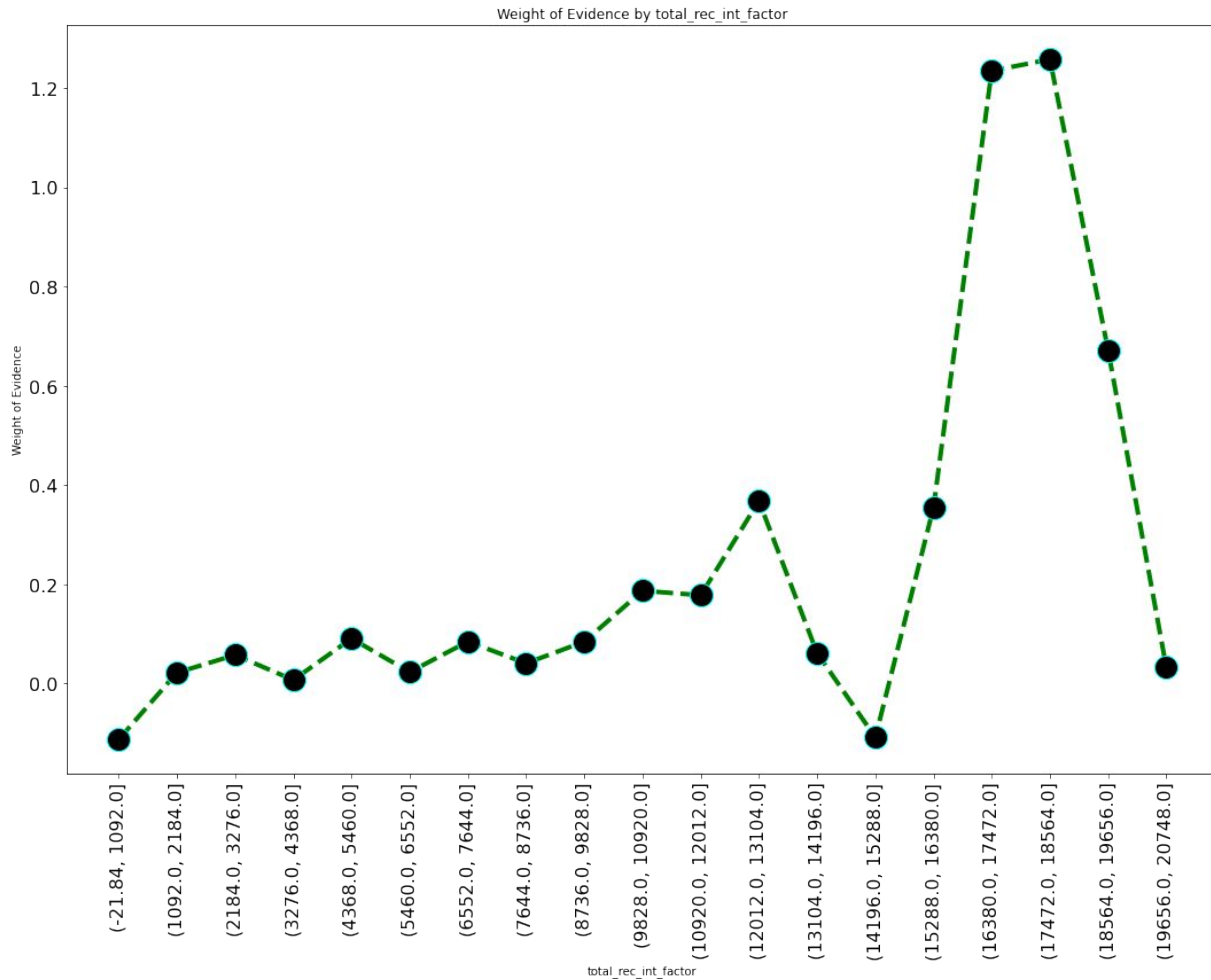
The following categories will be combined together:

- educational,
- renewable\_energy,
- moving other, house,
- medical wedding,
- vacation
- debt\_consolidation
- home\_improvement,
- major purchase car,
- credit\_card

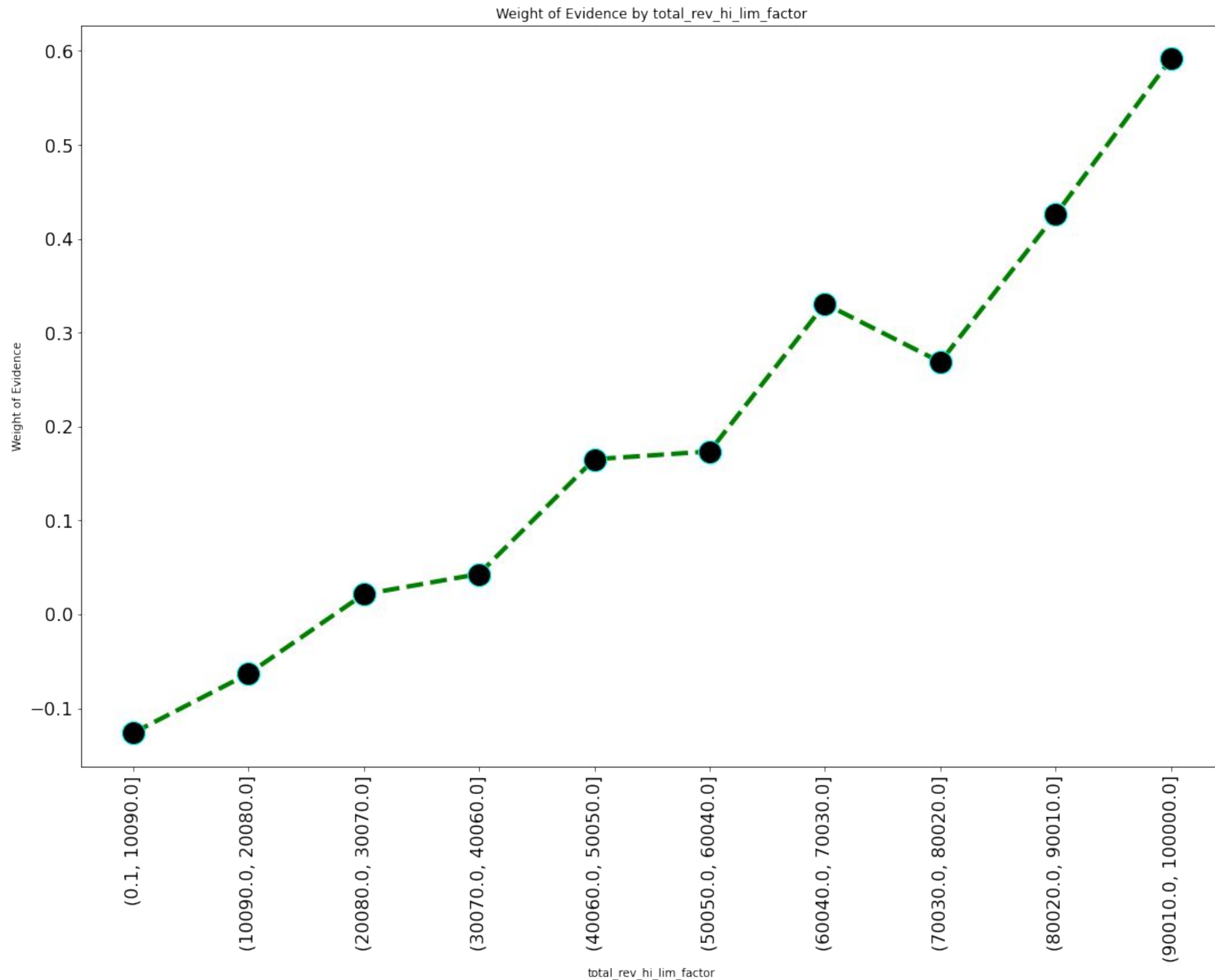


# Analyzing Continuous Variables

# Analyzing Total rec int

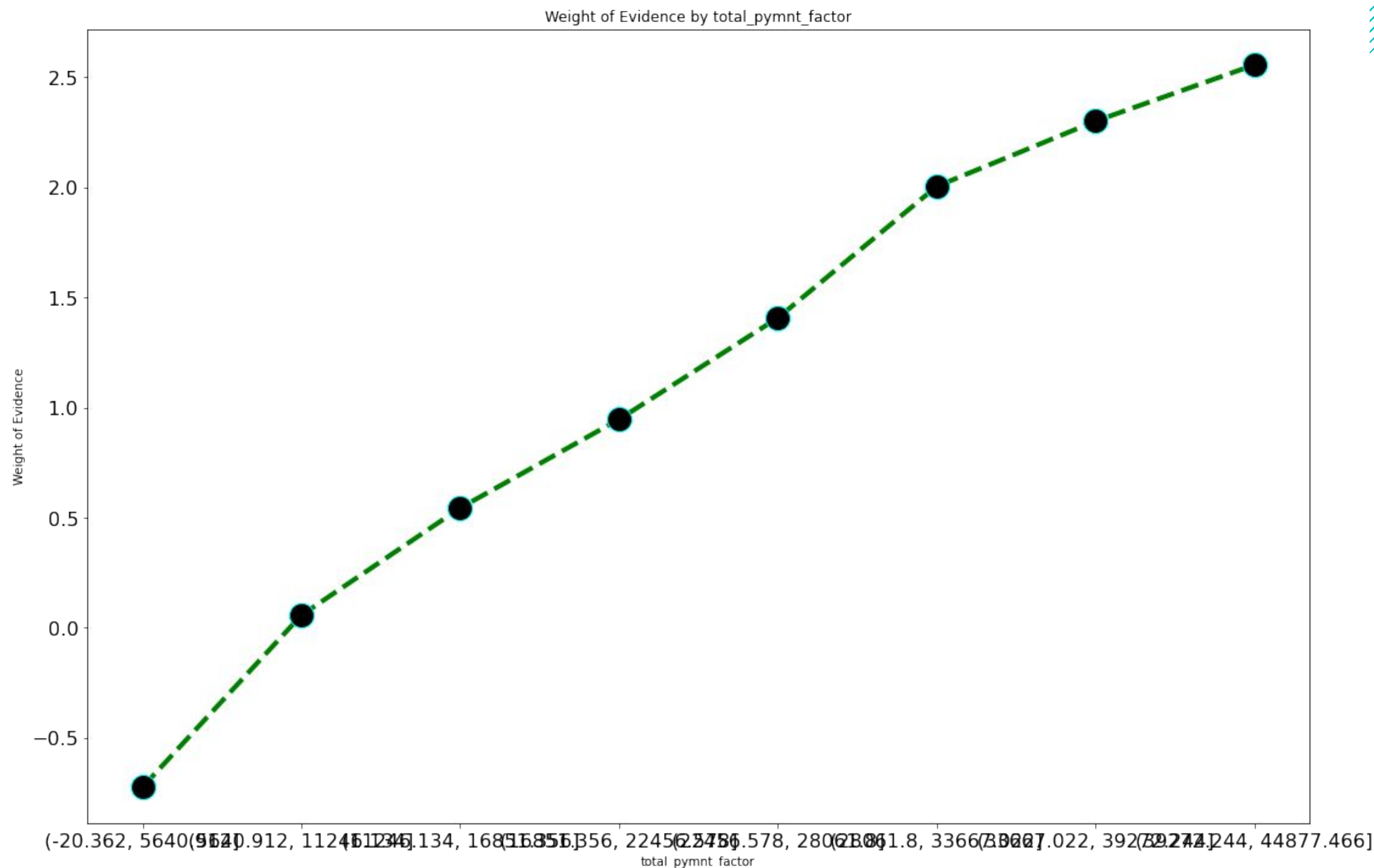


# Analyzing Total revolving\_high\_limit

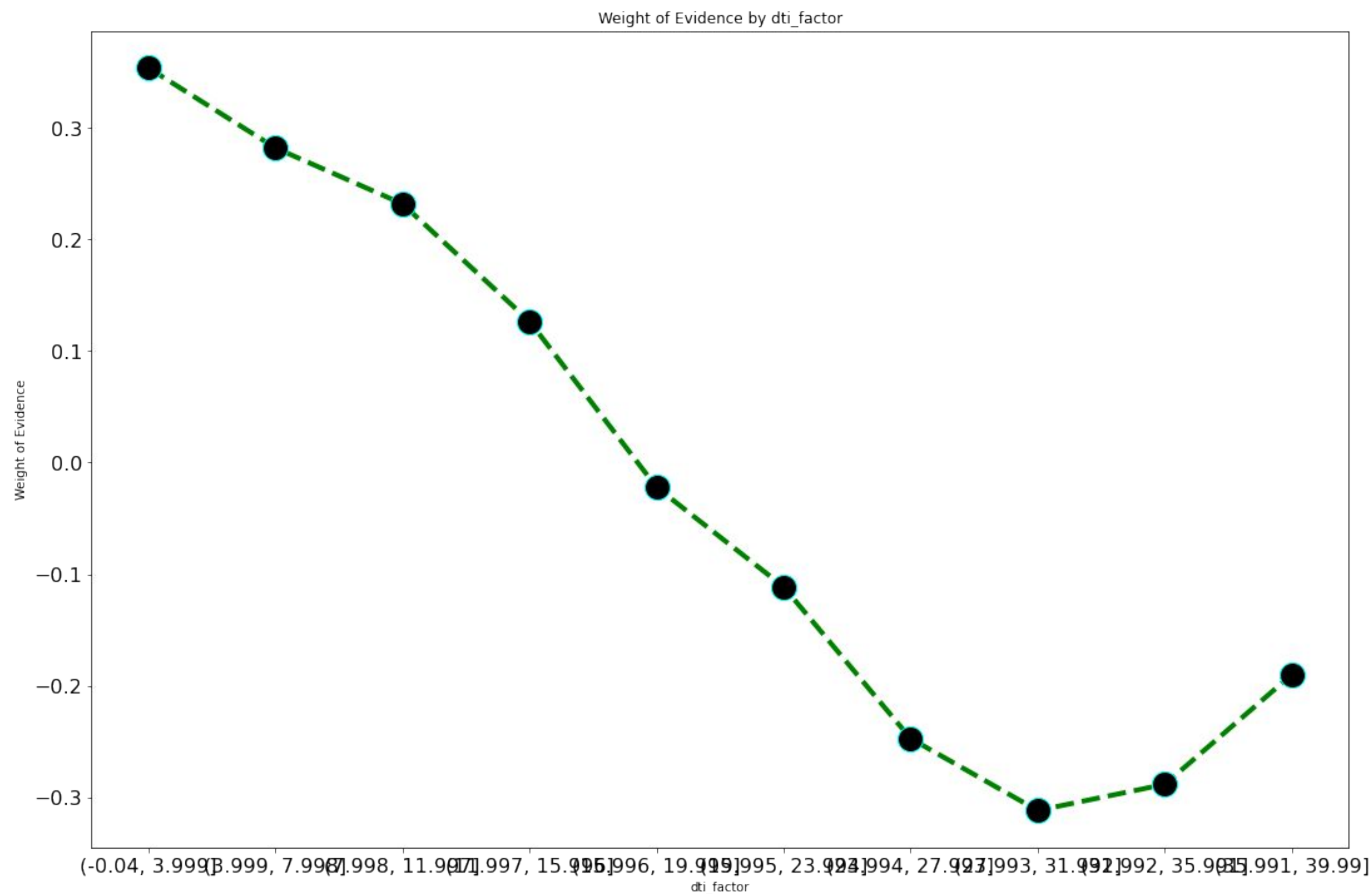




# Analyzing total payment variable

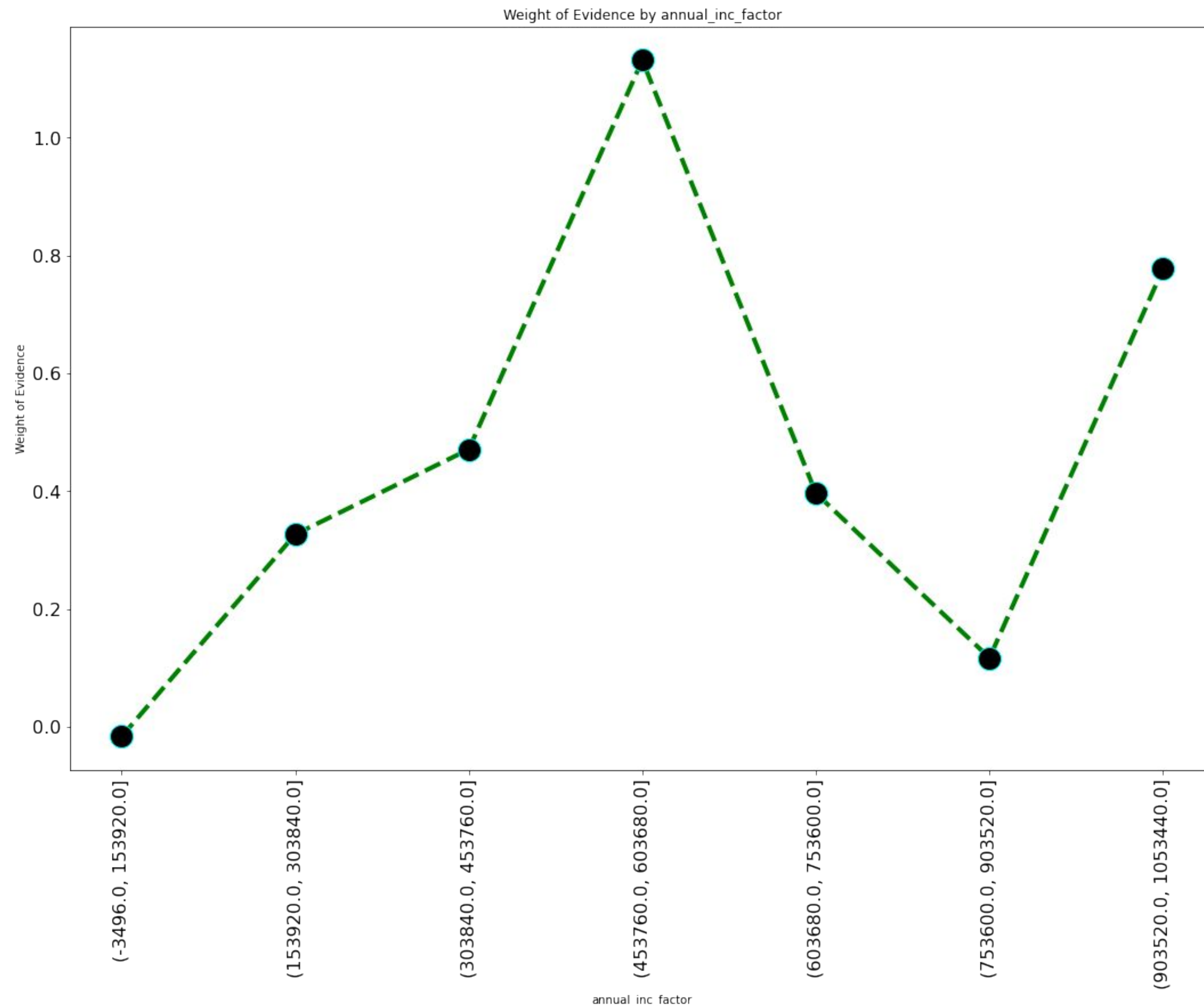


# Analyzing DTI variable



"dti" is a ratio calculated using the borrower's total monthly debt payments on the total debt obligations, excluding mortgage and the requested LC loan, divided by the borrower's self-reported monthly income

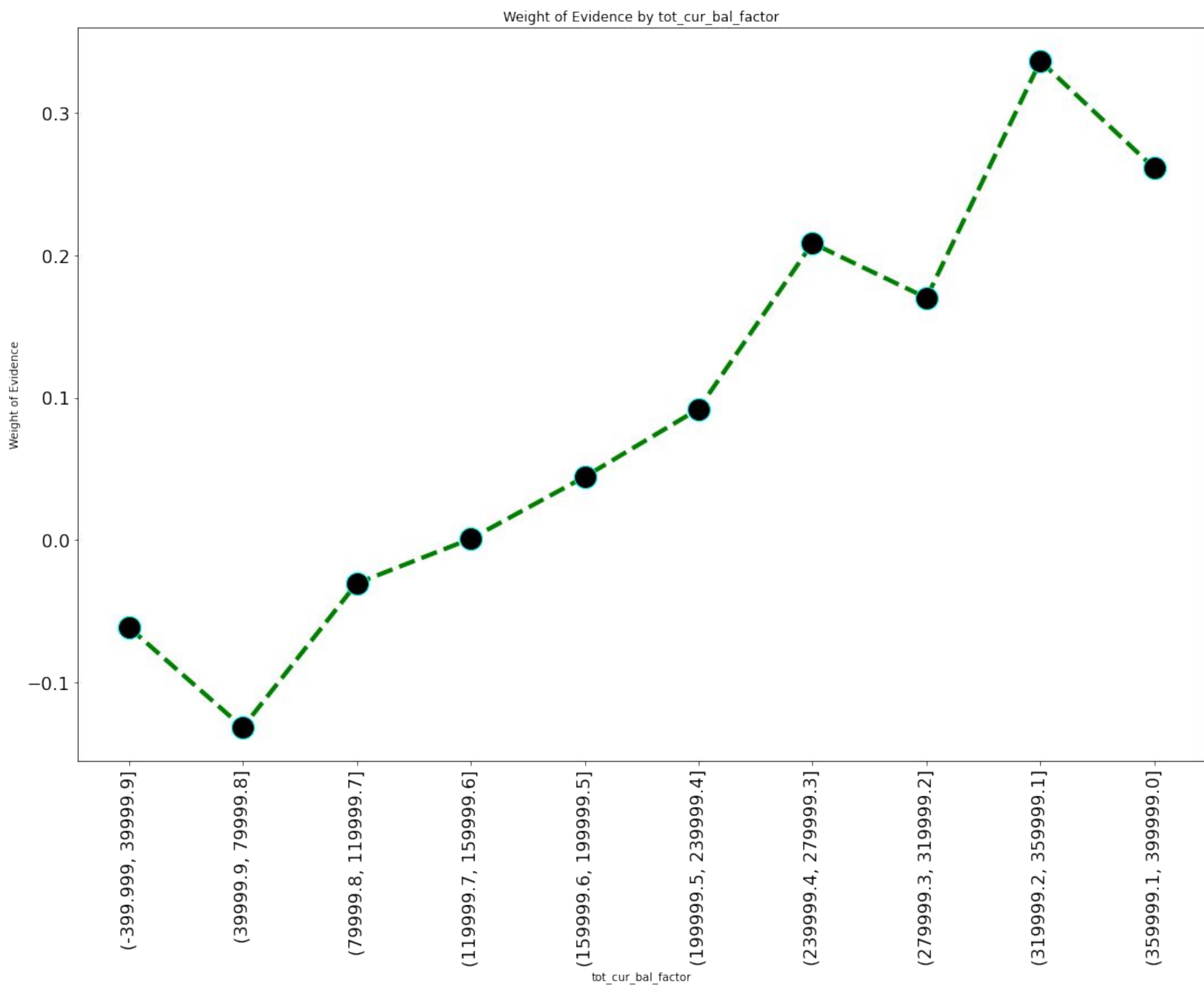
# Analyzing annual income variable



Grouping these variables into variables that have higher and lower income. Based on the WoE table, it was found that as the annual income increased, the number of observations decreased. This is because few people earn high incomes.



# Analyzing total current balance



Current  
balance  
below  
400.000



The slide features a clean white background with the word "Thanks" centered in a bold, dark blue font. The corners are decorated with abstract geometric patterns in shades of blue and teal. The top-left corner has a horizontal line and a small square with diagonal stripes. The top-right corner features a complex arrangement of overlapping squares, diamonds, and a circular segment. The bottom-left corner has a similar complex arrangement of geometric shapes. The bottom-right corner has a horizontal line and a small square with diagonal stripes.

**Thanks**